International Education Journal

IEJ

International Education Journal

IEJ

International Education Journal

Welcome to the International Education Journal. This is a broadly based journal encompassing research and review articles. Education is interpreted in a wide manner and includes human development, learning, school, formal and informal, tertiary and vocational education, industry training and lifelong learning.

Online - While there will be a hard copy version of the journal it is intended that it will be accessed in almost all instances via the web, free of charge.

Peer Review - All articles appearing in this journal have been subjected to a blind peer-review process by at least one expert in the field.

Copyright - Copyright of material in this journal rests with individual contributors. Apart from fair use such as brief quotation for scholarly purposes, permission to use material in this journal should be obtained from the authors concerned.

Publication Frequency - It is intended that the journal be published four times per year. However given the electronic characteristics of online publishing it is not necessary to wait until a full journal is assembled prior to publishing. Articles once accepted in appropriate form may be published without delay.

CONTENTS

Author Information

IEJ welcomes practical and research manuscripts that focus on educational issues, provide a clear purpose and depth of discussion, and are presented in a straight-forward style accessible to an international audience.

The editors reserve the right to return poorly edited or improperly formatted manuscripts. Hard-copy only submissions cannot be accepted or returned.

Submissions should be forwarded electronically by email to:
onlineeditor@iej.cjb.net

Aims of IEJ

The aim of the International Education Journal is to publish articles that possess one or more of the following characteristics or qualities.

1. The presentation of substantive findings which are of importance for policy and practice beyond the country in which the research was conducted.
2. The integration of education with academic disciplines such as anthropology, demography, economics, history, law, linguistics, philosophy, political science, psychology and sociology, or examines educational issues from the perspective of the disciplines or investigates issues at the interface between education and one or more of these disciplines.
3. The examination of educational issues from a cross-cultural or indigenous people's perspective.
4. The evaluation of educational policy or programs or the use of information technology of cross-national interest and significance.
5. The employment of advanced research methods and measurement procedures that are clearly explained.
6. The presentation of empirically or analytically based investigations of theory, models or conceptual frame works in the field of education.
7. The syntheses of research findings from comparative and cross-national studies in education.

Invitation

Contributors - Authors are invited to submit material to this journal. As a general guide articles should be not more than 5000 words. The journal may publish longer works such as theses or dissertations as occasional monographs. In every instance material must be received in publisher ready format. Full details of publication style and other requirements are set out under the heading Author Information.

Publishers - If you wish to have books or educational software reviewed and published in the International Education Journal please contact the editors.

Reviewers - If you are interested in contributing to the journal by writing a review article (500-1000 words) please contact the authors indicating your areas of interest. We look forward to hearing from you.

Manuscript Details

The manuscript should:
- show the article's title, authors' names, affiliation, and email addresses (these will be included on the online page), and postal address and telephone numbers (these will be removed from the final online page)
- abstract should not exceed 150 words
- paper should not exceed 5,000 words (20,000 for occasional papers)
- include 5 key words describing the article including those in the title
- be in final form ready for reviewing
- conform to the APA Reference System

General Principles for layout:
- Papers should be prepared using the downloadable template *iejbase.doc* with Microsoft WORD on Mac or PC.
- Use the heading and formatting styles contained in the template, under the Styles Menu, to format article.
- Images and tables should be correctly positioned with caption so that they are referred in the text before their appearance.
- Include images that are imported or inserted into the text from an external source as separate graphic files (GIF or JPG)
- Figures constructed in WORD from the Draw Menu must be 'grouped'.
- Use endnotes, with one set of numbers running through the whole article.
- Use italics (not underline) for emphasis.
- Do not create additional headers and footers in the template *iejbase.doc*, just modify appropriately.
- Do not use page numbers in text.

If you have any questions regarding layout and presentation,
please contact
the IEJ Online Editor by email on:
onlineeditor@iej.cjb.net

FUIIE

The publishers have arranged for the Flinders University Institute of International Education to produce and host an electronic mirror site containing all material in the Journal, accessed free of charge. There are no restrictions on downloading or printing single copies. The electronic version also provides readers with a search tool.

FUIIE web site:
www.flinders.edu.au/education/fuiie

Challenges and opportunities facing Australian universities caused by the internationalisation of Chinese higher education[1]

Mingxuan Wu
Faculty of Business and Informatics, Central Queesnland University, Australia
robert_wumx@hotmail.com

Ping Yu
School of Information Technology and Computer Science, The University of Wollongong
ping@uow.edu.au

China opened its market to the world after it entered The World Trade Organisation (WTO) at the turn of the last century. The Chinese Ministry of Education recently reviewed a series of policies about international cooperation in higher education with foreign countries in an effort to standardise their practice through centralised control. The purpose of this paper is to analyse current features and trends in international cooperation in Chinese higher education. This paper also develops a benefit-driven model of the internationalisation of Chinese higher education, and attempts to address the reasons for the marketability of cooperative programs in China. Finally, this paper discusses the issues related to the internationalisation of Chinese higher education, and makes recommendations for Australian universities intending to enter the Chinese higher educational market successfully.

Cooperative Programs, higher education, internationalisation, challenges, opportunities

INTRODUCTION

Strong competition at the global level for creative talents is forcing the Chinese education sector to adopt innovative ideas and new operational models in order to stay competitive after entry into the World Trade Organisation (WTO). Chinese higher educational institutions are expected to play an important role in this process. How to improve the internationalisation quality of Chinese higher education and the educational quality of overseas programs facing the challenges of internationalisation of higher education in China has been a major concern of both the Chinese government and the education sector.

With an open market policy, a huge population base and increased economic advancement, there is an immense market and opportunity for higher educational development in China (Chen, 2002a). Some obvious features and phenomena have changed in Chinese higher education since the country entered the WTO. Although China is currently the major exporting country of overseas students in the world, it is also becoming an important host country for international

---

[1] This article was extensively edited by Dr B. Matthews, Research Associate, Flinders University Institute of International Education

students. On the one hand, more and more Chinese students study overseas; on the other hand, an increasing number of overseas students are pursuing degrees in China. In the meantime, some Chinese universities have started to restructure their curricula and are actively seeking collaboration with overseas institutions (Xinhuanet, 2001). Therefore, the internationalisation of Chinese higher education not only influence the local educational system, but also impacts on that of other countries, thereby producing an open market that is likely to be shared with other international educational enterprises.

THE INTERNATIONALISATION OF CHINESE HIGHER EDUCATION

By the end of June 2004, China had 1683 higher educational institutions (EDU, 2004a) including 645 universities at the following four levels. Table 1 lists the 15 national universities that are directly under the authority of the Ministry of Education.

(1)   At the first level, there are 15 national universities (Wu, 2005) that have been developed and managed by the Ministry of Education;

(2)   At the second level, there are higher educational institutions that are co-managed by the provincial governments and the Ministry of Education;

(3)   At the third level, there are higher educational institutions that are managed by the provincial governments;

(4)   At the fourth level, there are higher educational institutions that are managed by the local or municipal governments.

Table 1. A list of the top Chinese national universities

	Universities	City	Web Address
1	Tsinghua University	Beijing	http://www.tsinghua.edu.cn/
2	Peking University	Beijing	http://www.pku.edu.cn/
3	Peking Union Medical College	Beijing	http://www.cams.ac.cn/pumc
4	China Agricultural University	Beijing	http://www.cau.edu.cn/
5	Beijing Normal University	Beijing	http://www.bnu.edu.cn/
6	Xi'an Jiaotong University	Xi'an	http://www.xjtu.edu.cn/
7	Renmin University of China	Beijing	http://www.ruc.edu.cn/
8	Nanjing University	Nanjing	http://www.nju.edu.cn/
9	Shanghai Jiao Tong University	Shanghai	http://www.sjtu.edu.cn/
10	Zhejiang University	Hangzhou	http://www.zju.edu.cn/
11	Fudan University	Shanghai	http://www.fudan.edu.cn/
12	University of Science and Technology of China	Hefei	http://www.ustc.edu.cn/
13	Huazhou University of Science and Technology	Wuhan	http://www.hust.edu.cn/
14	Harbin Institute of Technology	Harbin	http://www.hit.edu.cn/
15	Tianjin University	Tianjin	http://www.tju.edu.cn/

(Source: Wu, 2005)

With the internationalisation of Chinese higher education, the following features have emerged in Chinese education sector.

The Two Features of Chinese Higher Education

Two features are very obvious in Chinese higher education today. First, the higher education system is undergoing a transition from elite to mass education. By the end of 2004, the number of enrolled students in Chinese higher institutions was close to 20 million, and the enrolment rate was 19 per cent (Lv, 2005). The number of students is expected to increase to 25 million and the enrolment rate to more than 23 per cent by 2010 (EDU, 2002). Second, Chinese higher education is undergoing a transition from a one-way outflow to a two-way student exchange. The number of

Chinese students studying overseas reached 527,400 in 2004 (EDU, 2004b) in more than 103 countries worldwide (Qianlong, 2002). As well, Lv (2004a) reported that the number of overseas students studying in China was increasing at the rate of 30 per cent annually. The first 33 overseas students came to study in China in 1950 (Lv, 2004a). However, by 2003 the number increased to more than 78,000. The students came from 175 countries and studied in 353 Chinese higher education institutions (Lv, 2004a). This number represented an increase of more that 2364 times compared with the numbers in 1950. In 2005, more than 500 Chinese higher educational institutions planned to recruit the overseas students (Lv, 2004b). In addition, many international cooperative programs were extant in China.

The Benefits-Driving Model of the Internationalisation of Chinese Higher Education

Figure 1 illustrates the factors influencing change in the Chinese higher education. There are three factors driving China to open her educational market. This opening has also brought about three prominent benefits for China.
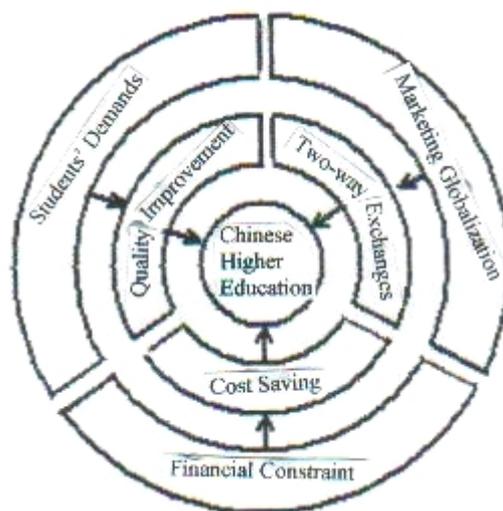
Figure 1. The benefits-driven model of the internationalisation of Chinese higher education

The first cause of growth comes from students' demands. Students want to obtain advanced educational training to improve their competitive capacity and increase career opportunities. Therefore, more and more Chinese students want to study in educationally advanced countries. This pressure from students, in turn, pushes the Chinese universities to improve their educational quality and catch up with the recent advances in higher education. In fact, Chinese higher educational institutions have benefited from this move by optimising the program structures and promoting new teaching methods (Liang, 2004).

The second driving force has been the globalisation of the education market. One report indicated that the tuition fees of Chinese students studying overseas were worth several billion US dollars in 2002 (Qianlong, 2002). Cooperative programs provided opportunities for students to receive overseas higher education in China, and reduce the cost of moving overseas for their education. On the other hand, the opening educational market may also attract overseas students to study in China. It changes the transition from just a one-way outflow to a two-way exchange.

The third determining factor is cost. Expensive tuition fees prevent many Chinese students from studying overseas. Cooperative programs provide an opportunity for those students who wish to access the educational resources offered by overseas higher educational institutions, but cannot afford to do it. Therefore, the cooperative programs may overcome the cost barrier. A Chinese

report (Liang, 2004) highlighted the fact that cooperative programs can reduce the tuition fees by up to 75 per cent.

The above three mentioned driving forces are likely to remain for a long period of time. Therefore, it is foreseeable that more and more overseas universities are likely to enter the Chinese higher education market.

Cooperative Programs in China

Ten years ago, the first cooperative program was run by Tianjin University of Finance and Economics in China and Oklahoma City University in the United States (Liang, 2004). By the end of June 2004, the Chinese government had approved 169 international cooperative programs involving 16 countries and organisations including Hong Kong (HK) (JSJ, 2004). These approved programs included two doctoral, 117 master, 48 bachelor and 2 diploma programs. Table 2 shows the approved cooperative educational programs that existed in 2004 between Chinese and overseas universities in descending order. The top six countries offering these programs: were Australia, the United States, Hong Kong, Canada, France and the United Kingdom. As the top offshore program provider in China, Australian universities have had to face increased competition from other countries.

Table 2. The international programs in China by the end of June 2004

PROGRAM	Aus	USA	HK	Can	Fra	UK	Ire	IMO	Kor	Neth	Nor	Sin	Bel	EFMD	Ger	NZ	SUM
Diploma					2												2
Bachelor	14	16	2	5	4	4	2									1	48
Master	36	27	21	8	6	5	1	2	2	2	2	2	1	1	1		117
Doctoral		1	1														2
TOTAL	50	44	24	13	12	9	3	2	2	2	2	2	1	1	1	1	169

Note: Aus = Australia, Bel = Belgium, Can = Canada, EFMD = European Foundation for Management Development, Fr = France, Ger = Germany, HK = Hong Kong, China, Ire = Ireland, IOM = the International Maritime Organisation, Kor = Korea, Neth = Netherlands, Nor = Norway, Sin = Singapore, NZ = New Zealand and UK = United Kingdom, USA = United States of America.

THE CHALLENGES OF INTERNATIONAL COMPETITION FOR AUSTRALIAN UNIVERSITIES

By June 2004, there were more than 36,000 Chinese students studying in Australia, which accounted for 19 per cent of all overseas students in Australia (Chinatalents, 2003). At the same time, more than 50 Australian higher educational programs were running in China as indicated in Table 2. Australian universities have taken over from their counterparts in the United States and have become the first-choice of many Chinese universities in establishing cooperative programs.

Australia is the Leading Cooperative Program Provider in China

In June 2003, the United States provided the highest number of programs (38) including 1 doctoral, 26 masters and 11 bachelor programs in China, followed by Australia with 28 programs. However, programs offered by Australian universities increased to 50 while the United States programs only increased to 44 by the end of June 2004. Therefore, Australia became the leading educational program provider in China. This increment occurred in one year from July 2003 to the end of June 2004. Table 3 and Figure 2 show a comparison of the top six countries and areas that ran cooperative programs in China between June 2003 and the end of June 2004.

Table 3. The comparison of the top six countries and study areas between June 2003 and June 2004

PROGRAM	Australia		United States		Hong Kong		Canada		France		Britain	
	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
Diploma									2	2		
Bachelor	10	14	11	16	2	2	2	5	2	4	1	4
Master	18	36	26	27	14	21	4	8	3	6	4	5
Doctorate			1	1		1						
TOTAL	28	50	38	44	16	24	6	13	7	12	5	9
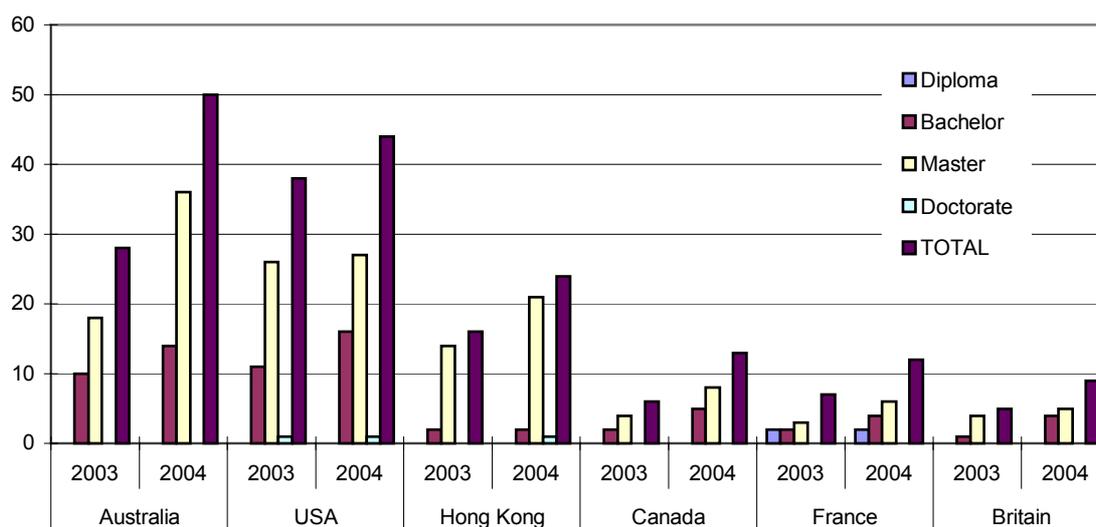
Figure 2. The comparison of the top six countries and area between 2003 and 2004

The Competition between Australian Universities

As the major cooperative program provider to China, 21 Australian universities provided 50 programs by the end of June 2004, which were approved by the Chinese government. These included 36 masters and 14 bachelor programs that are shown in Table 4. In fact, there are some other programs in existence that had not approved as of June 2004.

Table 4 shows the following features in the Australian programs

(1) There are 53.9 per cent (21 out of 39) Australian universities offering programs in China.

(2) The majority are Master's programs with 72 per cent (36 out of 50).

(3) The largest number of the cooperative programs focus on the fields of management, economics, and accounting and education.

(4) In addition, one Masters and three bachelor programs focus on computing.

(5) Three bachelor programs focus on electronic commerce (e-commerce).

(6) Two Master's programs focus on general engineering.

(7) One Master's program is in nursing.

(8) One program provides for a degree in law.

Obviously, Australian universities are not just competing against other countries for the Chinese higher education market, they are also competing with each other.

Table 4: Australian programs in China by the end of June 2004

	UNIVERSITIES	PROGRAMS				SUM
		Master	No.	Bachelor	No.	
1	Charles Sturt University			B.E-commerce	1	1
				B.International Business	1	1
				B.Accounting	1	1
				B.Human Resource	1	1
2	Deakin University	M.Accounting	2			2
3	Edith Cowan University	M.IT	1			1
		M.Education Management	1			1
4	Griffith University	M.Health Management	1			1
		M.International Business	1			1
		M.Hospital Management	1			1
5	James Cook University			B.IT	1	1
		M.Accounting	2			2
6	La Trobe University	M.Health Management	2			2
		M.English Language	1			1
				B.BA	1	1
7	Macquarie University	M.Economics	1			1
8	RMIT University	M.Logistics	1	B.Logistics Business	1	2
				B.International Business	1	1
9	The Australian National University	M.Management	1			1
10	The Flinders University	M.Education	1			1
11	The University of New England			B.E-commerce	1	1
12	The University of New South Wales	M.Business	1			1
		M.TelComm Engineering	1			1
		M.Accounting	2			2
13	The University of Queensland	MBA	1			1
14	University of Canberra	MBA	1			1
		M.Economics Law	1			1
		M.Education Management	1			1
		M.English Teaching	2			2
15	University of South Australia	M.Civil Engineering	1			1
16	University of Southern Queensland			B.IT	1	1
				B.Accounting	1	1
17	University of Sydney	M.Education Management	1			1
		M. Language Education	1			1
		M.Education	1			1
18	University of Tasmania			B.IT	1	1
19	University of Technology, Sydney	M.Sporting Management	2	B.International Business	1	3
20	University of Western Sydney			B.E-commerce	1	1
21	Victoria University of Technology	MBA	1			1
		M.ERP	1			1
		M.Nursing	1			1
		M.Business	1			1
	TOTAL		36		14	50

Note: M. stands for the Master program; B. stands for the Bachelor program.

THE POLICY, SHORTAGES AND ISSUES

In July 2001, the Chinese Ministry of Education announced the inception of the Tenth Five-year Plan of China's National Educational Development" (JYB, 2001). According to this plan, the Chinese government hoped to develop disciplines that would be recognised internationally. This plan also encouraged Chinese universities to strengthen their cooperation with overseas universities. By the end of June 2004, the Chinese government had approved cooperative programs involving 96 Chinese higher educational institutions and overseas institutions These programs are listed in Table 5.

Table 5. The distribution of cooperative programs by the end of June 2004

		UNIVERSITIES			PROGRAMS		
		Total	Including: MBA	percentage	Total	Including: MBA	percentage
1	Beijing	20	9	45.00	47	9	19.15
2	Shanghai	9	7	77.78	32	14	43.75
3	Tianjin	9	1	11.11	13	1	7.69
4	Zhejiang	7	1	14.29	12	1	8.33
5	Jiangsu	8	2	25.00	10	2	20.00
6	Guangdong	6	1	16.67	9	1	11.11
7	Jiangxi	5	1	20.00	8	1	12.50
8	Hubei	4			4		
9	Liaoning	6			7		
10	Jilin	3			3		
11	Shaanxi	2	1	50.00	3	1	33.33
12	Yunnan	2			4		
13	Guizhou	2			3		
14	Heilongjiang	5			5		
15	Chongqing	1			2		
16	Fujian	2			2		
17	Hebei	2			2		
18	Henan	1			1		
19	Shanxi	1			1		
20	Sichuan	1	1	100.00	1	1	100.00
Total		96	24	25.00	169	31	18.34

Since 2001 the benefits of the internationalisation of higher education to China became evident after China opened its educational market to the world. However, some shortages and other issues have also appeared.

First, the Chinese government failed to approve some programs. In fact, more than 800 programs were being run in China (Liang, 2004). However, the Chinese government had only approved 169 programs by end of 2004 as noted in Table 2.

Second, the scope of these programs was very narrow. There were 25 per cent (24 out of 96) Chinese higher educational institutions that cooperated with overseas institutions in MBA programs or executive master of business administration (EMBA) programs. This represented 31 MBA/EMBA programs or 18 per cent (31 out of 169) of the programs that are listed in Table 5. On 6th August 2003, O'Hagan (2003) published an article entitled "MBA loses sway" in the *Sydney Morning Herald*. She noted that the iconic degree of the 80s would not guarantee a job today. The same situation also exists in China.

Third, the distribution of cooperative programs is also too narrow. There are 31 provinces, autonomous regions and municipalities aside from Hong Kong, Taiwan and Macao in Mainland China. The level of economic advancement in these areas varies significantly across China. Therefore, there is great diversity in the style and focus of the existing cooperative programs with overseas institutions. Table 5 shows two obvious features about distribution of cooperative programs as follows:

(1)   65 per cent (20 out of 31) areas run cooperative programs whereas 35 per cent (11 out of 31) do not offer any joint programs.

(2)   Nearly half of cooperative programs or 47 per cent (79 out of 169) are located in the cities of Beijing and Shanghai, the principal centres of politics and culture in China.

Fourth, very few lecturers have come from overseas universities, and therefore, the majority of the lecturers in the cooperative programs are from Chinese universities. A report by Liang (2004) stated that the Chinese government has required that the number of overseas lecturers should not

be less than 25 per cent of all lecturers. However, it has been noted that 99 per cent of the lecturers in some programs come from Chinese universities (Liang, 2004).

Finally, only a few degree programs have adopted some overseas teaching materials. According to Chinese government policy, at least 30 per cent of the teaching materials should come from overseas sources (Liang, 2004).

At present, a series of policies concerning cooperation in education has been established; they address the following three critical factors:

(1) The Regulations of the People's Republic of China on Chinese-Foreign Cooperation in Running Schools that came into effect as of 1st September 2003 is considered to be the most important set of regulations on cooperative education (JSJ, 2003).

(2) The Provisional Management Method of Higher Educational Institutions on Running a School Outside China came into effect on 1st February 2003 (MOE, 2003).

(3) The Notice about Strengthening the Management and the Awarding Degrees in Chinese-foreign cooperation used to run a School came into effect on 22nd January 1996 (MOE, 1996).

From the 1st September 2003, all cooperative programs have to adhere to these regulations. They assist in the standardisation of international cooperative education in China.

THE TRENDS OF THE INTERNATIONALISATION OF CHINESE HIGHER EDUCATION

The Chinese Ministry of Education recognises that Chinese higher educational institutions need to reform curricula, teaching materials, teaching methods, and examination and assessment tools by incorporating international experience into their programs (Chen, 2002b). In the coming years, Chinese higher education is expected to have the following development trends.

English as teaching language

The Chinese Ministry of Education required that universities offer at least five per cent of their courses in a bilingual mode by 2004 in informatics, biology, law, and finance programs (ZJU, 2001). Some universities have taught in English or are bilingual in their programs (ZJU, 2002). Others have revised only their teaching plans.

Lecturers' skills

Many universities have invited well known overseas professors with world class reputations to teach and do research in China, including supervising postgraduate students at Chinese higher educational institutions. They have also invited overseas experts to give guest lectures or make presentations in China. Some cooperative programs have run under the Teaching Partnership System (TPS), in which the overseas professors give the lectures and the Chinese professors act as the tutors (Tochange, 2004).

Importing more teaching materials

In September 2001, 20 kinds of overseas textbooks in information technology (IT) fields were introduced to Chinese higher education institutions (Lan, 2001). Currently, imported foreign teaching materials still focus on IT as well as bioscience and technology. However, the situation is changing. For example, some overseas textbooks in the e-commerce area are being adopted in a few Chinese universities.

Collaborative development in teaching materials

Chinese experts and professionals are willing to collaborate with overseas experts in the development of teaching material. A few e-commerce textbooks have been published in China by Sino-American authors. This trend is expected to spread to other areas.

Master of Business Administration programs

The demand for the Master of Business Administration **(**MBA**)** programs in China is likely to decline. The MBA program would fulfil its objectives if it changed from a broad coverage to a more focused approach. An MBA in hospital management and an MBA in sports science are two such examples.

Joint ventures to establish universities

The University of Nottingham from the United Kingdom in partnership with Zhejiang Wanli University, China as a joint venture launched the first overseas cooperative university called the University of Nottingham, Ningbo China in Autumn 2004 (UNNC, 2004). It is possible that more cooperative universities (rather than cooperative programs) are likely to be established in the future.

Australian universities should pay attention to these issues and trends when they consider the development of further offshore programs with China. Several aspects of Australian programs need to be adjusted so as to increase the competitive advantage of Australian universities in the Chinese market. The following suggestions should be considered by Australian universities in order to develop cooperative programs with Chinese universities.

RECOMMENDATIONS

First, it would be more suitable for overseas institutions to provide bachelor programs in China rather than masters programs. The competitive advantage exists because studying in bachelor programs offered by overseas institutions is likely to be more economical for Chinese students compared with pursuing the same degree overseas. To pursue a Master's degree, Chinese students may prefer to go to overseas instead of staying in China if indeed they wish to pursue a program offered by overseas educational institution.

Second, Australian universities should increase the duration of the master's program to enhance this credential. Most Chinese master's programs are three-year programs that include one and a half years of coursework plus one and a half years of research despite the move of a few of them to change three-year programs to two years from 2002 (Qi and Cao 2005). Currently Australian master's programs provided for overseas students are normally one to one and a half years coursework programs. Only a few universities provide master's programs of two yeasr duration. This type of one-year Master's program would face the problem of meeting accreditation requirements by Chinese authorities if more overseas programs are run in China. Therefore, it is recommended that the master's degree should be designed as two and a half year program with one year preliminary coursework program conducted in China and one and a half years study undertaken in Australia. Students could be awarded double degrees; one from the Chinese university and another from the Australian institution of higher education after their approval by both Chinese and Australian authorities.

The third suggestion is to provide a greater variety of study disciplines. Australian universities currently only offer Master's or bachelor programs in the area of management, business, language, law and a few computer programs in China. These programs are focused too narrowly. It might be useful to offer programs which are in high demand in the Chinese market, such as e-commerce, health informatics, nursing and nursing management, hospital management, finance, human

resource management, biotechnology and bioengineering, agricultural technology and environmental protection. This would require an expression of interest from the Chinese particularly from the receptor university.

Fourth, some Australian universities have provided offshore programs in conjunction with Chinese universities. These cooperative programs are not listed as cooperating institutions in running of higher education programs awarding foreign degrees. Currently the Chinese Ministry of Education publishes this list in June and December each year. If it is not on the list, it means the program is not likely to be approved by Chinese government and might not get official status. It is likely to face problems in student recruitment and marketing. Therefore, it important for these programs to gain entry to the list as soon as possible.

Finally, currently the geographical distribution of programs is not even. Eleven provinces do not run any cooperative programs in China as noted in Table 5. Those provinces are mostly located in less advanced areas of China. The students living in these areas should have the same opportunities to pursue a world-class education at the same cost. Therefore, there is definitely potential for establishing more advanced educational programs in these areas.

CONCLUSION

Today, Chinese educators are addressing higher education in global terms. This marks the entrance of Chinese higher educational institutions into the international competitive market. The influence of global forces on China's higher education system is likely to increase (Yang, 2001). Chinese higher educational institutions are taking steps to catch up with the globalisation and internationalisation of education in terms of collaboration with overseas higher educational institutions. The trend is observable in the Chinese higher education sector today.

With its accession to the WTO, Chinese higher education is bound to become more integrated into the international community (Yang, 2001). Many developed countries have exported their advanced higher education programs to China. It is predicted that the coverage of cooperative educational programs is likely to increase substantially. The increasing demand will also affect Australian universities.

REFERENCES

CFCE (2004) List of other countries and China reached the agreement of the academic credentials admitting with each other. [Online]
http://www.cfce.cn/info/Article_Show.asp?ArticleID=125 [2005, Jan 5].

Chen, S.P. (2002a) *The University Mission in the 21st Century*. Association of University of Asia and Pacific- AUAP. [Online] http://sut2.sut.ac.th/auap/president.htm [2003, May 4].

Chen, Z.L. (2002b) *Research on Influence and Countermeasure of China's Accession to WTO to Education Sector*. China Education and Research Network [Online]
http://www.edu.cn/20020109/3016846.shtml [2004, December 25].

Chinatalents (2003) Australia and China reached the agreement of the academic credentials admitting with each other. [Online]
http://www.chinatalents.gov.cn/zxdt/lxdt/detail.aspx?pageid=536 [2003, October 23].

EDU (2002) *The Statistics of the Expansion Recruitment of Chinese Higher Educational Institutions in the Last Three Years*. China Education and Research Network, 6 November - last update [Online] http://www.edu.cn/20021106/3071663_9.shtml [2004, July 28].

EDU (2004a) List of Chinese Higher Educational Institutions. China Education and Research Network. [Online]. http://www.edu.cn/20040203/3098271.shtml [2004, November 16].

EDU (2004b) *The Statistics of Chinese Student Studying Abroad*. China Education and Research Network. [Online] http://www.edu.cn/20040216/3099048.shtml [2004, May 8].

JSJ (2003) *Regulations of the People's Republic of China on Chinese-Foreign Cooperation in Running Schools*. [Online] http://www.jsj.edu.cn/zhengce/016.html [2004, December 3].

JSJ (2004) *List of Cooperating in Running Higher Education Program and Awarding Foreign Degree*. [Online] http://www.jsj.edu.cn/mingdan/002.html [2004, December 4].

JYB (2001) *The Tenth Five-year Planning of the China's National Education Development*. [Online] http://www.jyb.com.cn/gb/2001/10/15/zy/jryw/9.htm [2003, July 28].

Lan, Y. (2001) Partial universities use the original overseas teaching materials in this fall. [Online] http://www.people.com.cn/GB/kejiao/39/20010906/553012.html [2003, August 5].

Liang, K. (2004) *The Discussion of The Chinese and foreign cooperation running schools for ten years*. [Online] http://edu.sina.com.cn/l/2004-12-10/ba94423.shtml [2004, December 14].

Lv, N. (2004a) The number of overseas students studying in China is up to the average increase of 30% increment annually. [Online] http://news.xinhuanet.com/edu/2004-12/09/content_2311272.htm [2005, Jan 12].

Lv, N. (2004b) More than 500 Chinese universities have been approved to recruit the overseas students. [Online] http://news.xinhuanet.com/newscenter/2004-12/08/content_2309928.htm [2005, Jan 12].

Lv, N. (2005) From the number to the quality, Chinese universities are making changing. [Online] http://news.xinhuanet.com/edu/2005-01/10/content_2439567.htm [2005, Jan 10].

MOE (1996) *The Notice About Strengthening the Management of Awarding Degrees in Chinese-foreign cooperation to Run a School*. Ministry of Education. [Online] http://www.moe.edu.cn/moe-dept/xueweiban/1 [2004, August 4].

MOE (2003) *The Provisional Management method of Higher Educational Institutions Outside China*. Ministry of Education. [Online] http://www.edu.cn/20030226/3078235.shtml [2004, August 4].

O'Hagan J. (2003) MBA loses sway. *The Sydney Morning Herald*, August 6, Australia.

Qi, S.X. and Cao, J.Y. (2005) Some universities reform the duration of master programs and have got the initial success. [Online] http://news.xinhuanet.com/edu/2005-01/07/content_2427773.htm [2005, Jan 11].

Qianlong (2002) Chinese student taking more than billion dollars to overseas. [Online] http://www.qianlong.com/3050/2002-8-29/166@396387.htm [2004, August 1].

Tochange (2004) The current situation, perspective and challenge of Chinese-foreign cooperation running a school. [Online] http://www.tochange.com.cn/mg/news.asp?id=14022 [2004, May 3].

UNNC (2004) The University of Nottingham, Ningbo China. [Online] http://www.unnc.edu.cn/english/about/ [2004, November 15].

Wu, S.L. (2005) The top-class national universities in 2005. [Online] http://learning.sohu.com/20050216/n224302184.shtml [2005, February 24].

Xinhuanet (2001) China foresees major reform in education sector after WTO. [Online] http://www.edu.cn/20011112/3009359.shtml [2005, January 5].

Yang, R. (2001) China's entry into the WTO and higher education. *International Higher Education*, Summer 2001 [Online] http://www.bc.edu/bc_org/avp/soe/cihe/newsletter/News24/text005.htm [2004, May 5].

ZJU (2001) The bilingual courses will be offered more than 5% in the next three years at the universities in Beijing. [Online] http://www.zju.edu.cn/zdxw/jd/read.php?recid=253 [2004, August 1].

ZJU (2002) The several suggestions of using foreign original teaching materials and advancing bilingual education in bachelor's programs. [Online] http://jwb.zju.edu.cn/showinfo.php?InfoID=35 [2004, August 1].

The United Nations decade of education for sustainable development, its consequences for international political education, and the concept of global learning[1]

Andreas Otto Brunold
University of Augsburg, Germany *andreas.brunold@gmx.de*

Globalisation is one of the most important historical features that education is likely to experience in this century. The processes of globalisation need to be integrated with a set of social, technological, economic, cultural and ecological circumstances, so that people may begin to accept the fact that the world is facing a totally irreversible universal phenomenon. The concept of sustainable development integrates the factors that lead to a demand for global learning, education for sustainable development, and environmental education.

United Nations, education for sustainable development, global learning, globalisation

THE CONCEPT OF SUSTAINABLE DEVELOPMENT

Sustainable development, as one of the great challenges of our time, is an inclusive concept that applies to all countries of the world; that is, to countries in the northern as much as to those in the southern hemisphere. It is central to all efforts towards the human shaping of the world through globalisation. This has been defined by the Brundtland Commission as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Hauff, 1987, pp. 8, 46).

The basic concept of sustainable development may be characterised as a doubled integration: on the one hand, an integration of content and on the other hand an integration of social participants and actors (Andersen, Homberger and Penedo, 1999, p. 38). The integration of content because of the conflicts within their goals is also called the "magic square frame of aims" concerns the dimensions of the principles of sustainable development (Fiedler, 1998, p. 62).

The integration of social forces is caused by the outspreading of educational processes. One element of this is lies in the system of education, where a large part of our ability to reflect our needs is constructed and predetermined.

Figure 1 shows 'the magic square frame of aims' and its relationship to the dimensions of sustainable development and the system of education.

FROM ENVIRONMENTAL EDUCATION TO AN EDUCATION FOR SUSTAINABLE DEVELOPMENT

For more than 20 years environmental education has been a national and an international aim as well as an accepted goal in the field of educational policy (Bolscho and Seybold, 1996, p. 41). In the national context, the German government's suggestions for the conference of ministers of

---

[1] This article was extensively edited by Dr B. Matthews, Research Associate, Flinders University Institute of International Education.

culture for Environment and Education in 1970, the governmental environmental program in 1971, and the preparatory program of the German Ministry of Education and Science in 1991 were important milestones in the development of environmental education.
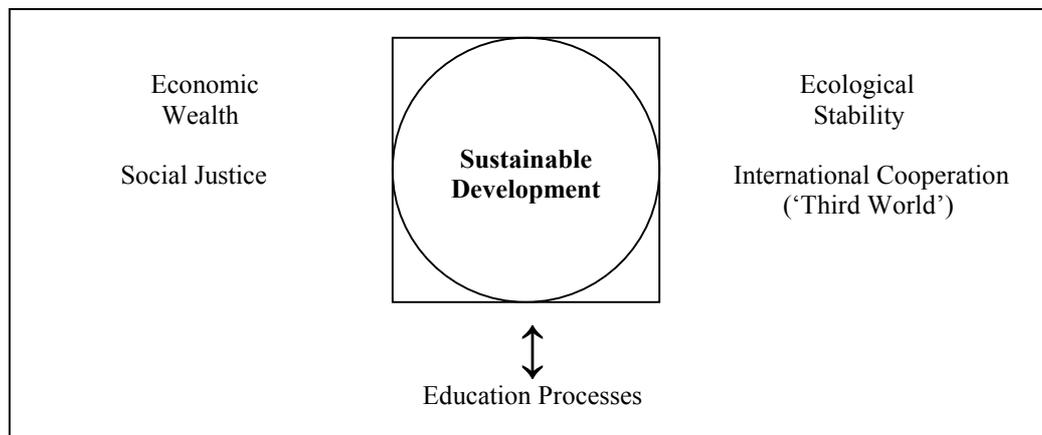
Figure 1. Magic square frame of aims (Source: Brunold, 2004, p. 47)

In the international context, the history of environmental education extends from the United Nations Conference 'On the Human Environment' in Stockholm in 1972 to the Intergovernmental Conference on Environmental Education in Tiflis in 1977, then further to the UNESCO United Nations Educational Program (UNEP) Conference in Moscow in 1987, to the UNCED in Rio de Janeiro, which marked a change of thinking and in setting public priorities (Weizsäcker von, 1992, p. 209).

In the 44th Session of the International Conference of Education of UNESCO in Geneva in 1994, the Ministers of Education decided on an integral action plan of frames for education in the field of peace, civil rights and democracy. This so-called 'plan of frames' consequently formulated the requirement to develop, in the areas of peace, civil rights, democracy and environment, not only a common policy, but also in all of the areas of education (UNESCO, 1994, p. 479). Therefore, the need to include educational processes and strategies for changing habits was an important perspective (Preuss, 1991; WBGU, 1993, p. 192). The Commission on World Policy Report, published in 1995, stressed the importance of cooperation between all countries for a policy 'One World' (*Stiftung Entwicklung und Frieden*, 1995, p. 48). Finally, the Dakar meeting showed the world the extent to which world education is in financial need with over 113 million children lacking access to primary education and over 880 million illiterate adults (UNESCO, 2000).

A common indication of these developments is the knowledge, that environmental problems can not only be solved in an administrative, technical or economic way, but also that environmental education should be seen as an unalterable part of environmental policy.

In contrast to the developed countries of the North, where environmental education has a relatively assured status in the formal education system, immense structural deficits are to be seen in the countries of the South. The classical demand of transfers in technologies therefore, should be understood as transfers of knowledge in a broader sense, by which developed countries can also learn from developing countries and *vice versa*. Clearly in the area of education, the differences between North and South that emerged during the last century have been increasing. Therefore, knowledge of risk management is important for those countries, where industrialisation is at its inception. The transfer of knowledge between developed and developing countries is, therefore, an absolutely essential instrument for global risk management.

This viewpoint is too little known in the developed countries and scarcely at all in the developing countries, which is why both formal and non-formal education are indispensable prerequisites for creating a change of awareness. It was a suggested aim to follow the recommendations made at the 1990 World Conference on Education in Jomtien, Thailand to guarantee general access to formal and non-formal education by means of the program 'Education for All' (UNDP, UNESCO, UNICEF, and World Bank, 1990).

In order to cover the extent of global environmental problems and their consequences it is necessary to develop a sensibility and awareness of the environment, since such a consciousness in solving problems in general is also a condition for changing environmental habits in production and consumption patterns. This aspect of environmental education also leads to an important way of changing harmful learning attitudes in line with environmental sustainability. Therefore, this would suggest that criteria for a successful environmental education program are learning processes from immediate experiences in everyday life situations, in connection with orientation in action and the integration of the contents, which have to be taught, in the context of social politics (WBGU, 1999).

Chapter 36 of the *Agenda 21* report, which resulted from this vision, was primarily focused on the possibility of reorienting education towards sustainable development as well as reinforcing and raising public consciousness (*Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit*, 1997, p. 261). In addition, education as an enabling or implementation strategy was found in each of the 40 chapters of *Agenda 21* and each of the negotiated conventions arising from the Earth Summit.

The road towards a greater consciousness of sustainability comes through education, which must also be seen as an important instrument in overcoming environmental problems on a global scale. Therefore, education for sustainable development has its roots in the history of two distinct areas of interest of the United Nations, education and sustainable development. As well, every one of the nine major United Nations Conferences in the 1990s that further addressed and refined sustainability issues, identified education in its broadest terms as crucial in the implementation of the conference action strategies.[2]

The World Summit on Sustainable Development (WSSD) in 2002 in Johannesburg helped to deepen the commitment towards sustainable development on all levels, from the local to the global. After the summit, the United Nations member states committed themselves to the World Decade of Education for Sustainable Development in resolution 57/254 passed in December 2002, also requesting that UNESCO assumes the task of international coordination, thus signalling that education and learning are at the heart of all approaches to sustainable development. By encouraging the idea of sustainability to take root in all areas of education systems, the World Decade of Education for Sustainable Development, to be held from 2005 to 2014, is intended to take significant steps towards greater educational sustainability. Thus the decade aims to encourage governments, educational institutions, non-governmental organisations, private enterprises, the media and individuals to integrate the concepts of sustainable development into all areas of education.

Much of what is known about the environment, about human use of nature and ecosystems, is likely to be out of date in a few years' time or to have changed. Applying such outdated knowledge may even be considered to be harmful. Teaching environmental knowledge must,

---

[2] The nine post Rio conferences: World Summit for Children, 1990; World Conference on Education for All, 1990; International Conference on Population and Development, 1992; United Nations Global Conference on the Sustainable Development of Small Island Developing States, 1994; World Summit for Social Development, 1995; Fourth World Conference on Women, 1995; Second UN Conference on Human Settlements, 1996; World Food Summit, 1996; and World Education Forum, 2000 (UNESCO 2002).

therefore, be accompanied by a sense of relativity and uncertainty about the future. This may not be really compatible with the way learning has been organised in recent times (*De Haan,Harenberg*, 1998, p. 102). It is necessary to rethink and redefine learning, a process that is determined by challenging knowledge that seems to be indisputable (Schratz, 1996, p. 26). In doing so an awareness of the uncertainty of knowledge about the environment would become an educational aim. The natural environment can only seem precious to those who know it and who have some direct experience of it. The extent to which the natural environment is ignored, and omitted from everyday experience and perhaps even replaced by virtual realities, is no longer in touch with veracity. Consideration of consumer buying habits and needs in the industrialised nations of the western world constitute an essential aspect of the subject.

THE CONCEPT OF GLOBAL LEARNING

Global learning has to be seen as a mediation of this perspective, which establishes connections between everyday observable problems, worldwide processes, and lines of conflicts (Gugel and Jäger, 1996). These connections are not generally used, but by making them overt, such an approach extends beyond national interests and is involved in social and political developments that are coherent in a global space within which there are pedagogical possibilities for action and reaction. Therefore, global learning is an extension or an amplification of the horizon of education, and the results of the globalisation process is to use interdisciplinary methods.

In the twenty first century, the concept of global learning is being increasingly discussed and developed in the area of environmental policies and practices. In the further advancement of the concept of global learning, the area of global hazards is seen as a central point of view for the future development of humankind (Peccei, 1979; Wilhemi, 1992, p. 2).[3] As common indicators of all global hazards can be recognised, it is clear that as they go beyond national frontiers, that the majority of people living in endangered areas are likely to be affected, and that decisions about them will also affect future generations (Zürn, 1995, p. 49).

One of the substantial and important tasks for global learning therefore, is the transportation of knowledge, abilities and the preparedness for a constructive acting out of conflicts, and as a consequence to prepare appropriate programs (Eckert, Goldbach, and Willems, 1992; Gugel and Jäger, 1997, pp. 168-173). For an appropriate adaptation of the subject of global learning there are necessarily very substantial efforts to be made in the area of political education, which has a key position in the pathway of effecting sustainability (*Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung*, 1992; WBGU, 1996; *Weizsäcker von*, 1990, p. 134).

Since the 1970s, there has been a wide consensus that political education should provide an important part in the solution through a variety of environmental and development problems (*Deutscher Bundestag,* 1972). Such considerations have also changed the theoretical implications and didactical models in the area of education that is concerned with environmental and development issues (Erdmann and Wehner, 1996, p. 151).

While in the decades of the 1950s and 1960s theoretical aspects of education were present in the foreground, which was characterised by a formal orientation towards information, the 1970s promoted a curriculum theory where educational objectives were designed and formulated in a new way. Certain models were widely implemented by the defaulting of particular governments with respect to their policy in the area of development.

In the past decade, cognitive educational structures of have been most prominent in the foreground, whereas the 1980s gave greater attention to and a perception of more active participatory methods of learning.

---

[2] The idea of innovation learning was introduced in the report of the Club of Rome in 1979.

Increasingly, it has become evident that the terminus of the Third World is in need of a new access road, which would be more equitable and would involve a large number of problems and the associated new developments within this multi-perspective field of politics. It is suggested then, that in the field of developmental pedagogy, learning about the Third World should no longer represent a central educational objective, but that learning with and from the Third World should be the centre of all didactic learning and instruction. Hence, the theory of 'intercultural learning' which has been created, points to a complex and global view on this subject. As a consequence, there is no longer an interest in the existence of a Third World which must be considered obsolete, since it has been replaced by an awareness of 'One World' (Scheunpflug and Seitz, 1992). The One World concept highlights differentiation instead of homogeneity, and an equality of nations in addressing all questions about the future coverage of issues involving global rescues. Such a model signifies spatial, objective, and social dimensions and is also placed in the context of circumstances set in time and involving a modified model in development policies. Table 1 shows a modified model of Development Theory that is a breakdown of these dimensions with respect to future problem-solving.

Table 1. A modified model of development policy (Source: Seitz, 1998, pp. 55-70)

Dimension	Characteristic	Cognitive presentation of a problem	Competence	Modes of learning
Spatial	Global space	Transparency	Horizontal expansion	Global Learning
Factual	Complexity	Contingency, Interdependence	Absorbencies	Systemic Learning
Temporal	Dynamics	Risk	Thinking in alternative forms of time	Anticipatory learning
Social	Multiculturalism	Relativity	Changing the perspective, Emphasis, Tolerance	Inter- and transcultural learning

While driven by a traditional understanding of both learning and education, knowledge has been accumulating additively and this principle corresponds to the ideal of a time in which mechanisms of cause and effect do not have to be considered as key global problems. However, today's information society seems to lack knowledge and orientation because of the vast amount of information that society requires. In the past the supply of knowledge remained valid for a relatively long period of time and lengthy periods of time passed before important discoveries in economy and technology impacted on society and culture (UNESCO-Document 25 C4, 1991, p. 27). Knowledge that was acquired during one's youth used to be sufficient for a whole life time. This has changed completely over recent years. Growing specialisation is necessary to administer, convey and use knowledge, and results in the fact that the individual takes a smaller and smaller part in society's collective knowledge (Fietkau, 1984, p. 24).

This paper suggests that global learning is gaining new value, since the speed at which knowledge becomes dated has to lead to new modes of learning. The difficulty of thinking in terms of cybernetic models or in imagining scenarios shows that human beings are still conditioned to their immediate surroundings because of their genetic endowment. Learning by simulating and thinking in networks, however, is indispensable whenever the consequences of human actions need to be anticipated and developments made future-compliant (Schreier, 1994; Weinbrenner, 1997, p. 122-151).

"Key issues for modern times" are involved here, which can be subsumed under the environmental banner, and also in the field of developmental pedagogy (Klafki, 1991, p. 49). Cognitive knowledge and the understanding of the necessity for change do not suffice. There is the need for the new development of a deep-rooted global, ecological, and social ethic of responsibility. Such a change in behaviour in this context should correspond to a change in values,

which should also give an impetus to a change in our adult patterns of consumer behaviour (*Umweltbundesamt*, 1997, pp. 220-251).

Thus the 'One World Education' is a form of political education that must not be neglected, since it includes the idea that it is the industrialised nations, above all, that are the main cause of environmental and developmental deficits, should take the first step to overcome these problems. Thus environmental education in urban centres of population acquires considerable importance (Gärtner and Hoebel-Mävers, 1990; Rösler, 1993). Environmental education in schools therefore, requires a new social ethic of responsibility.

It has long been acknowledged that responsible behaviour towards the environment can neither be exclusively supported by a change of values and attitudes that are relevant for the environment nor exclusively by knowledge that is relevant for the environment. Behind this is the supposition that more environmental knowledge may lead to more environmental awareness, which is again a prerequisite for learning environmentally appropriate behaviour.

This premise is still alive because environmental education is dominated by the sciences, which have difficulty in giving up the thought that interpreting the ecology of natural balance correctly and logically leads to the most appropriate or 'right' behaviour with respect to environmental issues.

Compared with this, the result of research into environmental awareness can be reduced to the formula that no strong connection between environmental knowledge, attitudes towards the environment and environmental behaviour can be proved (De Haan, 1997, p. 132). Nevertheless, strengthening a population's environmental awareness is considered to be the central task for the future (WBGU, 1996, p. 3).

This is why the problems of changing dispositions into concrete action are not taken into account in most cases (Ilien, 1994; Weizsäcker von and Winterfeld, 1995, p. 94) or is limited to a local or national perspective, which does not fulfil the demands of the new quality of complex environmental change on a global basis (WBGU, 1996, p. 51).

However, an essential prerequisite is learning to forget dated knowledge and inappropriate everyday theories of the twenty first century (Fietkau and Kessel, 1981, p. 10). Environmental pedagogy therefore, points out that institutions and schools should change or examine internalised basic assumptions.

THE UN DECADE OF EDUCATION FOR SUSTAINABLE DEVELOPMENT 2005-2014

The United Nations Decade of Education for Sustainable Development (DESD) is a complex and far-reaching undertaking. The overall goal of the decade is to integrate the principles, values and practices of sustainable development into all aspects of education and learning. This educational effort should encourage changes in behaviour that should create a more sustainable future in terms of environmental integrity, economic viability, and a just society for present and future generations.

When UNESCO was requested to lead the decade, it was necessary to develop a so-called draft International Implementation Scheme (IIS), which was the result of extensive consultations with United Nations agencies, national governments, civilian organisations and Non-government Organisations (NGOs), experts and specialists (UNESCO, 2005a).

After an initial consultation with United Nations' partners in September 2003, UNESCO developed a framework for the IIS worldwide. The draft Scheme was widely circulated and eventually reviewed by leading experts in the field, before it was submitted, in July 2004, to the high level panel on the Decade, which advised the Director-General of UNESCO on this topic. It

was presented at the 59th session of the United Nations General Assembly in New York, in October 2004, and then at the 171st and 172nd sessions of the UNESCO Executive Board in Paris in April and September 2005 (www.unesco.org/education).

The objectives for the DESD were to:

(1) facilitate networking, linkages, exchange and interaction among stakeholders in education for sustainable development (ESD);

(2) foster an increased quality of teaching and learning in ESD;

(3) help countries make progress towards the attainment of the millennium development goals through ESD efforts; and

(4) provide countries with new opportunities to incorporate ESD into educational reform efforts.

The IIS sets out a broad framework for all partners to contribute to the Decade. It is a strategic document that focuses primarily on what nations have committed to achieve through the DESD under UNESCO's leadership. It summarises the goals and objectives of the decade and its relationship to other key education movements. It emphasises the importance of partnership in the success of the decade and outlines how these might contribute at all levels, community, national, regional, and international. The ways countries decide how to approach sustainable development are to be closely linked to the values held in these societies, because it is these values that define how personal decisions are made and how national legislation is written.

The DESD begins at a time when a number of other, internationally related initiatives are in place because resolution 57/254 asked UNESCO to ensure 'additive' linkages among them. Thus, it is essential to situate the decade with respect to efforts in which the international community is already engaged. In particular, the Millennium Development Goal (MDG) process, the Education for All (EFA) movement, and the United Nations Literacy Decade (UNLD) all have close links with aspects of the DESD. All participants agree on the central importance of basic education and the need to extend and enhance its quality.

What is the place of the DESD in relation to these significant international initiatives? It is clear that the concept of sustainable development goes beyond education and touches upon all aspects of the social and institutional fabric. In this sense, sustainable development provides a way of articulating the overall social goal and aim of development, alongside other over-arching concepts such as peace, human rights, and economic viability. Education for sustainable development focuses, therefore, on underlying principles and values conveyed through education and is more concerned than the other three initiatives with the content and purpose of education, and, more broadly, with learning of all kinds (UNESCO, 2005b, Annex I, p. 4). To summarise:

(1)   the MDGs provide a set of tangible and measurable development goals within which education is an indicator and has significant input;

(2)   EFA focuses on ways of providing quality educational opportunities to everyone;

(3)   the UNLD concentrates on promoting the key learning tool for all forms of structured learning; and

(4)   the DESD promotes a set of underlying values, relational processes and behavioural outcomes, which should characterise learning in all circumstances.

The global consultation to prepare the International Implementation Scheme (IIS) led to the identification of the following seven strategies as essential for moving forward by creating

regional, national, and sub-national implementation strategies and plans (UNESCO, 2005b, Annex I, p. 11):

a) vision-building and advocacy;

b) consultation and ownership;

c) partnership and networks;

d) capacity-building and training;

e) research and innovation;

f) the use of Information and Communication Technologies (ICTs); and

g) monitoring and evaluation.

Even after linking existing programs to Education for Sustainable Development (ESD), a need for new resources exists. Additional human resources and funding are necessary to augment current resources. For example, engaging the world's nearly 60 million teachers and countless non-formal educators in professional development to learn pedagogy and best practices associated with ESD is expensive, but necessary. Therefore it is obvious that education is held to be central to sustainability. Indeed, education and sustainability are inextricably linked, but the distinction between education as we know it and education for sustainability is enigmatic for many. ESD carries with it the inherent idea of implementing programs that are locally relevant and culturally appropriate. All sustainable development programs, including ESD, must consider the three spheres of sustainability: (a) environment, (b) society (including culture), and (c) the economy. Because ESD addresses the local contexts of these three spheres, it will take many forms around the world. Furthermore, education for sustainable development is based on ideals and principles that underlie sustainability, such as intergenerational equity, gender equity, social tolerance, alleviation of poverty, environmental preservation and restoration, conservation of natural resources, and the right to live in just and peaceable societies, which are also part of the Rio Declaration. In this sense the right to development must be fulfilled in order to meet the developmental and environmental needs of present and future generations equitably. For example, the eradication of poverty and the reduction of disparities in living standards in different parts of the world are essential to sustainable development.

In this respect the principle of education for sustainable development is a form of political education that should not be neglected as it is based on the understanding that, first and foremost, the industrial nations who are considered to be the main source of environmental and developmental degradation have to start taking action.

CONSEQUENCES FOR INTERNATIONAL POLITICAL EDUCATION AND LEVELS OF GLOBAL LEARNING

Few political objectives areas are dependent on successful international cooperation for their achievement as sustainability. The basic conditions for education for sustainable development, however, differ considerably around the world. The same is true for educational approaches. More basic education as it is currently taught will not create more sustainable societies. The conundrum remains, that it is educated nations that leave the deepest ecological footprints, using largest amounts of resources and energy to support their lifestyles.

Sustainability in developing countries may mean something different than it would in an industrialised country or at least the political priorities would differ. In such countries, the immediate focus is on ensuring basic living conditions, whereas in industrial countries issues of sustainable consumption with regard to energy-inefficient luxury goods may be considered to be more important. It is also necessary to consider the challenge posed by so-called emerging

economies to the sustainable development of world society. This raises some questions that go to the heart of the globalisation debate. What structures of global governance do we need in order to secure a viable future for the world? How do we allow developing countries to industrialise without endangering world climate? To what extent are ever scarcer resources and peacekeeping related (Leicht, 2005, p. 31)?

To develop public understanding and awareness of sustainability and to make progress towards more sustainable societies requires a population that is aware of the goals of sustainability and has the knowledge and the skills to contribute towards those goals. A knowledgeable citizenry supports a more sustainable society in several ways. First, citizens through their daily activities support government policy related to resource management and civic conduct. Second, citizens can support measures related to sustainable development and politicians who introduce and support enlightened legislation. Third, citizens can become knowledgeable consumers who purchase goods with low lifestyle impacts and who use their purchasing power to support corporate social and environmental responsibility and sustainable business practices. An informed citizenry can help communities and governments enact sustainability measures and move towards more sustainable societies.

Developing a knowledgeable citizenry requires a concerted effort with consistent and realistic messages delivered to people of all ages. The use of large scale media campaigns can reach substantial segments of society. Also, social marketing could be explored to deliver some of the simpler measures that lead to behavioural change. More comprehensive educational tools that focus on the skills inherent in critical thinking and rational decision making are necessary to build a citizenry capable of thinking through some of the more complex sustainability issues that face communities and nations (UNESCO, 2005b, Annex II, p. 5).

All sectors, including business, industry, higher education, government, non-governmental organisations and community organizations, should be encouraged to train their leaders in sustainability issues such as environmental management, equity policies, and to provide training to their workers in sustainable practices. The development of specialised training programmes to ensure that all sectors of the workforce have the knowledge and skills necessary to perform their work in a sustainable manner is a critical component of education for sustainable development.

Therefore, it is necessary to support educational politics, and especially an 'ecological awareness' - both in the industrialised nations of the 'First World' and also in the developing countries of the 'Third World'. The countries in the North should be aware of their exemplary function. It is an essential educational aim to show that sustainable and forward-looking development is not the responsibility of the Third World in the first place and that developmental aid from the North to the South without changing behaviour in the North may have disastrous effects and do great harm.

However, no universal models of ESD exist. While there is overall agreement on the principles and supporting concepts of sustainability, there exist slight differences depending on local contexts, priorities, and approaches. Each country has to define its own educational priorities and actions required for sustainability. The goals, emphases and processes must, therefore, be locally defined to meet the local environmental, social and economic conditions in culturally appropriate ways. Education for sustainable development is equally relevant and important for both developed and developing countries.

CONCLUSION

Global learning is, besides environmental education, one of the main pillars of education for sustainable development. This is essential if globalisation is to have a human face.

Therefore, globalisation as a world-wide phenomenon requires better education systems to show (a) greater dynamics in identifying problems and solutions, (b) greater attention to events and their causes, and (c) an improved capacity to respond (Rupérez, 2003, p. 258). Furthermore, education policies, particularly those related to global learning and education for sustainable development, are required to provide an understanding of the phenomenon of globalisation and are likely to be one of the key strategies for survival in the twenty first century.

REFERENCES

Andersen, U., Homberger, I. and Penedo, N. (1999). *Lokale Agenda 21 und Entwicklungspolitik, in: Politische Bildung. Beiträge zur wissenschaflichen Grundlegung und zur Unterrichtspraxis. Entwicklung der Entwicklungspolitik, Jhrg.* 32, Band 3. (Local Agenda 21 and development-policy, in: Political education. *Contributions to scientific foundation and practice of development policy*, year`s set *32, 3*,), Schwalbach,Ts.:Wochenschau.

Bolscho, D. and Seybold, H. (1996). *Umweltbildung und ökologisches Lernen. Ein Studien- und Praxisbuch,* (*Environmental education and ecological learning. A studies and practise book*), Berlin.

Brunold, A. (2004). *Globales Lernen und Lokale Agenda 21. Aspekte kommunaler Bildungsprozesse in der "Einen Welt',* (*Global learning and Local Agenda 21. Aspects of communal and educational processes in 'One World'*), Wiesbaden:VS-Verlag.

Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (Hrsg) (1997). *Umweltpolitik.* (Ministry for Environment, Protection of Nature and Nuclear-Safety (Ed.), (*Environmental Policy*), Bonn.

Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (Hrsg.)(1992). *Umwelt und Entwicklung. Bericht der Bundesregierung über die Konferenz der Vereinten Nationen für Umwelt und Entwicklung im Juni* 1992 in Rio des Janeiro. Entwicklungspolitik, Materialien Nr. 84, (Federal Ministry for Economical Cooperation and Development (Ed.), Environment and Development. *Report of German Government on the United Nations Conference for Environment and Development)*, June, in Rio de Janeiro. Development Policy, materials *84*, Bonn.

De Haan, G. (1997). *Skizzen zu einer lebensstilbezogenen Umweltbildung*, in: Lohmeyer, M. et. al.: *Ökologische Bildung im Spagat zwischen Leitbildern und Lebensstilen, Loccumer Protokolle 25 ,*97, (Outlines to a lifestyle-driven environmental education. In: M Lohmeyer,. et al. (Eds.)., *Ecological education in the twine between models and lifestyles*,)*Loccumer journals 25,*97, Loccum.

De Haan, G. and Harenberg, D.(1998). *Nachhaltigkeit als Bildungs- und Erziehungsaufgabe. Möglichkeiten und Grenzen schulischen Umweltlernens, in: Landeszentrale für politische Bildung Baden-Württemberg (Hrsg.), Nachhaltige Entwicklung, Der Bürger im Staat, 48 Jhrg.*, Heft 2, (Sustainability on the Agenda of education. Posibilities and limits of environmental education in school. In: Central office for political education Baden-Württemberg (Ed.), *Sustainable Development, The citizen in the state, 48. year´s set, 2*), Villingen-Schwenningen: Neckar-Verlag.

Deutscher Bundestag (Hrsg.) (1972). *Umweltschutz. Umweltprogramm der sozialliberalen Koalition 1971. Bundestagsdrucksache 6,*2710, (German Bundestag (Ed.): *Environmental protection. Environmental program of the social-liberal coalition 1971*, Printed matter of the German Bundestag 6/2710), Stuttgart.

Eckert, R., Goldbach, H. and Willems, H. (1992). *Konfliktintervention. Perspektivenübernahme in gesellschaftlichen Auseinandersetzungen,* (*Intervention to conflicts. Adoption of perspectives in social conflicts*), Opladen.

Erdmann, K.H. and Wehner, G. (1996). *Die Bedeutung des Wissens für die Umwelt- und Naturschutzbildung, in*: Erdmann, Karl-Heinz,Nauber, Jürgen (Hrsg.): *Beiträge zur Ökosystemforschung und Umwelterziehung,* Band. III, (The importance of knowledge for a education of environmental protection and nature. In:K.H. Erdmann, and J. Nauber, (Eds.) *Contributions to research of economic systems and environmental education, III*), Bonn.

Fiedler, K. (1998). *Zur Umsetzung der Agenda 21 in den Staaten und Kommunen,* in: ICLEI,Kuhn, Stefan, Suchy, Gottfried, Zimmermann, Monika (Hrsg.), *Lokale Agenda 21 - Deutschland. Kommunale Strategien für eine zukunftsbeständige Entwicklung,* (Practising the Agenda 21 in states and communities, in: ICLEI, S. Kuhn, G. Suchy, and ,M. Zimmermann, Monika (Eds.), *Local Agenda 21 - Germany. Communal strategies for a constant development in the future*), Berlin.

Fietkau, H.J. (1984). *Bedingungen ökologischen Handelns. Gesellschaftliche Aufgaben der Umweltpsychologie,* (*Conditions of ecological action. Social tasks of environmental psychology*), Weinheim.

Fietkau, H.J. and Kessel, H. (1981). *Umweltlernen. Veränderungsmöglichkeiten des Umweltbewußtseins*, (*Environmental Learning. Possibilities for changes in environmental awareness*), Königstein,Ts..

Gärtner, H. and Hoebel-Mävers, M. (Hrsg.)(1990). *Ökologisches Handeln in Ballungsräumen.* Reihe Umwelterziehung Band 1, (*Ecological action in areas of agglomerations. Series environmental education, 1*), Hamburg.

Gugel, G. and Jäger, U. (1996). *Friedenspädagogische Überlegungen zum "Globalen Lernen",* in: LSW,Schulstelle Dritte Welt,Eine Welt (Hrsg.): Unser Bild vom Süden. Kritische Medienanalyse, (Peace-educational considerations on global learning. In LSW/school agency Third World/One World (Eds.) *Our picture of the south. Critical analysis of the media*), Soest.

Gugel, G. and Jäger, U. (1997). *Globales Lernen. Eine Perspektive zur friedenspädagogischen Bildungsarbeit*, in: Vogt, Wolfgang R.,Jung, Eckhard (Hrsg.): *Kultur des Friedens. Wege zur Einen Welt*, (Global learning. Perspective for a peace-educational formation. In: W.R. Vogt and E. Jung, (Eds.), *Culture of Peace. Ways to One World)*, Darmstadt.

Hauff, V. (1987). *Unsere gemeinsame Zukunft. Der Brundtland-Bericht der Weltkommission für Umwelt und Entwicklung,* (*Our common future. The Brundtland-Report of the World Commission on Environment and Development*) Greven.

Ilien, A. (1994). *Schulische Bildung in der Krise. Aufsätze zur Öffnung der Schule. Umweltbildung und Selbstregulierung*, (*The crisis of school education. Essays for opening schools. Environmental education and self-regulation*). Hanover.

Klafki, W. (1991). *Neue Studien zur Bildungstheorie und Didaktik*, (*New studies about theory of education and didactics*)..Weinheim/ Basel.

Leicht, A. (2005). *Learning Sustainability - the UN Decade of Education for Sustainable Development in Germany, an International Education Initiative.UNESCO today, 2/2005*, 26-31.

Peccei, A. (Hrsg.) (1979). *Das menschliche Dilemma. Zukunft und Lernen. Bericht an den Club of Rome*, (In A. Peccei, (Ed.). *The Human Dilemma. Future and Learning*. Report to the Club of Rome). Wien.

Preuss, S. (1991). *Umweltkatastrophe Mensch. Über unsere Grenzen und Möglichkeiten ökologisch bewußt zu handeln,* (*Environmental disaster of humankind: About our limits and possibilities to act ecologically).* Heidelberg.

Rösler, M. (1993). *Ökologische Verkehrsplanung im Ballungsraum. Reihe Umwelterziehung Band 5*, (*Ecological traffic planning in areas of agglomerations, Series Environmental Education, 5*). Hamburg.

Rupérez, F.L. (2003). Globalization and education. In *Prospects,. XXXIII, 3*.

Scheunpflug, A. and Seitz, K. (1992). *Selbstorganisation und Chaos. Entwicklungspolitik und Entwicklungspädagogik in neuer Sicht,* (*Self-Organization and Chaos. Development Policy and Development Education in new sight*). Tübingen.

Schratz, M. (1996). *Gemeinsam Schule lebendig gestalten, (*Working together to make the school lively). Weinheim/ Basel: Beltz

Schreier, H. (Hrsg.) (1994). Die Zukunft der Umwelterziehung, Reihe Umwelterziehung, Band 7. In H. Schreier (Ed.). *The future of Environmental Education Series, Environmental Education, 7*. Hamburg.

Seitz, K. (1998). Globales Lernen - *Bildungswende für eine Zukunftsfähige Entwicklung. In G. Führing (Hrsg.), Lernen in weltweitem Horizont*, (Global Learning - Turn-around to a Education for Sustainable Development. In G. Führing (Ed.), *Learning in a World-Wide Horizon*). Münster.

Stiftung Entwicklung und Frieden (Hrsg.) (1995). *Nachbarn in Einer Welt. Der Bericht der Kommission für Weltordnungspolitik,* (Foundation for Development and Peace (Ed). *Neighbours in One World. Commission report for world order policy*. The Commission on Global Governance). Bonn.

Umweltbundesamt (Hrsg.) (1997). *Nachhaltiges Deutschland. Wege zu einer dauerhaft-umweltgerechten Entwicklung,* (Federal Environmental Agency (Ed.). *Sustainable Germany. Ways towards a durable environmental development*). Berlin.

UNDP/UNESCO/UNICEF/World Bank (Eds.) (1990). *Summary for the World Conference on Education for All: Meeting Basic Learning Needs,* Jomtien, Thailand, 5. - 9. March 1990. New York.

UNESCO heute (1994). *41. Jhrg., Ausgabe IV, (UNESCO today, 41. series Volume IV*). Bonn.

UNESCO, (2000). *Global forum on Education for All*. Final report. Paris.

UNESCO, (1991). *Dokument 25 C/4, Dritter mittelfristiger Plan 1990-1995, (UNESCO-Document 25 C/4, Third medium-termed plan 1990-1995*). Bonn.

UNESCO (2005a). *United Nations Decade of Education for Sustainable Development 2005-2014*, Draft International Implementation Scheme. Paris.

UNESCO (2005b). Executive Board, 172 EX/11, *Report by the Director-General on the United Nations Decade of Education for Sustainable Development: International Implementation Scheme and UNESCO´s contribution to the Implementation of the Decade*. Paris.

Weinbrenner, P. (1997). *Didaktische und methodische Konzepte für die Bearbeitung ökologischer und zukunftsorientierter Themen. In S. Frech, E. Halder-Werdon and M. Hug*

(Hrsg.), *Natur - Kultur. Perspektiven ökologischer und politischer Bildung*, (Didactical and methodological concepts for the treatment of ecological and futureoriented topics. In S. Frech, E. Halder-Werdon and M. Hug (Eds.), *Nature - Culture. Perspectives of ecological and political education*). Schwalbach/Taunus.

Weizsäcker von, R. (1990). *Ansprache bei der Eröffnungsveranstaltung zur Ersten Europäischen Konferenz für Umwelt und Gesundheit der WHO*. In Reden und Interviews (6), (Speech at the opening ceremony at the First European Conference for Environment and Health of the WHO. In *Speeches and Interviews (6)*. Bonn.

Weizsäcker von, E.U. and Winterfeld, U. (1995). *Umwelterziehung war erst der Anfang. Im Jahrbuch Ökologie 1995*, (Environmental Education was just the beginning. In *Yearbook Ecology 1995*). München.

Weizsäcker von, E.U. (1992). *Erdpolitik. Ökologische Realpolitik an der Schwelle zum Jahrhundert der Umwelt, (Earth-Policy. Ecological policy at the doorstep to a century of Environment*). Darmstadt.

Wilhelmi, H. H. (1992). Welche *'Bildung' für die Zukunft. In Zeitschrift für Entwicklungspädagogik, 15. Jhrg., Heft 1*, (Which 'Education' for the future. In *Journal for Development-Education, 15. series*, 1).

Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen (WBGU) (1993). *Welt im Wandel. Grundstruktur globaler Mensch-Umwelt-Beziehungen, Jahresgutachten 1993, German Advisory Council on Global Environmental Change. (The World in Change. Basic structure of global human environmental relationship, Expert-Audit 1993).* Bonn.

Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen (WBGU) (1996). *Welt im Wandel. Wege zur Lösung globaler Umweltprobleme. Jahresgutachten 1995,* German Advisory Council on Global Environmental Change. (*The World in Change. Ways to solve global environmental problems. Expert-Audit 1995*). Berlin.

Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen (WBGU) (1999). *Welt im Wandel. Strategien zur Bewältigung globaler Umweltrisiken* German Advisory Council on Global Environmental Change. (*The World in Change. Strategies to master global environmental risks*). Berlin.

Zürn, M. (1995). *Globale Gefährdungen und internationale Kooperation. In: Der Bürger im Staat, Landeszentrale für politische Bildung Baden-Württemberg (Hrsg.), Heft 1, Sicherheitspolitik unter geänderten weltpolitischen Rahmenbedingungen*, (Global hazards and international cooperation. In The citizen in the state, Central office for political education Baden-Württemberg (Eds.),*Safety policy under changed basic global parameters, Number 1*). Villingen-Schwenningen.

❖IEJ

Internet use in the developing world: A case study of an African university[1]

Ibrahim Poda
Department of Instructional Technology, Miami University, Ohio *podia@muohio.edu*

John W. Murry, Jr.
College of Education and Health Professions, University of Arkansas *jmurry@uark.edu*

Michael T. Miller
College of Education and Health Professions, University of Arkansas *mtmille@uark.edu*

The internet has become an indispensable tool in the twenty first century. However, the development may be slowed by a lack of appropriate facilities in less developed nations. A study of existing facilities in Burkina Faso was undertaken to answer five questions on the participants' perspectives on internet usage: (a) how do the participants perceive internet utilisation; (b) what factors encourage the use of the internet; (c) what factors discourage internet usage; (d) is the internet a tool for enhancing learning and (e) how can improved management of available technology lead to greater internet usage in the Humanities Faculty at Ouagadougou University?

Participants were selected because of their interest and involvement with technology, their computer knowledge and their prior experience with the internet. The current status of internet knowledge and utilisation were examined and factors that influenced internet usage were considered. Six recommendations for improved practice at the post-secondary level were discussed.

Internet, computer technology, rural access, Africa

INTRODUCTION

Although the internet is growing rapidly in much of the world, the international digital divide is still significant (Solomon, Allen and Resta, 2003), and emerging countries appear to be falling further behind. In 2003 there were an estimated 490 million people online, representing only 6 per cent of the world's population. Of these 490 million, 41 per cent are in North America, possibly as a result of the fact that the United States has more computers than the rest of the world combined. 26.5 per cent of the online population lives in Europe and the Middle East; 20 per cent of the online population logs on from the Asia Pacific region; and only 4 per cent of the world's online population is in South America. Only 1.4 per cent of the online population resides in Africa (Benton Foundation, 2004). The same trend is observed in higher education where the internet is rapidly expanding to allow access to the resources necessary for undertaking research, teaching, and linking scholars in new global networks.

While the internet is present in education in the developed world (Byron and Gagliardi, 2000), only a handful of post-secondary education institutions in emerging countries have access to it

---

[1] This article was extensively edited by Dr B. Matthews, Research Associate, Flinders University Institute of International Education.

(Jensen, 2002). A survey by the Association of African Universities in 1998 found that only 52 of the 232 academic and research institutions had full internet connectivity, the remaining 180 institutions had access that was deemed inadequate (Useem, 1999).

For the University of Ouagadougou in Burkina Faso, West Africa, as well as its counterparts in sub-Saharan Africa, the internet represents a significant opportunity to revitalise higher education by providing a way for academics to overcome their isolation (Useem, 1999). As a result, there is a concerted effort to solve the problem of internet access and usage in higher education institutions in Burkina Faso. Renaud (1994) issued the *Statement of Ouagadougou* at the end of the second African Conference on Information and Communications Technologies, in which administrators, academics, and researchers identified strategies required to implement and to bring about change in internet access and utilisation (Renaud, 1994).

The current study was designed to describe the patterns in internet utilisation among faculty and students at the *Unité de Formation et de Recherche/Sciences Humaines* (UFR/SH) at the University of Ouagadougou. In order to understand better internet utilisation, the participants' perspective about the internet and factors encouraging and discouraging its utilisation were examined. The way participants use the internet in learning and managing technology at the institution were also examined. This paper seeks to provide information that is likely to be useful for university administrators engaged in meeting present and future institutional needs in equipment acquisition, training, user support, and student facilities.

BACKGROUND TO THE STUDY

The internet in post-secondary Education in sub-Saharan Africa

Internet growth in emerging countries has been impressive (Jensen, 2002). According to the World Telecommunication Development Report, the number of internet hosts increased in the early 1990s to approximately 140,000 in 1997 in sub-Saharan Africa, and the number of internet users grew 59.9 per cent between 2001 and 2002 (UNCTAD, 2004). This increase has come from new applications of the internet. Concurrently, the pursuit of digitisation has become widespread in higher education and there is a growing awareness and commitment to prepare students for effective participation in the global knowledge economy. As early as 1993, the Association of African Universities (AAU) warned, "If our African universities fail to connect to the electronic network, we will have to face the fact that we will be awarding degrees of lesser quality" (AAU, p. 1).

There are great possibilities for higher education at all levels through the use of the internet (Byron and Gagliardi, 2000) because curricula can be developed collaboratively and educational materials distributed and updated more cheaply, offering additional ways for students to interact with their study materials as well as their instructors. There are also pressures to make learning more flexible even for those students who have access to the internet on a university campus (Brown, 2001). Further, there are multiple forces driving internet expansion in higher education including globalisation and the need for workforce training (Twigg and Oblinger, 1996), learner on-demand services (Milliron, 2000), digitisation, knowledge explosion, and cost effectiveness (Bates, 2000). Over the last 10 years, a great effort has been made to connect African universities to the internet. Given that an increasing number of academic resources are moving to the internet – and in some cases being made available exclusively online – it is imperative that African universities become connected rapidly if they are not to stagnate in the modern academic world. Because there are many issues associated with internet use in post-secondary education institutions in sub-Saharan Africa, the World Economic Forum has set up a Digital Infrastructure Initiative to "help developing countries leverage the potential of communication, technology and knowledge tools necessary for participation in the knowledge economy" (Elliot, 2000, p. 1). The

primary barriers to internet utilisation include limited telecommunications infrastructure, lack of access, limited technology support and expertise, high costs, sluggishness in infrastructure development, and other more political obstacles all of which contribute to a lack of internet access (African Development Forum, 2000).

The internet in Burkina Faso

As one of the first countries in francophone Africa to gain access to the internet in 1989, Burkina Faso has made considerable progress in the field of telecommunications. Yet, the country still has to make further progress, based on standards developed by the United Nations Development Program (UNDP) indicating that a teledensity of one line per 100 inhabitants is acceptable. Burkina Faso only had a teledensity of 0.80 and 4.60 for every 100 people in its largest cities (Lacroix, 2002), while requests for telephone lines are greater in number than the ability of the National Office for Telecommunication (ONATEL) to provide service. According to Zannou (2000), the acquisition and appropriation of the internet would allow people to exchange resources, work collaboratively at a distance, participate in virtual training online, and utilise scientific and technical information to facilitate action-research and socio-economic development in Burkina Faso.

Ouédraogo (2000) studied access to the internet in Burkina Faso and emphasised that its use could accelerate social and economic development. He investigated collective internet access, uses, and training by interviewing users in public departments, non-governmental organisations, and educational institutions. Ouédraogo noted that collective access locations were arranged spaces where individuals could go to use and learn how to use a computer and the internet, and he found that even if access at these locations was sometimes offered at no charge, access was typically based on utilisation fees. Ranked in order of importance, the following rates were provided about the use of information and communications technologies in 1999: fixed telephony (90%), mobile telephony (6%), and the internet (4%).

There is a growing interest in internet use as an economic consideration. Internet technology costs relatively less than other means of communication such as the telephone and fax. Since the internet is a relatively new form of technology, one of the major problems is the ability to manage it in order to maximise its benefit. Internet use in Burkina Faso is a recent phenomenon; for example in 1997, 48 per cent of those utilising the internet had been using it less than two years. In addition, internet use is mainly limited to applications including email and accessing the World Wide Web (WWW). Electronic mail is the most widely used application on the internet. The WWW is used by 97 per cent of internet users for research and is generally carried out through the use of a URL address. The use of search engines is not a common practice, as only 11 per cent of internet users employed search engines to parameterise their search for information. Other internet services including chat rooms, newsgroups, and videoconference applications were known to only 19 per cent of users (Lacroix, 2002).

Zannou (2000) described the barriers to internet use indicating that technology is regarded as a luxury that an average Burkinabé cannot afford, and about 60 per cent of the population in Burkina Faso do not read and write French, making computer-based technologies a prerogative of the elite. In addition, telephone coverage in urban and rural areas is limited, causing the telecommunications infrastructure to be a restraining factor to internet development. Present internet configuration using FasoNet as the gateway to the internet needs to be modified in order to extend internet accessibility. The prospects for developing the internet are further hindered by the constraints of the ONATEL monopoly. A final challenge is support and training. Currently, many users spend far too much time on the internet carrying out simple tasks. Many people use the internet without first learning basic computer concepts (DELGI, 1999).

The internet in Higher Learning

Higher education lags behind the business sector in access to the internet in Burkina Faso. The country has three major universities: the University of Ouagadougou, the Polytechnic University of Bobo-Dioulasso, and the Teacher's College of Koudougou, each with approximately 16,000 students enrolled. In terms of computer equipment, it was estimated in 1997 that there were only 0.050 computers per student, and 70 per cent of the available computer equipment was five to 10 years old (Ouédraogo, 2000).

The University of Ouagadougou has access to the internet through the network for learning and research (RENER) that was established in 1996 by the educational and research institutions in Burkina Faso. This terminal enables educational and research institutions including the African and Malgache Council for Higher Education, the Institute for Research and Development, the National Centre for Technologies and Research, the SYFED centre, the RESAFAD centre, the International Engineering School for Rural Welfare, and the Polytechnic University of Bobo-Dioulasso to be linked together and to the internet through routers. The main terminal of the network is hosted at the University of Ouagadougou and is connected to the ONATEL's terminal at a rate of 256 Kbps. In 1998, the technology context at the University of Ouagadougou was characterised by the following:

1. The absence of an institutional technology plan decelerates campus computerisation as regards the administrative and financial management of technology. The consequences are insufficient coordination of various initiatives and disparities in terms of equipment between academic units.

2. Technicians and technology coordinators are in demand. There are only four qualified technology directors for the University of Ouagadougou. They are assisted by a dozen other technicians who are adequately informed about technology trends, issues, and problems.

3. The lack of equipment for faculty and students is crucial. Faculty and students need more computers and increased internet access and connectivity.

4.   The absence of training is due to limited human resources. The problem of basic training for administrators, faculty, as well as for students persists.

5. The lack of sufficient linkage between existing computers on campus illustrates the limited networking at the University of Ouagadougou. A high performing intranet on campus would facilitate communication and data transfer (DPNTIC, 2000, p. 10).

Despite the challenges for many administrators, faculty members, and students to gain convenient access and use the internet on a regular basis, the internet is quickly becoming the preferred way to communicate and carry out research.

RESEARCH METHODS

Grounded theory was the theoretical approach used in conducting the study, and qualitative research methods were employed to collect data about the patterns on internet utilisation. In this study data were gathered in three different ways: (a) in-depth, open-ended interviews; (b) direct observation; and (c) written documents (Patton, 2002). The data collected were used to answer the following research questions: (a) what are the participants' perspectives of internet utilisation? (b) what factors encourage internet utilisation at UFR/SH? (c) what factors discourage internet utilisation at UFR/SH? (d) what are users' experiences with the internet as a tool for enhancing learning? (e) how can better management of technology improve internet utilisation at UFR/SH?

The University of Ouagadougou is an appropriate site for the study because there are significant pressures upon post-secondary institutions in sub-Saharan Africa to use technology. The

University is a state-supported and research institution with a total student population of 14,000. Reorganised in 2000, the University currently comprises six academic units: *UFR des Sciences Juridiques et Economiques* (FR/SJE) or Law and Economics; *UFR des Lettres, Arts et Communications* (UFR/LAC) or Languages, Arts, and Communications; *UFR des Sciences Humaines* (UFR/SH) or Humanities; *UFR des Sciences Exactes et Appliquées* (UFR/SEA) or Computer Sciences, Physics, Mathematics; *UFR des Sciences de la Vie, de l'Environnement et de la Terre* (SVETRM) or Life and , Environment Sciences, and Mining; *UFR des Sciences de la Santé (UFR/SS) or Health Sciences; Institut des Arts et Métiers* or Civil Engineering and Architecture (The University of Ouagadougou, 2000).

This study was limited to UFR/SH, an academic unit that comprises two sections: The humanities section included the sociology, psychology, and philosophy departments and the history, archaeology and geography sections that includes the history, archaeology, and geography departments. UFR/SH was an information-rich faculty that provided an interesting foundation for research, and choosing this unit as the site for this study was a pragmatic decision because it could provide significant information for the process of improving internet utilisation.

A purposeful sampling method was employed to identify two faculty members, 10 students, and two technology coordinators to participate in this study based on their background, national origin and experience with the internet. The participants were native to Burkina Faso. The participants used the internet at least five times a week or spent at least one hour a day on the internet using any of its features. The faculty members were chosen because the UFR/SH's administration recommended their participation due to their interest in technology and their involvement in meetings and conferences to bring about technological change in the UFR/SH division and on campus. The students were chosen based on their exposure to the internet, their interactions with faculty members and on the recommendation of the two faculty members, who, in turn, based their recommendation on the students' attendance, grade point average (GPA), interest, and involvement with technology. The technology coordinators were chosen because of their experience with the internet and on professional their relationships with faculty members. The technology coordinators had an excellent understanding of the technology and internet context at the institution, knew about on-going hardware and software availability and problems, and in their work they provided support and training to faculty members and students.

In order to triangulate data sources and to ensure data validity, three formal data collection techniques were used in the study.

1. Interviews were conducted with faculty members, students, and the technologycoordinators through the use of a standardised open-ended interview format, which comprised 30 questions developed from the literature review and personal and professional experience as sources of theoretical sensitivity (Strauss and Corbin, 1990). The questions were posed to the participants according to themes including background information, experience with the internet, and support and technological training. Informal conversational interviews were used to gather additional data from the participants was also conducted throughout the study.

2. Direct participation and observation was a major part of this study. In order to provide a descriptive account of the situation that was being observed, focus was shifted from the environment, the workstations' specifications, and the connection speed to activities being accomplished, keywords, challenges faced, participants' thoughts and remarks on the technology, the degree of satisfaction with internet access, and participants' overall behaviour in front of the computer.

3. Written document collection was an on-going process throughout the study. Conference reports, studies, technology plans, articles, and books about the internet and its utilisation were initially collected.

The analysis of data is a progression of three levels of coding: open, axial, and selective (Strauss and Corbin, 1990). These levels of codes take data and break it down, reorganise it, connect it, and analyse the phenomenon in new ways. The constant comparative method was used throughout this study to shape explanations directly from the emerging data (Denzin and Lincoln, 1994).

DATA RESULTS

Categories

Six categories were identified in the coding process and provided the framework for presenting data in this study. The categories included: labelling the internet, reasons for using the internet, reasons for not using the internet, experience with the internet, support and training, and improving internet utilisation. The guiding questions are presented along with responses based on the findings generated through analysis of the data.

1. **What is the current status of internet utilisation at UFR/SH?** The current status of internet utilisation at UFR/SH is generally characterised by the lack of computers with internet access. UFR/SH is facing mounting internal and external pressures to change the way information is accessed, how learning takes place and the way research conducted. The internet is viewed as a means for improving internal and external communications at the institution to provide access to considerable resources for learning and research. In 2001, there were approximately 1,700 internet users connected to the university network although there were 14,000 students enrolled in degree programs on campus. Only 50 per cent of the faculty members at UFR/SH regularly used the internet, and on campus they had access to it in the computer labs located at the Department for Promoting the Use of Information and Communications Technologies (DPNTIC), the Central Library, and the SYFED and RESAFAD centres. Student internet access at UFR/SH was restricted to postgraduate students due to the limited capacity of these labs. For these reasons, internet utilisation at UFR/SH was highly restricted.

2. **What factors encourage internet utilisation at UFR/SH?** Faculty, staff, and students at UFR/SH reported using the internet for two purposes: to improve communications with other research workers and online information accessibility. The internet was chosen because it provided fast communication services, allowing faculty, staff, and students to send and receive messages and exchange information with distant and overseas colleagues and collaborators. As a result, the internet greatly enhanced communications and the exchange of information between faculty, staff, and students within and outside UFR/SH. Furthermore, the costs of these communications were less expensive than for telephone or fax, making the internet an inexpensive and convenient tool to use. In addition to communication opportunities, the use of the internet was highly influenced by the WWW, which allowed access to information that could be used in administration, teaching, and research in order to support student learning at UFR/SH. For faculty, staff, and students, the WWW helped to overcome the lack of resources available in the libraries at the institution.

3. **What factors discourage internet utilisation at UFR/SH?** There were many obstacles to internet use that were identified in the study. These obstacles, perceived as factors for not using the internet, included unavailable technological infrastructure and computer equipment, limited capacity of available computer equipment, power outages and connectivity problems, high usage costs, insufficient technical support, lack of training in basic internet skills, and English as the predominant language on the internet. In the UFR/SH faculty at the University of Ouagadougou, the crucial challenge was financing technology. High costs associated with the technology and its use made it very difficult for the university to provide computers with internet access for faculty, staff, and students. The existing technological equipment was numerically insufficient and most computers had hardware and software that were not up to

date, rendering the online experience challenging for campus users. Faculty, staff, and students spent lengthy amounts of time browsing the internet, and were frequently disconnected from the main server while using the internet. In addition to limited computer equipment available, users at UFR/SH experienced skill challenges due to under-funded computer support and training. As a result, technical problems were frequent and faculty, staff, and students encountered challenges in using keyword search strategies, which impeded their search results, their overall internet experience, and their personal satisfaction. Due to on-campus internet access problems, faculty, staff, and students used the services of off-campus internet providers where they were charged for connection time. Furthermore, English, the predominant language on the internet is not widely used in Burkina Faso. In fact, very few people can speak, read, or comprehend English since French is the official language in the country. In 2002, only 2.81 per cent of the web sites were in French. In addition, French was less used in online discussions comprising 1.5 per cent of all forums on the internet (Networks and Development Foundation, 2002). Even if the literacy rate would appear to be high (60 per cent), only 24 per cent of people in Burkina Faso speak, read, and comprehend French. At the village level, the majority of the people speak their own dialects. As a result, language remains a significant barrier in internet use. In addition to language barriers, about 80 per cent of people live in rural areas and many live far from towns and telephone lines (Lacroix, 2002).Therefore, they do not use the internet in their daily lives and they do not consider it as a necessity. This lack of use impacts the ability of students to use the internet efficiently when students from remote areas of the country enter higher education where computers and the internet are available.

4. **What is users' experience with the internet as a tool for enhancing learning?** The internet offers a broad range of possibilities for learning at all academic levels. There is a growing interest in developing ways of incorporating these technologies into the curriculum at UFR/SH so that faculty members and students may reach their full potential. Faculty and students' internet experiences at UFR/SH are hindered by lack of finances, insufficient technological infrastructure and equipment, limited support and training, and linguistic barriers. The majority of the faculty members and students first became acquainted with the internet in 1998. Thereafter, they have regularly used email to send and receive messages and browse the WWW, using search engines including Yahoo, Google, and Caramail. Yet, the use of internet services including File Transfer Protocol (FTP), and news and discussion groups is not widespread. Although limited, internet use has a positive influence on learning for all at UFR/SH, and this would undoubtedly increase if support and training were provided on a regular basis. The major on-campus support to students remains the free access to the RESAFAD and Syfed computer labs where some user assistance is provided. Due to lack of institutional support, independent learning is used as the method to become familiar with the information and communications technologies.

5. **How can management of technology improve internet utilisation at UFR/SH?** DPNTIC provided computer support and training to administrators, faculty members, and students. Four modules of computer training including Windows, MSWord, Excel, and internet (email and Internet Explorer to surf the WWW) were designed and provided by DPNTIC staff.

Yet, the leadership hindered technology use because the centralised approach to management of technology by the university has not proven to be effective in assessing needs, acquiring computers, and providing support and training at UFR/SH. For that reason a short-term plan to improve internet utilisation at UFR/SH is necessary. Under mounting financial pressures, more research must be done to study effective means of computer equipment acquisition and increasing the connectivity rate. Providing UFR/SH with its own dedicated network or an intranet would greatly improve internet accessibility in this academic unit. Increasing the number of computers

and creating separate faculty and student labs would reduce friction between users. In comments on the importance of training, the participants indicated that student training should be implemented, and more assistants should be available in computer labs. Users' internet experience is likely to improve if they are provided with the necessary computer support and practical training.

Grounded Theories

Two selective codes emerged from the step-by-step analysis. The first theory was drawn from the selective code, 'experience with the internet', and illustrated the reasons why participants did and did not use the internet at UFR/SH. Thorough analysis of the data provided the basis for the formation of a first theory in the study: The level of internet use in post-secondary institutions in emerging countries was primarily influenced by seven factors including personal satisfaction, information accessibility, enhanced learning, cost effectiveness, technology infrastructure and equipment, financial challenges, and skill challenges. The second theory arose from the selective code, 'support and training', and was related to the role of support and training as a component in internet utilisation. Thorough analysis of the data provided the basis for the formation of Theory 2 in this study: Therefore, the absence of ongoing training, professional development, and adequate administrative support for technology negatively impact on internet utilisation in colleges and universities in developing countries.

IMPLICATIONS FOR IMPROVED PRACTICE

A major objective in the presentation of the data was to provide readers with the greatest amount of information possible to enable them to apply the findings to similar contexts in post-secondary education institutions. Previous research offered little basis for generalisation to this study, due to the limited number of specific studies conducted concerning internet utilisation in colleges and universities in developing countries. This study focused on three principal factors associated with internet utilisation, including: (a) benefits, (b) barriers, and (c) infrastructure. Finding effective means to facilitate the introduction of the internet into higher education in these countries is worthy of examination. The internet should be available to play the same role in institutions of higher education in less developed countries as in more technically advanced countries, supporting research, enriching curriculum, and greatly increasing administrative performance. As a result, this study is not only significant to administrators and scholars in post-secondary institutions in emerging countries, but it is also significant to those in colleges and universities universally. Administrators in both developing and developed countries are not only provided with useful information about user experience within higher education institutions, but they are also alerted to difficulties associated with internet adoption including linguistic, financial, and digital equity issues.

This study could be useful to college and university administrators in emerging nations because it suggests that in order for effective internet utilisation to occur at institutions of higher education, the following must occur.

1. **Provision of strong leadership for change**. Campus leaders must provide the strong personal leadership required to bring about technological change effectively. Without leadership and a strong sense of support for change in colleges and universities, the barriers affecting technology are likely to remain.

2. **Development of a shared campus vision**. Developing a shared vision concerning the value and future impact of information and communications technologies is important. It is critical for campus leaders, decision makers, and other important stakeholders to understand and agree

that a shared vision is necessary and that it must be the guiding focus behind campus planning and strategy.

3. **Building consensus through a campus-wide strategic plan**. A written strategic plan for information and communication technologies that is understood and embraced by all should be employed. All key stakeholders must consider the internet (including the campus network) as an integral part of the institution's information and communication-based resources.

4. **Establishment of an effective and integrated information technology organisation**. As more and more of its critical services are moved to its network and become dependent on it, a campus must create an effective organisation that addresses all aspects of human and technical support for information and communications technologies. It is recommended that the structure of the information technology organisation encompasses a mixture of centralised and decentralised strategies to support all constituencies on campus.

5. **Implementation of faculty and staff development and training**. In this time of rapid changes in information and communication technologies, there must be a strong commitment to faculty and staff development and the provision of ongoing organisational support and training at the institutional level.

6. **Building partnerships and fostering inter-institutional collaboration**. Campus leaders must take the initiative in the establishment and promotion of institutional partnerships and collaboration should be developed to exchange experiences and learn from each other, to facilitate the exchange of information between staff and students to conduct joint research, to implement network-based applications, and to share the cost of joint course development and delivery.

REFERENCES

Association of African Universities (December 1993). *Electronic Networking for West African Universities*. [Online] http://www.sas.upenn.edu/African_Studies/E_Mail/WEST_ AAAS.html [June 10, 2001].

African Development Forum. (March 2000). *Theme 4 - Democratizing Access to the Information Society*. [Online] http://www.bellanet.org/partners/aisi/adf99docs/democratising.htm [September 14, 2002].

Bates, A.W. (2000). *Managing Technological Change*. San Francisco, CA: Jossey-Bass.

Benton Foundation (2001, March). *Digital Divide Basics Fact Sheet*. [Online] http://www.digitaldividenetwork.org/content/stories/index.cfm?key=168 [April 20, 2003].

Brown, M M. (April 2001). Can ICTs address the needs of the poor? *UNDP News*, 2-5.

Byron, I. and Gagliardi, R. (August 2000). Communities and the information society: The role of Information and Communication Technologies in education. [Online] http://www.anais.org/ ARTICLES/DOC22.HTML [June 23, 2001].

Delegation Generale de l'Informatique (DELGI) (1999). *Plan de développement de l'infrastructure nationale d'information et de communication du Burkina Faso* [National Information and Communication Infrastructure] *2000-2005*. Ouagadougou, Burkina: Faso DELGI.

Denzin, N.K. and Lincoln, Y.S. (2000*). Handbook of Qualitative Research (2nd edition)*. Thousand Oaks, CA: Sage.

Direction pour la Promotion des Nouvelles Techniques de l'Information et de la Communication, (2000). *Perspectives de dévelopement des nouvelles technologies de l'information et de la communication et de la formation a distance a l'Université de Ouagadougou* [New information and communication technologies and distance education development perspectives at the University of Ouagadougou]. Ouagadougou, Burkina Faso: DPNTIC.

Elliot, A. (October 2000). *Internet Issues in Africa.* [Online] http://www.middlemarch.co.nz/ anne/africa/intro.html [October 18, 2002].

Jensen, M. (May, 2002). *The African Internet: A Status Report*. [Online] http://www3.sn.apc.org/ africa/afstat.htm [January 20, 2003].

Lacroix, E. (2002). *L'internet au Burkina Faso en 2002: Situation, enjeux et perspectives* [The internet in Burkina Faso in 2002: Situation, stakes, and prospects]. Unpublished Master's Thesis, Université Polytechnique de Bobo-Dioulasso, Burkina Faso.

Milliron, M.D. (2000). Internet Vision: Unleashing the power of the internet in the higher education enterprise. In M.D. Milliron, and C. Miles, (Eds.), *Taking the Big Picture Look at Technology Learning and the Community College,* (pp.317-331). Mission Viejo: League for Innovation in the Community College.

Networks and Development Foundation (2002, February). *Languages and Cultures*. [Online] http://www.funredes.org/LC/L5/ultimas.html [June 10, 2003].

Ouédraogo, S. (August 2000). *Acces aux nouvelles technologies de la communication au Burkina Faso: Une analyse des centres d'acces collectifs et des comportements des usagers de l'internet* [Access to information and communication technologies in Burkina Faso: An analysis of collective access centres and internet users' behaviour]. [Online] http://www.anais.org/ARTICLES/ARTICLE115.HTML [November 5, 2001].

Patton, M.Q. (1990). *Qualitative Evaluation and Research Methods (2nd edition).* Newbury Park, CA: Sage.

Renaud, P. (1994). *Statement of Ouagadougou.* Ouagadougou, Burkina Faso: ORSTOM.

Solomon, G., Allen, N.J. and Resta, P. (2003). *Toward Digital Equity: Bridging the Divide in Education.* Boston, MA: Pearson Education Group.

Strauss, A.L. and Corbin, J.M. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Thousand Oaks, CA: Sage.

Twigg, C.A. and Oblinger, D. (November 1996). *The Virtual University.* Washington, DC.: Report from a Joint Educom/IBM Roundtable.

United Nations Commission on Science and Technology for Development (2004). *Information and communication technology.* [Online] http://www.unctad.org/en/docs/ gdscsir20041c7_en.pdf [July 20, 2004].

United Nations Development Programme. (1999). New technologies and the global race for knowledge. *Human Development Report*, 57-76.

Université de Ouagadougou (2000). *La refondation de l'Université de Ouagadougou: Rapport Final* [The reorganization of the University of Ouagadougou: Final report]. Ouagadougou, Burkina Faso: Université de Ouagadougou.

Useem, A. (April 2, 1999). Wiring African universities proves a formidable challenge. *The Chronicle of Higher Education*, A25.

Zannou, C. (2000). *L'internet au Burkina Faso* [The internet in Burkina Faso]. Ouagadougou, Burkina Faso: RIFOD.

Mapping self-confidence levels of nurses in their provision of nursing care to others with alcohol and tobacco dependence, using Rasch scaling

Ian Blackman
School of Nursing, Flinders University *ian.blackman@flinders.edu.au*

Charlotte de Crespigny
School of Nursing, Flinders University

Steve Parker
School of Nursing, Flinders University

This study seeks to identify factors that influence the perceived complexity of providing nursing care to others (who are dependent on alcohol and tobacco) and the confidence of undergraduate student nurses to carry out this care. The research project is designed to explore whether there is a difference between the perceived complexities of 57 different nursing tasks and skills as understood by student nurses and their differing ages, gender and types of first language used. By using a probabilistic measurement approach (Rasch model), the study seeks to assess whether a scale of performance for learning can be constructed based on the difficulty of nursing care required and the self-rated capacity of the undergraduate nursing students to provide the nursing care. Outcomes of the study suggest that nursing students do differ significantly both in how they view the complexity of providing nurse care and their capacity to provide that nursing care. Recommendations are made for informing nursing education programs, in a bid to make nursing care as it relates to others who are substance dependent, more effective.

Rasch scaling, partial credit model, attitude measurement, alcohol and tobacco dependence

INTRODUCTION

This paper explores the application of the Rasch model to develop and subsequently to analyse data derived from a series of rating scales that measure the preparedness of nursing students to engage with patients who are dependent on tobacco and alcohol. Brief consideration is first given to the relationship between affect and learning together with an overview of how the rating scales used in this research were developed in terms of their content and processes. A literature review then explores how nurses' attitudes impact on the care delivery to patients who are substance dependent. Emphasis is then placed to how the principles of Rasch scaling can be applied to rating scale calibration and analysis. Data derived from the application of the Nurses' Clinical Confidence Scale (NCCS) are examined for the evidence of differentiated item function and implications of the study for educational programs is explored.

BACKGROUND TO THE STUDY

Useful educational information may be gained by asking participants to complete attitude rating scales at different times during their learning or employment. This is done to identify their

attitudes (positive or negative) and values that underlie their thinking or to estimate the intensity of their attitudes and to gauge the consistency of their attitude toward some belief or value. If done over time, measurements indicating changes in participant values and attitudes can provide an estimate if learning is taking place.

Attitude measurement of nurses and how they relate to others who are substance dependent is important, because there is now a body of knowledge that suggests the attitudes of nurses towards substance misuse in the mentally ill, are generally sub optimal and it influences the quality of nursing care provided (Foster and Onyeukwu, 2003). The outcomes of substance abuse attitude surveys (SAAS) given to both undergraduate and post-graduate students were not significantly related to the student's age, gender, or their level of experience according to one English study. It found instead, that post-graduate students were less moralistic and more optimistic of treatment outcomes than undergraduate students (Richmond and Foster, 2003).

Despite concerted efforts to help undergraduate nurses deal successfully with the care of drug dependent patients through educational programs, difficulties in the management of nursing care persists (Happell and Taylor, 1999). Moreover, nurses believe they are constrained to conduct the professional and holistic care they intended for their clients because of either a limited knowledge base to inform practice or a lack of options or choices for practice (Groenkajer, 2003).

In order to investigate the desired scope of drug and alcohol education for undergraduate student nurses, a survey was developed for this study and conducted using rating scales, specifically trying to capture their attitudes towards their expected roles and their preparedness to assist others who use alcohol and tobacco. The study sought to ascertain if there was a difference between the perceived complexities of caring for others (as understood by undergraduate nurses) as a way of informing and constructing appropriate educational program to facilitate their nursing practice. In order to match simultaneously nurse self-confidence in the care of others who were substance dependent to the different levels of complexity of clinical practice, the partial credit model of Rasch scaling was used (Fox, 1999; Blackman, 2003).

METHODS OF INVESTIGATION AND ANALYSIS

Participants

A total of 745 undergraduate nursing students were chosen for the study and it comprised representatives from all three years of the undergraduate degree in nursing, as shown in Figure 1.
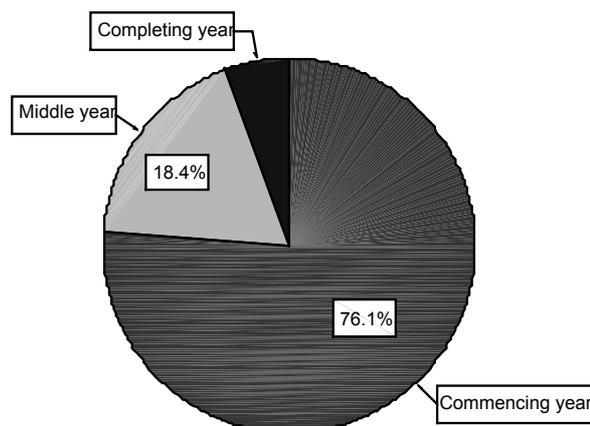
Figure 1. Distribution of the undergraduate nursing students according to the stage of completion of undergraduate nursing studies

Figure 2 shows that female undergraduate nursing students were in the majority of the student sample group with just fewer than 12 per cent of students being male nursing students. This gender differentiation in undergraduate nursing programs was reasonably typical of the gender distribution in nursing, in Australia generally.
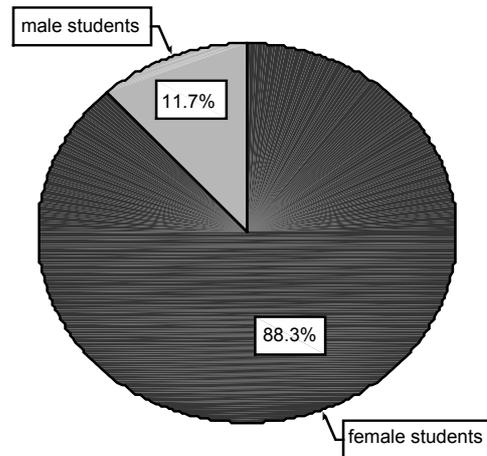
Figure 2. Distribution of the undergraduate nursing students according to their gender

The age composition of the undergraduate nurses employed in the research project ranged from 17 years of age to the age of 56 years. Figure 3, shows the distribution of the undergraduate student group with the mean age of the group being just over 25 years of age.
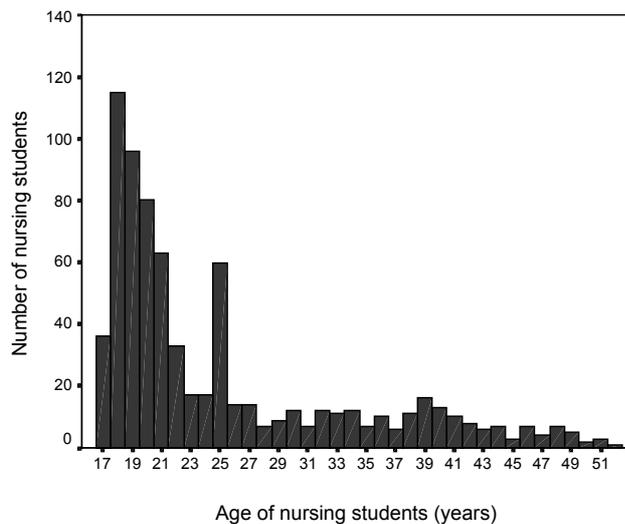
Figure 3. Distribution of the undergraduate nursing students according to student age

While the majority of undergraduate nurses used in this research project were Australian born and used English as their first language, just over 13 per cent of the student group used English as a second language. A little over half of that group of undergraduate nursing students who used a language other than English, were likely to have had a northern European background, as students from Norway engaged in undergraduate nursing studies in Australia. Figure 4 demonstrates this distribution.
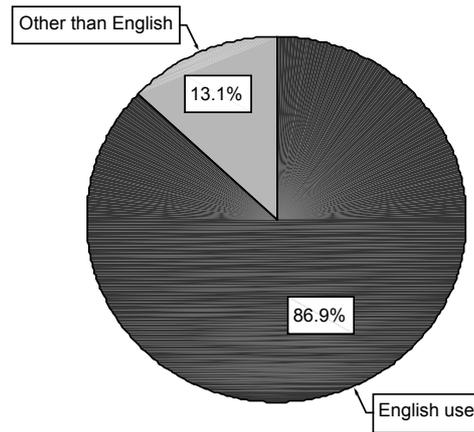
Figure 4. Distribution of the undergraduate nursing students according to type of first language used

Instrument Development

A total of 57 test items were developed to form the basis of a confidential questionnaire to establish the undergraduate's readiness to administer different aspects of nursing care to patients who were dependent on tobacco and alcohol. With ethical considerations taken into account, undergraduates nursing students were asked to rate how easy or difficult it would be for them to complete different aspects of nursing care.

Each of the 57 clinical confidence items used in the survey were formed as statements, followed by four ordered response categories namely; a very simple task (coded as 1), 2 an easy task (coded as 2), or a hard task (coded as 3): or 4 as the code for a very difficult task. This scale from 1 to 4 can be viewed as a continuum of increasing nursing care complexity as perceived by the undergraduate nursing students.

Table 1 identifies the content that underpins the questions selected for the survey. Two questionnaires were developed, one survey established student self-confidence as it related to providing nursing care to patients who were dependent on alcohol (41 items) and the other questionnaire, focused on their care towards another who was dependent on tobacco (16 items).

Table 1. Overview of the content of the nurse clinical confidence (alcohol and tobacco use) questionnaire given to undergraduate nursing students

Focus of the nurse clinical confidence	Questionnaire item number(s)
Elicits history of alcohol and tobacco use (including legal history)	2,3,4,5,7,42,43,4445,
Recognises level of risk associated with alcohol or tobacco use	1
Explores patient's rationale for using alcohol or tobacco	6,
Recognises intoxification	9,22
Identifies risk for alcohol or tobacco withdrawal	8,14,15,16,17,18,32,49,
Initiates activity to minimise alcohol or tobacco intake	10,35,36,37,46
Estimates capacity to change drinking/smoking behaviours	12,13,33,34,47,4853,
Recognises patho-physiological effects of alcohol or tobacco use	11, 23,30,38,39,40,5152
Provides care for the patient undergoing withdrawal symptoms	19,20,21,24,25,2627,28,29,31,50,5455,56
Educates patient about community resources	41,57

Both questionnaires were developed with the advice of experienced health care professionals who worked in the area of drug dependence.

DATA ANALYSIS

The Nurses' Clinical Confidence Scale comprised 57 items that were used to survey participants' affect, values and clinical confidence to nurse patients who were dependent on alcohol and or tobacco. Given that the scale used for the questionnaire was polytomous (a four point Likert scale having four categories) in nature, the partial credit model was used for data collection and analysis. The partial credit model had the advantage of not constraining response (also known as threshold levels also) categories between items allowing threshold levels to vary across each and all items. This model approach, estimated if distances between response categories were constant for each clinical confidence item and if the options for each clinical confidence item varied in the number of response categories (Bond and Fox, 2001).

RESULTS

Scale Validity

While the nurses' clinical confidence scale contained 57 items, some measurement of the validity of the instrument was warranted. Unidimensionality is a requirement underpinning the Rasch model and it seeks to ensure that all test items used in the surveys to construct the nurses' clinical confidence scale, reflect the same underlying construct. If items are not seen to reflect a common clinical confidence construct, they are reviewed by the researcher and either modified or removed from the instrument (Hambleton, 1991; Linacre, 1995; Smith, 1996). In order to test for scalability of the data, the QUEST program (Adams and Khoo, 1996) was employed. The two main goodness of fit indices used in the analysis are the unweighted (or the outfit means square) index and the weighted (or infit means square) index. Both are a form of chi-square ratios, which provide information about discrepancies between the predicted and observed data given by the nursing students, particularly in terms of the size and the direction of the residuals for each clinical confidence items being answered. Fit values are calibrated around a mean of zero and are either positive or negative, depending whether the observed values show greater variation in responses than expected (greater variation showing a positive value and less variation as a negative value). In this way, the compatibility of the data obtained from the clinical confidence scale can be monitored against the Rasch model requirements. With reference to Figure 5, which represents the fit model of all clinical confidence items completed by nursing students, not all the survey items fit the Rasch model. From Figure 5, ten nurse clinical confidence items do not fit the Rasch model as their fit indices are exceeding their parameters (infit means square values should not be greater than 1.30 or less than 0.77). Table 2 highlights the content of the poorly fitting items. When re-examining student nurses' responses to these survey items, it was noted that some nursing students rated all the survey questions with extreme responses (rating with either 1 or 4) only. A considerable number of students tended to rate the clinical confidence questions with numbers of 2 or 3 only, with no items being either very simple or very difficult. If there are any major deviations in the students' responses compared to what the Rasch model expectations are, the item reliability index alerts the researcher to the fact that either the student nurses may not be responding as accurately as possible. Alternatively poorly fitting items could be just the result of poorly worded survey questions and students misinterpreting the underlying focus of the question.

Given that 10 of the 57 items are not fitting the Rasch model, it is essential at this point, to review these items because while it may seem logical or appropriate for these items to be in the survey overall from the researcher's perspective, students are not responding according to the Rasch model's expectations and unless the source of why the items are not fitting and corrected, the poorly fitting items need to be rejected from future surveys and restricted in their use in the analyses undertaken in this study.

```
INFIT
MNSQ   .56        .63        .71        .83       1.00       1.20       1.40       1.60       1.8
-------+---------+---------+---------+---------+---------+---------+---------+---------+---------+
  1 item 1                        .                |                 .        *
  2 item 2                        .                |                 .  *
  3 item 3                        .                |                 . *
  4 item 4                        .                |              *  .
  5 item 5                        .                |                 *
  6 item 6                        .                |                 . *
  7 item 7                        .                |           *     .
  8 item 8                        .                | *               .
  9 item 9                        .              *                   .
 10 item 10                       .          *    |                  .
 11 item 11                       .                | *               .
 12 item 12                       .           *   |                  .
 13 item 13                       .                |            *  .
 14 item 14                       .          *     |                 .
 15 item 15                     .   *              |                 .
 16 item 16                        .      *        |                 .
 17 item 17               *  .                     |                 .
 18 item 18               *.                       |                 .
 19 item 19                       .        *       |                 .
 20 item 20                     .    *             |                  .
 21 item 21                     .  *               |                 .
 22 item 22                       .     *          |                 .
 23 item 23                       .              * |                 .
 24 item 24                       .    *           |                 .
 25 item 25                       .                | *               .
 26 item 26                       .                |     *           .
 27 item 27                       .                |    *            .
 28 item 28                       .        *       |                 .
 29 item 29                       .                | *               .
 30 item 30                       .          *     |                 .
 31 item 31                    .*                  |                 .
 32 item 32             *  .                        |                 .
 33 item 33                       .                | *               .
 34 item 34                       .                | *               .
 35 item 35           *    .                        |                 .
 36 item 36                   .*                    |                 .
 37 item 37                     .      *            |                 .
 38 item 38                   .  *                  |                 .
 39 item 39                       .                | *               .
 40 item 40                       .                |   *             .
 41 item 41                       .                |      *          .
 42 item 42                       .                |          *  .
 43 item 43                       .                |    *            .
 44 item 44                       .                |       *         .
 45 item 45                       .                |      *          .
 46 item 46                       .      *         |                 .
 47 item 47                       .                | *               .
 48 item 48                       .       *        |                 .
 49 item 49                       .          *     |                 .
 50 item 50                     .    *             |                 .
 51 item 51                     .  *               |                 .
 52 item 52                       .        *       |                 .
 53 item 53                       .                |     *           .
 54 item 54               *                        |                 .
 55 item 55               *.                       |                 .
 56 item 56           *   .                         |                 .
 57 item 57                       .               *|                 .
-------------------------------------------------------------------------------------------------
```

Figure 5. Misfitting clinical confidence survey questions

Table 2. Student nurses' clinical confidence survey questions not fitting the Rasch model

Question	Focus of the clinical confidence statement
1	Understands alcohol use and low level risk to health
2	Elicits if patient drinks alcohol
3	Takes a patient's history about alcohol use
17	Evaluates the severity of alcohol withdrawal
18	Records observations related to alcohol withdrawal
32	Understands relationship between falling blood alcohol level and withdrawal
35	Responds to patient acknowledgement that changing drinking behaviour is difficult
54	Provides advice about nicotine replacement therapy
55	Gives advice about strategies to decrease smoking
56	Educates patient about nicotine addiction

Differential Item Functioning

Procedures are often used to investigate whether individual survey questions function differently for different groups of respondents. Such differentiation can occur according to the respondent's gender, age, past experience and racial or ethnic background. By using item response theory to identify item bias or differentiated item functioning (DIF), the estimated parameters of the item response function are kept constant for different samples drawn from a student population. DIF is employed to see if the probability of nursing student responses, and falls into a particular category (very easy to very difficult) for each survey question is the same for different groups of nursing students of the same ability levels (Scheuneman and Bleistein, 1988). If this is not the case, then the particular survey question can be said to be biased in favour of one portion of the student group over another, and should be reviewed and possibly discarded from future surveys.

In reference to Figure 6, it can be seen that the 57 clinical confidence survey items are compared according to the type of first language used by nursing students undertaking the clinical confidence survey. The scale across the top of the figure ranging from -4 to 0 then through to +5, indicates the number of standard deviations the student nurses' responses to each survey question is away from the mean (located at zero). Any clinical confidence survey question that lays two or more spaces to the left or right of zero, are seen as being statistically significant according to the nursing students' first language usage.

Three clinical confidence questions were identified as being significantly easier for non-English speaking background nurses to undertake than native English speaking nurses. These included taking a history to establish if the person used alcohol regularly, feeling confident to stay with an agitated patient who was detoxifying and providing counselling about ceasing smoking. Conversely, six items were rated as being easier for native English speaking nurses compared to those who use English as a second language. They include assessing the effects of medication used for alcohol withdrawal, understanding the effects of alcohol use on the nervous system, recognising the association between alcohol use and liver disease, differentiating between the effects of alcohol and other types of illnesses, being able to assist the their when drinking behaviour is out of control and understanding the relationship between heavy drinking and mental health co-morbidity.

Nine clinical confidence items are statistically significant in differentiating for the student's language use and these items should be reviewed and careful consideration given to the interpretation of any future ratings given for this items by future respondents.

With reference to Figure 7, only one clinical confidence survey item is significantly differentiating according the gender of the student nurse. Being able to describe the acute effects of alcohol on the central nervous system has been estimated as being easy for female nursing students than for their male counterparts.

Item Threshold Values

How complex the student nurses have rated the different aspects of nursing care is depicted in Figure 8. As mentioned, with partial credit model it is assumed that threshold values (or the spaces between the categories) are different within each individual clinical confidence survey question itself and across all the clinical confidence survey questions too. The assumption of equidistance between the categories or thresholds of the clinical confidence rating scale is not held by the Rasch's partial credit model. The logit scale is plotted on the left of the histogram (in Figure 8) and survey question numbers to the right but now, each survey question number has an additional dot point after each question number (either a.1, a.2 or a.3), which reflects the threshold value (and increasing complexity) for that clinical confidence question.

```
      Easier for English-speaking nurses        Easier for nurses who use English
                                                       as a second language

            -4        -3       -2       -1       0       1       2       3       4       5
      -------+--------+-------+--------+--------+-------+--------+--------+-------+--------+
item 1                              .              |              .                        *
item 2                              .              |      *       .
item 3                              .              |              *
item 4                              .              |        *     .
item 5                              .       *      |              .
item 6                              .              | *            .
item 7                              .              *              .
item 8                              .              |        *     .
item 9                              .              |              .   *recog regular alc intake
item 10                             .          *   |              .
item 11                             .       *      |              .
item 12                             .    *         |              .
item 13                             .              |   *          .
item 14                             .              |              *
item 15                             .              |   *          .
item 16                             .         *    |              .
item 17                             .     *        |              .
item 18                             .              |  *           .
item 19                           *.               |              .
item 20          *assess effect med withdrawal     |              .
item 21                             .              | *            .
item 22                             .              |           *  .
item 23                   .*effects of alc on n/system            .
item 24                             .              |  *           .
item 25                             .              |   *          .
item 26                             .              |         *    .   *stay agitated pt
item 27                             .       *      |              .
item 28                             .       *      |              .
item 29                             .              |  *           .
item 30                   * recog signs liver disease             .
item 31  *alc effects and life illness            |              .
item 33                             .              | *            .
item 36                             .         *    |              .
item 37                 .*help when drink out of control          .
item 38               *heavy drink and psyche morbidity           .
item 41                             .              |*             .
item 44                             .              |      *       .
item 45                             .              |        *     .
item 46                             .              |        *     .
item 48                             .              |              *.counsel about smoking
item 49                             .              |  *           .
item 50                             .        *     |              .
item 53                             .    *         |              .
item 54                             .         *    |              .
item 55                             .          *   |              .
item 56                             .       *      |              .
item 57                             .              |      *       .
      =================================================================================
```

Figure 6. Student nurses' clinical confidence survey questions differentiating for the type of language used, plotted using the standardised difference

A most difficult nursing task for student nurses to undertake was item No.35 which assessed their ability to respond to the patient who acknowledges to the nurse, that giving up drinking behaviour is very difficult. Note the thresholds for this item are well spaced with the first threshold located on the logit scale at -2.50, the second threshold at +0.8 and the last threshold on the logit scale at +5.0. This suggests that there is equal probability that student nurses view this item as either being very easy or simple to complete, or the item is seen as either an easy or difficult task to undertake or viewed as being a hard to very difficult to negotiate. This is a similar pattern for item No.32, which explores a student's confidence in recognising the relationship between the patient's falling blood alcohol level and possible impending alcohol withdrawal. The first threshold occurs at -1.7, the second threshold at +1.2 and the third threshold at +4.8. With both these items, the thresholds are spread widely up the scale ability scale, clearly differentiating between the confidence levels of students and how complex they see these two clinical activities. This is not a uniform pattern across all clinical confidence survey questions. Note how survey question number 42 (determines if a patient smokes cigarettes or tobacco) has a different threshold configuration. The first

threshold is located at logit -4.8, the second threshold at -3.0 and the last threshold at +1.0. For this survey question, there is less probability that student nurses will score between the second and third thresholds, but are more likely to rate themselves (their confidence level) and the task complexity as being between the first and second thresholds. This suggests that students probably see this as a simple task requiring little ability on their part because the threshold levels of 42.1 and 42.2 are located closely together in the lower end of the logit scale and the 42.3 threshold level is located near zero on the logit scale.

```
          Easier for female nursing students          Easier for male nursing students

              -3           -2           -1            0            1            2            3
          -------+------------+------------+------------+------------+------------+------------+
          item 1              .                        |                   *         .
          item 2              .            *           |                             .
          item 3              .            *           |                             .
          item 4              .                        *                             .
          item 5              .                   *    |                             .
          item 6              .                        |    *                        .
          item 7              .                        |       *                     .
          item 8              .                      * |                             .
          item 9              .                        |              *              .
          item 10             .        *               |                             .
          item 15             .                        |    *                        .
          item 17             .                   *    |                             .
          item 19             .    *                   |                             .
          item 22             .                      * |                             .
          item 23         *  descibes acute effects on nervous system                        .
          item 24             .                        |          *                  .
          item 25             .        *               |                             .
          item 26             .                        |            *                .
          item 28             .         *              |                             .
          item 29             .                      * |                             .
          item 34             .                      * |                             .
          item 41             .                      * |                             .
          item 43             .                        |      *                      .
          item 44             .                    *   |                             .
          item 46             .                    *   |                             .
          item 49             .                        |   *                         .
          item 50             .                        |   *                         .
          item 53             .                        |              *              .
          item 54             .                        |      *                      .
          item 55             .                        |           *                 .
          item 56             .                        |      *                      .
          item 57             .                   *    |                             .
          ==================================================================================
```
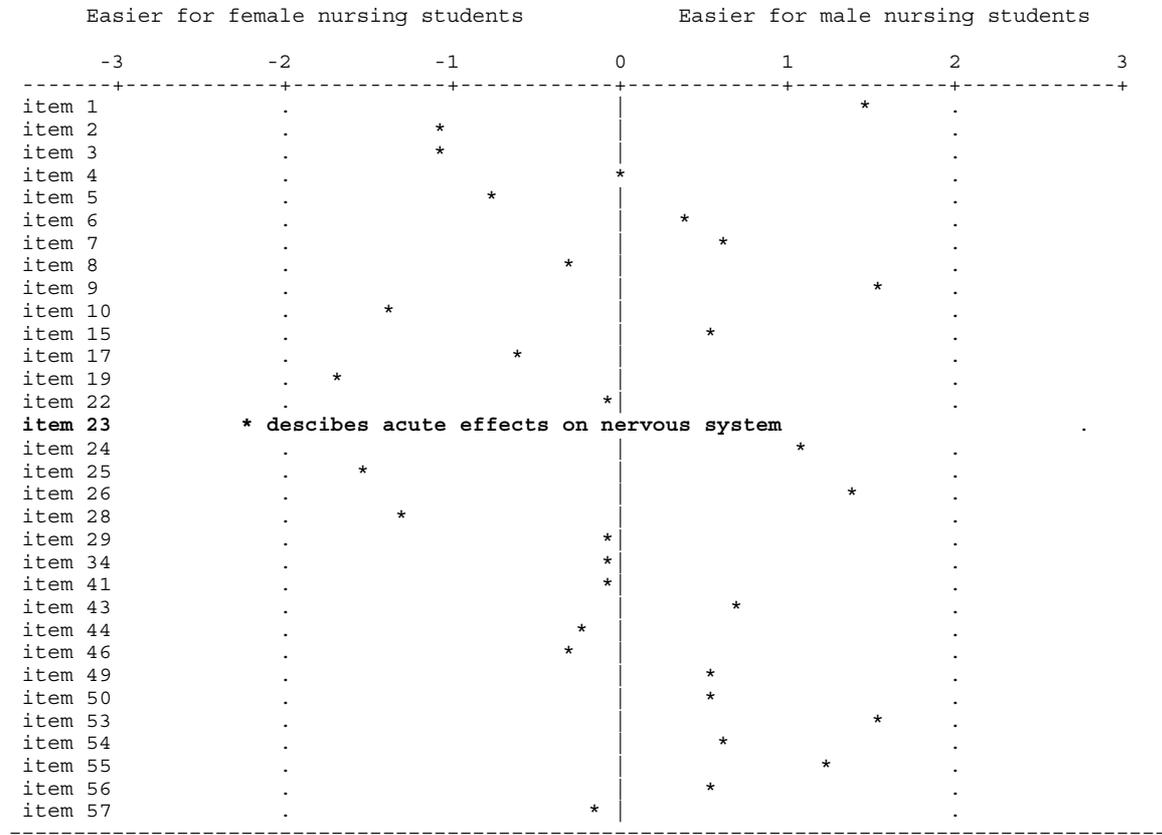
Figure 7. Student nurses' clinical confidence survey questions differentiating for the gender of student nurses, plotted using the standardised difference

In contrast to this pattern is survey question No.40, which explores the student nurse's ability to recognise Korsakoff's syndrome. Note the first threshold is located at logit -0.4, the second threshold at +2.0 and the last at +3.5. This is a most difficult task for students as the threshold levels 40.1 and 40.2 are located to the middle and upper part of the logit scale, which usually suggests that students believe greater ability, is required on their part to carry out what they see as a complex task.

The Rasch model is able to place all the surveyed nursing activities identified by student nurses on a scale ranging from the more complex to the most simple. Figure 9 depicts this hierarchy. Those nursing activities located opposite the zero logit value, extend upwardly to approximately to logit area +0.50 and downwardly to logit area -0.50, are viewed as being of average complexity by the student nurse with average ability. Nursing activities located adjacent to the logit scale of -0.50 and below, are perceived to be very easy nursing activities requiring minimal skill in order to complete them. Conversely, nursing activities locate above logit +0.50 reflect a greater probability that the student nurse with average ability is likely to find these nursing activities becoming increasingly harder for them to undertake, believing instead they need greater abilities to practise these skills. It is this conjoint scaling that allows student confidence levels to be directly measured against the complexity of the nursing tasks that is the hallmark of Rasch scaling and serves as a

foundation on how to direct training to maximise nursing care. It is also important to note that both the nurses and the tasks are located on an interval scale that extends theoretically to ±∞.

```
------------------------------------------------------------------------------------
                                    |   35.3
    5.0                             |
                                    |   32.3
                                    |   12.3
                                    |
                                    |
                                    |
    4.0                             |
                                    |   39.3   52.3
                                    |   13.3   40.3   31.3   33.3   34.3   20.3
                                    |   36.3   51.3
                            X       |    7.3   11.3
                                    |   38.3   53.3
                                    |    5.3   28.3   30.3   37.3   47.3
    3.0                             |   10.3   15.3   46.3
                                    |   17.3   23.3   27.3   48.3   50.3
                                    |    2.3    3.3   18.3   19.3   29.3
                                    |   14.3   16.3   22.3   24.3   54.3   55.3   56.3
                            X       |    9.3    6.3    4.3   26.3   49.3
                            X       |   21.3   44.3
    2.0                    XX       |    8.3   40.2   25.3   43.3
                           XX       |   41.3
                           XX       |   39.2   45.3   57.3
                         XXXX       |   51.2
                          XXX       |
                           XX       |    1.3   19.2   31.2
                        XXXXXX      |   32.2
    1.0                XXXXXXXX      |   15.2   42.3   36.2   30.2
                      XXXXXXXXX      |    5.2   52.2
                     XXXXXXXXXX      |   35.2   37.2   38.2   11.2
                     XXXXXXXXXX      |   20.2   50.2
                      XXXXXXXXX      |   10.2   17.2   23.2   28.2   33.2
                      XXXXXXXXX      |    7.2   12.2
              XXXXXXXXXXXXXXXXXXXX   |
     .0   XXXXXXXXXXXXXXXXXXXX       |   13.2   27.2   34.2
            XXXXXXXXXXXXXXXXX        |    3.2   16.2   46.2
                     XXXXXXXXXXX     |   14.2   40.1   47.2   48.2   53.2   54.2   55.2
               XXXXXXXXXXXXXXX       |    2.2   24.2   57.2
                    XXXXXXXXXXXXX    |   18.2   21.2   22.2   26.2   29.2   39.1   41.2
                     XXXXXXXXXXX     |    8.2   19.1
   -1.0          XXXXXXXXXXXXX       |   43.2
                        XXXX         |    6.2    9.2   25.2
                      XXXXXXXX       |
                      XXXXXXXX       |            4.2
                     XXXXXXXXX       |   32.1   20.1   30.1   15.1   38.1   44.2   45.2
                        XXXX         |    1.2    7.1   31.1   51.1
                        XXXX         |   11.1
   -2.0               XXXXXXXX       |   23.1
                     XXXXXXXXX       |
                        XXXX         |   16.1   36.1   54.1
                      XXXXXXX        |   35.1   17.1   37.1   55.1
                         XXX         |    5.1   22.1   50.1   56.1
                        XXXX         |   14.1   18.1   41.1
                                     |    8.1   12.1   13.1   33.1   48.1
   -3.0                               |   21.1   42.2   46.1   57.1
                        XXXX         |   24.1   28.1
                                     |   25.1   49.1   53.1
                           X         |   10.1   34.1
                         XXX         |   27.1   47.1
                          XX         |   29.1
   -4.0                    XX         |    1.1   26.1   44.1
                           X         |    3.1    6.1    9.1
                                     |    2.1
                                     |   45.1
                                     |
                                     |            4.1
                           X         |   42.1   43.1
------------------------------------------------------------------------------------
Each X represents 3 students
```

Figure 8. Clinical confidence item threshold map differentiating between the student nurses' perceived confidence levels and the complexity of nursing practices

----

```
                              X|
                               |
                               |
    3.0                        |
                               |
                               |
                               |
                              X|
                              X|
    2.0                       XX|Understands Wernicke's encephalopathy
                              XX|Recognises Korsakoff's psychosis
                              XX|
                            XXXX|
                             XXX|
                              XX|Differentiates alc. withdrawal and other illness
                          XXXXXX|Nicotine dependence and relapse. Diazepam and withdrawal
    1.0                  XXXXXXX|Heavy smoking and mental illness. Path.tests and alcohol
                        XXXXXXXX|Withdrawal pathology.Liver disease. Drinking and mental illness
                      XXXXXXXXXX|Purpose of AUDIT. Insight into alcohol risks
                     XXXXXXXXXXX|alc.relapse. Legal history. Alc and nervous system
                       XXXXXXXXX|Readiness to cease alc. Assist drinking not in control
                        XXXXXXXX|Previous attempts to cease alc. Manage nic.withdrawl.
              XXXXXXXXXXXXXXXXXXX|Observe withdrawal. Orientate pt. Plan cease smoking.
     .0       XXXXXXXXXXXXXXXXXXX|Counsel'g cease smoking.Previous attempts cease smoke.
                XXXXXXXXXXXXXXXXX|Recog.alc.withdrawl. Strategies for problem drinking.
                     XXXXXXXXXXX|Calm agit.pt. Recog.intoxication. Support withdraw pt.
                XXXXXXXXXXXXXXXXX|Support intox.pt. Readiness to cease smoke.
                  XXXXXXXXXXXXXXX|Comm.resources to quit alc. Recog. nicotine withdraw.
                      XXXXXXXXXXX|Ensure safety of agitated pt. Time of last drink.
   -1.0            XXXXXXXXXXXXXX|Comm.resources to quit smoking.
                           XXXXX|Assess own level of safety. Stay with agitated pt.
                        XXXXXXXX|Reasons for drink'g.  Recognise alc.excess.
                       XXXXXXXXX|Pattern of smoking. History of smoking.
                      XXXXXXXXXX|Events and drinking. Events and smoking.
                            XXXX|
                           XXXXX|
   -2.0               XXXXXXXXX|
                     XXXXXXXXXX|Determine if patient smokes.
                          XXXXX|
                        XXXXXXX|
                            XXX|
                           XXXX|
                               |
   -3.0                         |
                           XXXX|
                               |
                              X|
                            XXX|
                             XX|
   -4.0                       XX|
                              X|
                               |
                               |
                               |
                               |
   -5.0                        X|
                               |
                               |
                               |
                               |
                               |
   -6.0                         |
                              X|
    ----------------------------------------------------------------------------
    Each X represents 3 students
```

Figure 9. Item map indicating student nurse clinical confidence levels for different clinical nursing practices

DISCUSSION

Any education program that helps undergraduate nurses to care for others who are dependent on nicotine or alcohol, needs to address the contrasting requirements in terms of the students' capacity or preparedness to provide nursing care and the differing degrees of complexity of the care that is required to be undertaken. This study has shown that different nursing care requirements are perceived by students as needing greater or lesser preparation on their part, in

order to deliver that care. These demands have direct impact on what should be included in a curriculum that facilitates nursing care. It is clear that students without sufficient educational input would experience considerable difficulty not only in recognising, but also in providing interventions for others who have experienced brain damage associated with long term alcohol abuse. Additionally, nursing students find it very difficult to differentiate between alcohol withdrawal and other types of life-threatening illnesses. It is suggested that these outcomes should help inform educators what should be included in any future training programs to enhance a nurse's sense of improved efficacy. The relationships between mental health problems and dependence on alcohol and tobacco are not well understood by student nurses and this suggests that the curriculum needs to emphasise more co-morbidity presentations. Similarly, understanding withdrawal regimes are seen as difficult tasks for student nurses to do also. This suggests also that the curriculum needs to focus more fully on how client withdrawal is manifested and why interventions are carried out. As these nursing tasks are perceived as being very difficult for student nurses to act upon, it is recommended that considerable educational effort (using multiple methods of teaching and learning) and thought is put into making these skills easier for student nurses to undertake. Conversely, nursing students have indicated that identifying patterns of alcohol and tobacco use and understanding why others use these substances as being very simple tasks for them to do. Identifying and advising others of community resources that could help with alcohol and tobacco dependence was also rated by students as being easy tasks for them to complete. In terms of making decisions about how urgent is it that these elements are integrated into a curriculum (given students have rated these simplistically), educators may wish to consider how else students can learn more about these issues (e.g. fostering student self-direction) individually rather than committing valuable didactic time to this content area).

Students in this sample also indicated that it would not be overtly difficult to provide nursing care in order to calm an agitated patient who is experiencing withdrawal. This is an interesting outcome given student nurses earlier acknowledged that they find the rationales for withdrawal management difficult to understand, yet they perceive the actual care of managing the withdrawing client as being more easy. Survey questions that were rated as being most simplistic for student nurses to attend to should be explored by educators with a view to generating criterion-referenced assessments that can be used to measure students' capacity to deal successfully with those aspects of care that students rate as being easiest to do. In this context, the clinical confidence scales as developed in this research assist in developing appropriate student clinical assessment tools.

Much of the literature about nurses' attitudes towards others who are substance dependent has indicated that the nurses' affect and thinking needs to be modified if nursing care is to improve. Educational strategies therefore need to have a strong affective component (Flaskrud, 1991). In order to have this effect, it is likely that very short courses are of limited value (Fennel, 1991). Educational programs that are conducted over several weeks, which call for active participation, group discussions and simulations, allow for gradual development of the student nurses' self-awareness and sensitivity (Martinez and Murphy-Parker, 2003). Moreover, allowing nursing students exposure to actual clinical events and interaction with patients who are substance dependent may be expected to maximise student learning (Byrnes and Kiger, 1990) and (Stein, 2003).

More research is needed into the relationship between student nurse confidence and care delivery especially since the type of first language used by the student nurse has a significant effect on the confidence to provide different aspects of nursing care. Additionally, student nurses' attitudes towards the care of others who use illicit drugs is another area in which Rasch scaling can be used to inform the curriculum and complement the outcomes demonstrated by this research.

CONCLUSIONS

It is argued in this paper, that Rasch scaling analyses offers a great deal for the development and analysis of rating scales, which in turn serve to give reliable information to educators about curriculum content and processes, as they relate to alcohol and tobacco nursing care. There are limitations to using traditional analytical procedures in the examination of rating scales which are overcome when Rasch scaling is used to measure conjointly the complexity of nursing care with confidence levels and abilities estimates of student nurses' engagement in the learning process. By employing the partial credit model, the educational researcher is no longer constrained by the assumption that rating scale categories are static or uniformly estimated across each item or survey question. Instead rating scales can be visualised as an interval scale continuum of student nurse self-confidence which, when used on multiple occasions can be a valuable adjunct to see if learning has taken place. Test item validity can also be employed in Rasch analysis by examining survey tasks for unidimensionality. In total, item response theory works well to inform educators about curriculum content, processes and to estimate if learning is taking place because Rasch scaling remains robust in its approach to developing and evaluating educational data generated by using rating scales.

REFERENCES

Adams, J.J. and Khoo, S. (1996) *Quest: The Interactive Test Analysis System.* Australian Council for Educational Research. Camberwell. Victoria. Version 2.1.

Blackman, I. (2003) Nurse ability and the complexity of nursing others with alcohol and tobacco dependence: Bridging the gap with rating scale development and psychometric testing. *Making a World of Difference*, 1st International Alcohol, Tobacco and Other Drugs Nursing and Midwifery Conference. Adelaide, Australia.

Bond, T. and Fox, C. (2001) *Applying the Rasch Model: Fundamental Measurement in the Human Sciences*. Lawrence Erbaum Associates, Publishers. New Jersey.

Byrnes, J. and Kiger, H. (1995) The effect of prejudice-reduction simulation on attitude change. *Journal of Applied Social Psychology.* 20(4) 341-356.

Fennel. J. (1991) Evaluating the effectiveness of a credit semester course on AIDS among College Students. *Journal of Health Education* 22(1) 53-60.

Flaskerud J. (1991) A psycho-educational model for changing nurses**.** *The Journal of Continuing Education in Nursing.* 22(6) 237-244.

Foster, J. and Onyeukwu, C. (2003) The attitudes of forensic nurses to substance abuse service users. *Journal of Psychiatric and Mental Health Nursing.* 10(5) 578-584.

Fox, C. (1999) An introduction to the partial credit for developing nursing assessments. *Journal of Nursing Education.* 38(8) 340-346.

Groenkjaer, M. (2003) "I try not to be judgmental": Nurses' attitudes, knowledge and practices toward patients with alcohol and drug related problems. *Making a World of Difference,* 1st International Alcohol, Tobacco and Other Drugs Nursing and Midwifery Conference. Adelaide, Australia.

Hambenton, R.K., Swaminathan, H. and Rogers, H.J. (1991*) Fundamentals Of Item Response Theory*. Sage Publications. Newbury Park.

Happell, B. and Taylor, C. (1999) Drug and alcohol education for nurses: have we examined the whole problem? *Journal of Addictions Nursing.* 11(4) 180-185.

Linacre, J.M. (1995) Prioritising Misfit Indicators. *Rasch Measurement Transactions,* 9(2) 422-423.

Martinez, R. and Murphy-Parker, R. (2003) Examining the relationship of addiction education and beliefs of nursing students towards persons with alcohol problems. *Archives of Psychiatric Nursing.* V.xvii, (4) 156-164

Richmond, I. and Foster, J. (2003). Negative attitudes towards people with co-morbid mental health and substance misuse problems: an investigation of mental health professionals**.** *Journal of Mental Health.* 12(4) 393-403.

Scheueneman, J. and Bleistein, C. (1998) Item Bias. In J.P. Keeves (Ed) *Educational Research, Methodology and Measurement: An International Handbook,* 2nd Edition, (pp.3043-3051)**.** Permagon Press.

Smith, R. (1996) A Comparison of Methods for Determining Dimensionality in Rasch Measurement. *Structural Equation Modelling,* 3(1) 25-40.

Stein, J.B. (2003) Attitudes of social work students about substance abuse: can a brief educational program make a difference? *Journal of Social Work Practice in the Addictions.* 3(1)77-89

Yen, M. and Edwardson, S. (1999) Item Response Theory: Approach in Scale Development. *Nursing Research.* 48, 234-238.

❖IEJ

Vocational and technical education in Lebanon: Strategic issues and challenges[1]

Gebran Karam
Lebanese American University, Lebanon *gkaram@lau.edu.lb*

The current status of the Lebanese vocational and technical education (VTE) system is assessed and the strategic issues and challenges facing it are identified. In addition to the economic and social challenges that are common to many developing countries, the Lebanese system suffers from idiosyncratic problems, which may require innovative and bold reform strategies. The results of the first open consultations in the history of VTE with public and private sector stakeholders and key decision makers are analysed. These results are used to confirm the analysis of the current situation and to chart a strategic planning process for policy making, reform, and improved effectiveness in Lebanese vocational and technical education.

Vocational education, technical education, educational policy, educational reform, effectiveness improvement, Lebanon

BACKGROUND TO THE STUDY

Lebanon is a small country of 10,452 square kilometres, situated in the heart of the Middle East on the Eastern shores of the Mediterranean Sea. There is a resident population of about 4 million inhabitants as well as about two to three million Lebanese residing abroad. Without its own natural resources the country has relied throughout the ages on trade, services, light industry, and the economic support of a continuously expanding Diaspora. The national economy was devastated during the civil war that took place between 1975 and 1990. It has only partially recovered because of the subsequent years of political immobility, factionalism, and mismanagement. The measurable Lebanese Gross Domestic Product (GDP) has been estimated to be around $US 17-20 billion in the last couple of years with very limited growth if any at all. The national debt has increased to an estimated $US 40 billion as of 2005. In the absence of any reliable statistical data, unemployment is officially estimated at around 20 per cent. The services sector currently dominates the economy. Light transformation and agro-food industries make a strong but limited contribution to the GDP. The agricultural sector, which has been a historical mainstay of the economy, is currently operating at its lowest efficiency contributing less than 10 per cent to the GDP. The economy relies heavily on the financial support of Lebanese immigrants and on foreign investment from neighbouring Arab countries. Unofficial estimates put the contribution of the Lebanese abroad at more than 25 per cent of the GDP.

The first vocational school in Lebanon was founded by a western religious mission in 1863 (Ramadan, 2002). The vocational and technical education (VTE) system has since seen progressive growth leading the Lebanese Government to organise it in a formal way under the

---

Directorate General of Vocational and Technical Education in the early 1970s. It was re-organised in 1993, and again in 1999 (ETF, 1999; Tecsult-Kredo, 2004). The Lebanese VTE System may have served Lebanon well in the past, but it is now hard-pressed to develop a new vision and implement major changes in order to deliver its mission and to prepare future generations for life and work in the twenty-first century (Interlaken Declaration, 2001; Qureshi, 1996; Ryan, 2001; Wilson, 2001). The VTE system must also face the upcoming regional and global economic challenges as the country prepares to join the World Trade Organisation (WTO) and to become an economic partner in the European Union.

Traditionally technical education was simply defined as a program of studies that prepared a technician. However, the scope of technical education has changed as our world has become more technological. Today, there are many technical skills of value to students, parents, consumers, citizens, and workers alike. In addition, the demand for technicians in the workforce has increased dramatically both in number and in variety.

One definition of technical education is that it is a combination of instruction and experiences that results in knowledge about, or skills in using a given technology. In addition, technical education can be viewed from three perspectives:

(a)   providing a foundation of technical knowledge, skills, and awareness for the youth;

(b)   developing basic technical knowledge and skills in adults; and

(c)   providing lifelong learning to improve existing technical knowledge and skills and develop new ones.

In order to make the best use of resources and provide high quality VTE for every student, it is essential that the VTE system and the market place work together seamlessly. This collaboration must include the directing of resources towards occupational and career preparation where there is the greatest need and opportunity. These two foci must be brought together to provide education and training that address workforce shortages and future economic growth. They must also help direct students toward these areas where consideration given to the students' interests and aptitudes (Lynch, 2000; Qureshi, 1996; Ryan, 2001; Wilson, 2001).

Businesses must see the importance of providing training opportunities for their employees while workers must see the benefits of using such opportunities. Because improved worker skills benefit the economy, it is appropriate for the government to provide incentives and assistance to businesses offering employee training and education programs. The two components of the national education system, the general education (GE) and the vocational and technical education (VTE) must also be partners in education and in providing lifelong learning (Ryan, 2001; *Skilling Australia*, 2005). As part of their collaboration, they must provide consistency in documentation, transcripts, and credit transfer within and between systems, as well as traceability.

An increased use of technology in the workplace is augmenting the skill and knowledge demands on workers at all levels and in virtually all areas of the workplace. Maintaining a flexible and skilled workforce requires that all incumbent and future workers receive regular up to date technology skill training.

The Lebanese VTE system finds itself at the centre of three debates. The first concerns the relationship between labour and education and the role of the latter as a social and economic development engine (Qureshi, 1996; Tabbron and Yang, 1997; Ziderman, 1997). The second debate is about maintaining central administrative control versus decentralising responsibilities. The third debate is about the likely and possible career paths of VTE graduates (Lynch, 2000; Su-Lin and Westbury, 1998; Wilson, 2001).

This paper presents the first findings of a major effort to develop a forward-looking strategy for the VTE system in the Republic of Lebanon.

Field research and interviews with major stakeholders in the education sector were conducted in the areas of: general education, vocational and technical education, and higher education. Representatives from labour and industry syndicates, as well as business associations and relevant organisations were also interviewed. Furthermore, a representative group of top policy makers and political leaders was consulted. All meetings took place during the fall of 2003 and complementary work was undertaken during 2004 (Tecsult-Kredo, 2004).

In addition to examining interviewees' views and opinions, a literature review of existing relevant data and documentation was also carried out to obtain a representative description of the role of the VTE, identify the problems that this sector is experiencing at this time and their incidence in similar countries with similar vocational training requirements (Atchoarena, 2001; European Training Foundation, 1999; Lynch, 2000; Powell, 2001; Qureshi, 1996; Ryan, 2001; Skilling Australia, 2005; Su-Lin and Westbury, 1998; Tabbron and Yang, 1997; Wilson, 2001; Wold Bank, 2004; Ziderman, 1997). The purpose of this exercise was to form a clear picture of the situation and to assess the feasibility and adequacy of the proposed strategic objectives for the future development of the VTE sector.

STATUS OF THE LEBANESE VTE SYSTEM

The VTE sector in Lebanon is under the responsibility of the Ministry of Education and Higher Education (MEHE) through the Directorate General of VTE (DGVTE). Comparable to many countries in the world (Su-Lin and Westbury, 1998) the VTE educational process is carried out by both the public and private sectors separately. The DGVTE administers both public and private VTE schools. The administrative structure of DGVTE is as shown in Figure 1.
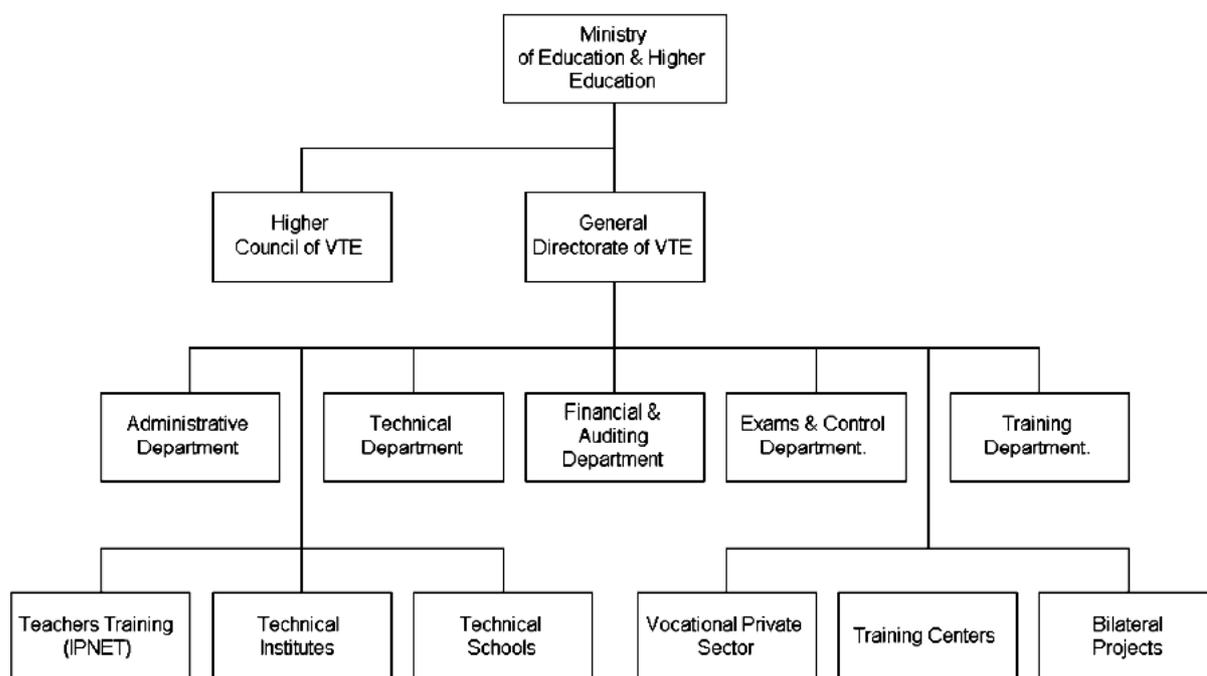
Figure 1. Lebanese VTE organisational chart

The Higher Council of VTE (HCVTE) is a consultative body comprised of representatives of government agencies involved in the VTE, as well as private sector and industry representatives. The Higher Council is headed by the Minister of Education and reports directly to that person.

The core mandate of the council is to orient VTE and establish links with the production sectors. Unfortunately this council has not discharged any of its duties in the last ten years.

In 2002-2003 the DGVTE employed 52 staff members (28 males, 24 females) to supervise and manage the VTE educational system in Lebanon which serves close to 100,000 students studying and working in a number of public and private schools. The DGVTE also directly operated 64 schools and employed about 300 administrators and 7300 teachers. Only 750 teachers worked full time, the remaining persons were hired on a yearly contract basis. About 30,000 students attended public sector VTE schools in 2002-2003.

In the private sector there were 371 schools spread throughout Lebanon in 2002-2003. These schools accommodated about 56,000 students of whom 60 per cent sat for public examinations and 40 per cent received private certificates. These schools employed 881 administrators and 6154 teachers. In 2003, the success rate in the public examinations was 60 per cent among student candidates. The DGVTE managed all the private school students who sat for national public examinations and authenticated all certificates issued by these schools.

The private sector is divided into schools operated by Non-Profit Non-Governmental Organisations (NP-NGO), and schools operated for profit. The number of institutions and their regional distribution is shown in Table 1. This distribution follows population density.

Table 1. Regional distribution of VTE schools (2002-2003)

Region	Number of Schools	
	Public Sector & NP-NGO joint ventures	Private Sector (NP-NGO & for profit)
Greater Beirut	13	187
Mount Lebanon	10	50
North Lebanon	9	71
Bekaa Valley	13	22
South Lebanon and Nabatyieh	19	41
Total	64	371

It is worth mentioning that, with the exception of some NP-NGOs, the private sector is mainly involved in providing specialised programs in the services or so-called 'soft' sectors for which the required investment in buildings, and equipments is low when compared to that required for the industrial or so-called 'hard' specialties.

In some cases the Ministry cooperates with Non-Governmental Organisations to achieve projects of common interest, which are referred to as 'bilateral projects' or 'joint ventures'. This gives the Ministry the chance to expand its educational services outside its own institutions and schools, either by financing NGO schools or by managing schools established by NGOs.

TECHNICAL EDUCATION AND VOCATIONAL TRAINING

The (VTE) comprises two basic fields, namely, Technical Education and Vocational Training. Each field has a number of levels. Vocational training focuses on the jobs and occupations which do not require extensive theoretical knowledge. It addresses practical and manual competencies and skills. The vocational training field comprises four levels, three of which lead to the award of a qualification:

(a)   short term training,

(b)   the CAP (*Certificat d'Aptitude Professionnel*),

(c)   the BP (*Brevet Professionnel*), and

(d)   Baccalaureate Professional – Dual System (German model).

Technical education relates to jobs and occupations requiring a thorough knowledge of the theory and a solid scientific and technological base. Technical education also requires a thorough grounding in general education. This field comprises three levels:

(a) BT (*Baccalauréat Technique*),

(b) TS (*Technicien Supérieur*), and

(c) Applied Engineering or what was previously named as LT (*Licence Technique*) and the LET (*License d'Enseignement Technique*).

Table 2 presents the number of specialisations offered per level of qualification.

Table 2. Specialisations by degree (2002-2003)

Level	Number of Specialisations
CAP (*Certificat d'Aptitude Professionnel*)	6
BP (*Brevet Professionnel*)	15
Dual System Professional Baccalaureate	5
BT BT (*Baccalauréat Technique*),	23
TS (*Technicien Supérieur*)	27
LT (*Licence Technique*)	10
LET (*License d'Enseignement Technique*)	6
Total	92

Table 3 shows the total number of students enrolled in the VTE sector in the three years dating from the year 2000.

Table 3. Number of students in the VTE (Public and Private)

School Year	Number of Students
2000-2001	77,917
2001-2002	82,647
2002-2003	92,231

Of the 92,231 students in the VTE in 2002-2003, 68,270 students were enrolled in programs leading to official degrees. Table 4 shows the distribution of students in the degree programs. Table 4 shows the distribution of students by degree program.

Table 4. Students' distribution by degree program (2002-2003)

Level	Percentage of Students
CAP (*Certificat d'Aptitude Professionnel*)	1.26
BP (*Brevet Professionnel*)	8.0
Dual-System Professional Baccalaureate	1.0
BT (*Baccalauréat Technique*),	58.5
TS (*Technicien Supérieur*)	28.3
LT (*Licence Technique*)	2.8
LET (*License d'Enseignement Technique*)	0.15
Total	100.0

It is worth noting that great emphasis is being placed on the secondary and higher levels (BT, TS, LT, LET), and fewer resources are allocated to the middle level (for example, the CAP, BP). The direction taken by the Ministry confirms the general trend to abolish the middle level from the vocational education system in order to concentrate on the secondary levels and above. The VTE share of enrolment at the secondary level is around 25 per cent, whereas it exceeds 50 per cent in some industrial countries. The Government of Lebanon has decided without much analysis or strategic planning to double the capacity of the VTE that is offered in the public schools by expanding the number of schools and extending it regionally to about 115 schools. Most of the planned new schools have been built with external donor funds (Arab, Islamic, and OPEC funds) and are waiting to be furnished, equipped, and staffed. The relevant authorities have no definitive plans as to what educational programs are to be offered at these schools, and no operating budgets have been allocated to them.

STAKEHOLDERS AND SOCIAL PARTNERS

Stakeholders in the VTE sector can be divided into two broad categories: public and private sectors. Each sector can be divided further into two types of stakeholders: those acting directly in the VTE domain and those whose activities affect or are affected by the VTE system. Since the VTE strategy is a matter of national interest, all stakeholders need to be included and asked to participate in the strategy development consultations.

Public Sector Stakeholders

Parliamentary Commission on Education

The Parliamentary Commission on Education is the legislative channel through which education laws as well as yearly budgets are processed. It is also the highest planning and strategy development authority.

The Directorate General of VTE

The Directorate General is responsible for the organisation and management of the whole sector, under the supervision of the Minister of Education and Higher Education. The DGVTE is responsible for the curricula, programs, specialties, the administration of unified national examinations, and the issuing of technical education degrees for the whole vocational and technical sector in Lebanon.

The Directorate General of General Education

The Directorate General is also responsible for the organisation and management of the general education sector, under the supervision of the Minister of Education and Higher Education. The DGGE is responsible for the administration of unified national examinations, and the issuing of complementary and secondary education awards for the whole sector in Lebanon. More importantly, it operates the publicly owned schools offering free education to close to 50 per cent of the students in the general education system in Lebanon. Under the current arrangement, the VTE branches off the general education system at the level of the primary or the complementary cycles of education. It absorbs those students who fail the official examinations. As such, these students are literally dumped into the VTE by the general education stream without further interaction between the two systems, as is also common in many parts of the world (Su-Lin and Westbury, 1998).

The Directorate General of Higher Education

The Directorate General is responsible for the organisation and management of the higher education sector, under the supervision of the Minister of Education and Higher Education. As such it is directly involved in regulating the flow of students from the VTE stream back into higher education institutions (colleges, and universities). It is also concerned with the university level technical education degrees (LT, and LET) delivered by the DGVTE to its graduates.

The Centre for Education Research and Development (CERD)

The CERD is by law responsible for the development of strategy, curricula, programs, planning for the education sector, training, and the upgrading of human resources, and all related tasks under the tutelage of the Ministry of Education and Higher Education. In practice during the last ten years, CERD has concentrated on the general education sector, with a hands-on approach in developing and updating curricula, as well as upgrading programs for human resources.

The Directorate General of Social Affairs (DGSA)

The mandate of this directorate in the Ministry of Social Affairs is, as well as its budget, financial support for NGOs and other institutions that are involved in social development such as agencies offering vocational and technical education to needy groups in Lebanese society. As such the DGSA subsidises part or all of the tuition for VTE students at some of the largest Non-Profit NGO-operated schools such as Al-Aamiliyah, Al-Makassed, Father Kortbawi Institution, and the Antonine Technical Schools.

The National Employment Office (NEO), Ministry of Labour

The NEO is a recently created administration with a wide mandate to act as a bridge between the unemployed and the employers. It offers retraining and short vocational courses to the unemployed. It provided training for about 2000 individuals in 2003, through contracting out those training services to private non-profit VTE institutions.

The Investment Development Authority of Lebanon (IDAL)

IDAL operates under the direct supervision and control of the Office of the Prime Minister, and as such has a wide mandate to develop and apply policies designed to encourage foreign investments and development projects of all types (industrial and others) in Lebanon, as well as to assist in the export promotion and local business development.

The Council for Development and Reconstruction (CDR)

The Council for Development and Reconstruction (CDR) is an autonomous administration under the supervision of the Office of the Prime Minister and The Council of Ministers. Its work is planning, designing, and carrying out all infrastructure development works funded by international donors and agencies as well as some major nationally funded projects.

Other Ministries and Directorates

In addition to the Ministries of Education and Higher Education and Social Affairs that are directly responsible for the VTE sector, a number of other ministries are indirectly concerned at the highest decision-making levels (Ministers and Directors General). They are the Ministries of Labour, Finance, Economy and Trade, Industry, and the Office of the Minister of State for Administrative Development.

Private Sector Stakeholders

Non-profit NGOs operating private VTE schools

The largest private sector players in VTE education are the charitable and social work NGOs who operate non-profit schools as social development and poverty reduction activities. These NGOs are mostly community based, with strong regional and religious ties. The NGOs have been the developers of this sector since the 1950s even before the government stepped in with the creation of the DGVTE. The most important institutions are organised around sectarian communities: the Al-Aamiliyah (Shiia Muslim), the Al-Makassed (Sunni Muslim), the Father Kortbawi Institution (Christian), and the Antonine Technical Schools (Christian).Seven NGOs have joined with the DGVTE to establish public-private partnerships to run VTE schools, mostly in the South and Bekaa regions.

For Profit Private VTE schools

There are literally more than 300 of those schools some with little more than a single classroom and a few instructors. The larger private for-profit VTE schools are concentrated around the major cities and centres of population, and offer highly competitive education. Some belong to European or North American networks and provide internationally recognised degrees and certificates with recognised quality control systems and credentials.

Association of Lebanese Industrialists (ALI)

The Association of Lebanese Industrialists (ALI) groups come from the largest industries in Lebanon, with about 1200 members that represent the majority of the country's industrial production and all its industrial exports except for gold and gem stones. The association is directly involved with VTE as the main employer of its industrial specialties graduates. ALI has established some cooperation with the DGVTE and other institutions in order to improve system responsiveness and meet the needs of the industry in education, training, and retraining.

Specialised Industry Syndicates

Syndicates grouping industrial sectors and sub-sectors such as Agro-food industries, plastics, paper and packaging, stone and cement construction products, civil works contractors, wooden furniture, printing, clothing, chemicals, tanneries, leather goods, paints, and alcoholic beverages are involved in VTE to a greater or lesser degree depending on their needs. The Agro-food industries syndicate is probably the most pro-active in translating needs into action; it has established a public-private partnership for the first food technician's school in the Bekaa Valley. This project, however, has not yet been started due to institutional and political problems in the Ministry of Education and Higher Education (MEHE).

Chambers of Commerce, Industry, and Agriculture (CCIA)

The regional chambers of commerce (Beirut and Mount Lebanon, North, South, and Bekaa Valley) as well as their head office in Beirut combine up to 50,000 active companies in trade, services, finance, as well as industrialists and agricultural producers. The chambers cater to the most immediate needs of their members, and as such have been organising and offering training courses, and continuous education on commercial practice, auditing, taxation, and business practices through private sector service providers.

Professional Groups

The professions in Lebanon are self-organised, operate as sovereign groups and represent the interests of their membership. The main professions are engineers, physicians, pharmacists, and dentists. These groups have strived to provide the required linkages between their needs and the offer of technical support staff, without much success as in the case of the medical profession which suffers because nurses and paramedical assistants are in short supply. The situation is similar in the engineering professions where the healthy ratio of three support staff to one professional is not attained, and unskilled labour or unqualified support staff is unfortunately the rule.

Labour Unions

Labour unions are organised for employment or working sectors. They are all federated in the General Federation of Labourers whose main efforts in recent years have concentrated on defending the basic rights of their membership particularly with regard to benefits and salaries.

The level of maturity of the unions has not yet reached the point where they are active partners in the development of economic and educational policies with lifelong training components.

Private General Education Schools

As potential suppliers of the VTE stream, these institutions play an important role; they have, however, not shown any interest in the subject of strategic issues and the challenges faced by the education system.

STRATEGIC ISSUES AND CHALLENGES

The VTE student population forms about 25 per cent of the total student population in Lebanon aged between 12 and 21 years. Significant and consistent public investment in VTE has been made during the last ten years. More than 85 per cent of the total investment in VTE has come from the public sector. Total VTE expenditure as a percentage of the GDP has ranged from approximately 1.8 to 2 per cent. In addition VTE has benefited from many external funding agencies in the form of long term loans and donations. International funding agencies such as the World Bank, the Islamic Bank for Development, the Arab Fund, the German Development Agency are the principal donors. Between 1995 and 2004 International funding agencies have made more than $US200 million available to develop the VTE sector.

Site visits to VTE institutions and schools were carried out and information gathered through long structured and unstructured interviews with representatives of all stakeholders. The information gathered showed a multiplicity of agendas, a disconnected sector, antagonism between public and private sector stakeholders, deep rooted mistrust, lack of working relationships and linkages, an underachiever and dropouts stigma associated with students in the VTE system, lack of information to parents and students alike, lack of quality, reduced effectiveness, funding problems, structural and institutional problems, antagonistic relationships, pervasive corruption at the highest levels, and a lack of general and particular policies and strategies.

Two sets of issues have been identified, the first being structural and country related, the second being particular to VTE with commonalities across the world. The country related problem issues are:

  (a) the factional, dead-locked and highly corrupt political system that has prevailed in the last ten years (Adwan, 2003);

  (b) the absence of a clear vision, strategy, and policies for the whole education sector in general, and for the VTE sector in particular;

  (c) the concentration of public expenditures on the development of a physical infrastructure on a regional and political apportionment basis without a coherent national master plan;

  (d) the dire need for qualified administrators, instructor, and human resources at all levels and the inadequacy of human resources management structures within the government in general;

  (e) the patronage and and a so-called 'clientelism' system that characterises the citizens relationship with the government through the intercession of regional or communal chiefs; and

  (f) the failure of international donors to catalyse and bring about the required agenda of structural change by leveraging their external position, namely local politicians and decision makers (Powell, 2001;World Bank, 2004).

The second group of issues arises at the sector level. Recent tracer and labour market studies conducted by the MEHE under World Bank funding (Tecsult-Kredo, 2004; World Bank, 2004)

revealed a general state of dissatisfaction among both VTE graduates and their employers. These VTE graduates represent the middle and basic level trained manpower in the country and come from three streams.

(1)   There are 64 Vocational and Technical Schools and Institutes operating under the Ministry of Education and Higher Education (MEHE) and about 337 private technical and training schools. These schools combined produce close to 90 per cent of all VTE system graduates.

(2)   A small number of training centres operate under the sponsorship of various agencies such as the Ministry of Labour and the Ministry of Agriculture.

(3)   Short Training Programs are administered by the Ministry of Social Affairs, and the National Employment Office.

Data collected have indicated that there has been a manifold increase in the number of VTE public institutions (29 in 1996, 64 in 2004), and consequently a sizable increase in the number of graduates (from about 21,000 to approximately 30,000). This increase, due to governmental efforts in the last eight years, has not been matched, however, by any improvement in the quality of the graduates or their employability after training. The VTE remains confronted with the same recurrent problems and much remains to be done to improve both the quality and access to vocational and technical education. The major issues can be summarised as follows:

(1)   inadequate financial resources and funding mechanisms and an over-dependence on government funding;

(2)   lack of coordination between various governmental departments involved in VTE;

(3)   lack of liaison between industry and educational institutions resulting in low external efficiency;

(4)   lack of relevance of curricula to job market requirements;

(5)   inadequate human resources both quantitatively and qualitatively, poorly equipped and maintained workshops, and inadequate administrative infrastructures resulting in low internal efficiency;

(6)   poor institutional capacity for planning and development at the DGVTE level and lack of relevant data since the planning, management and organisation of the VTE revolve around central supply- oriented planning that has not kept pace with the needs of the labour market; and

(7)   poor coordination between the Ministry of Education and other government agencies and the public and private sectors resulting in low efficiency in the use of resources and poor linkages between the provider and users of VTE.

These results underscored the poor state of the VTE system in Lebanon and the failure of the government as well as international donor agencies to implement the required improvements and reforms (World Bank, 2004). The key to developing a successful strategic plan, and its detailed policies to meet the challenges of the VTE in a global competitive economy resided in building a consensus around key strategic objectives at the highest levels of the Lebanese decision making process. Using the results summarised above and additional information gathered from consultations and preparatory workshops, a draft set of key strategic objectives was identified. VTE goals and strategic objectives were then used as a background to carry out detailed interviews with a representative sample of high level decision makers from the public and private sectors. The interviewees were asked to rank these objectives as well as to comment openly on them. The sample included 29 major stakeholders from,which 12 political decision makers (four

ministers, three members of the parliamentary commission on education, and five directors general) were interviewed.

INTERVIEWS AND CONSULTATIONS WITH POLITICAL DECISION MAKERS

During December 2003, long structured interviews were carried out with 12 political decision makers who represented the full spectrum of political factions and religious communities in the Lebanese Government. As part of the consultative and participatory process, these key stakeholders were asked to complete a questionnaire aimed at identifying the different perceptions and positions with respect to the goals and the key strategic objectives that were identified. The consultations highlighted the symptomatic expressions of the tremendous problems considered in the previous paragraph. A 'silver lining' was, however, found in the shared convictions about the strategic importance of the VTE role in the future development of the Lebanese economy, and a commitment to improve the situation provided adequate conditions. This work elucidated the first consensus among otherwise opposing and antagonistic stakeholders.

The first part of the questionnaire proposed three goals for the VTE. Table 5 shows the responses were as follows.

Table 5. Ranking of VTE Goals by Importance

	Goals of VTE ranked by importance	Extremely Important	Very Important	Important	Not Important	No Opinion
1	Produce a well-trained and globally competitive workforce, skilled for employment	5	7	0	0	0
2	Improve economic opportunities for the underprivileged sections of the population and act as a poverty reduction and economic growth engine	7	4	1	0	0
3	Provide lifelong training and retraining opportunities for the Lebanese workforce	6	4	2	0	0

All three goals were found to be appropriate and very important without much variation in the opinions provided by the respondents, but the highest ranking was to 'Produce a well-trained and globally competitive workforce, skilled for employment' showing a correct and acute perception of the role of VTE in modern economies (Skilling Australia, 2005). The traditional role of VTE in Lebanon to 'Improve economic opportunities for the underprivileged sections of the population and act as a poverty reducer and economic growth engine' is still perceived to be of great importance from an economic and political point of view, for the mobilisation of the human potential at all social levels. The role of VTE as a provider of lifelong training is the least understood and appreciated.

The second part of the questionnaire referred to 12 strategic objectives that were identified. The answers were ranked in priority based on the responses of the interviewees with 1.0 being the highest priority possible. The closer to 1.0 the average score was, the higher the priority of the objective. The variation represented the standard deviation of the score of a given objective, and hence the level of consensus around it. The results are shown in Table 6.

A survey with only 12 respondents is primarily indicative and must be treated with caution. The results of this survey are, however, relevant as descriptors of the perceived priorities of 12 Lebanese decision makers at the highest level. Their opinions reflect those of the groups they represent, and these groups correspond to a large majority in the parliament and cabinet ministers.

The top priority objective confirms the consensus on the importance of the VTE in developing a modern workforce underscoring its economic relevance. The respondents unanimously found that the establishment of training and labour market links is of the greatest importance for the future VTE system.

Table 6. Ranking of VTE strategic objectives by priority

Priority Ranking	Strategic Objective	Average Score	Standard Deviation
1	Establishment of training and labour market links	1.17	0.14
2	Development and clarification of educational paths	1.67	0.39
3	Institutional capacity-building and development	1.67	0.56
4	Improvement of internal efficiency. effectiveness and quality	1.67	0.72
5	Developing VTE awareness. appreciation and Recognition	1.75	0.85
6	Establishment of standards, certification, classification, accreditation & regulation	1.83	0.64
7	Definition of orientation and size of the VTE sector	1.92	0.74
8	Establishment of links between private VTE schools, the private productive sector, the NGOs and public sector	1.92	0.91
9	Improvement of accessibility, social equity and mobility	1.92	1.58
10	Improvement of funding, finance and accountability	2.00	1.33
11	Governance, management, administration and participation	2.33	0.89
12	Improvement of relevance, responsiveness and external efficiency	2.33	1.22

The next group of priorities, from Objectives 2 to 8, shows that the respondents are more or less unanimous in their support of these objectives.

Objectives 9 to 12 are more divisive and are perceived as less of a priority.

It is worth noting that Objectives 2 to 8 concentrate on sector problems, whereas Objectives 9 to 12 address the wider cross-cutting issues that require state-wide reform, institutional and structural change. This may explain the reluctance of decision makers to tackle the most difficult issues.

CONCLUSIONS AND RECOMMENDATIONS

(1)   The major problems and challenges facing the VTE system in Lebanon were analysed against the background situation of the country.

(2)   Problems were grouped in two sets: general country specific problems, and particular sector specific problems.

(3)   Goals and critical strategic objectives for improving the VTE system were presented.

(4)   The operators in the VTE environment were aware of the necessity to strengthen the VTE system. The majority of the stakeholders were willing and motivated to participate in the work to establish a strong and dynamic VTE sector, which had a built-in capacity to meet the challenges of the future.

(5)   A representative sample of 12 top level political decision makers were consulted in a structured interview about their opinions and perceived priorities as to future goals and objectives.

(6)   The economic role of the VTE was unanimously perceived as the top priority.

(7)   Sector specific strategic objectives were ranked as higher priority objectives than those that required country-wide reform.

In addition to the political will, improving technical education would clearly require the involvement and the partnership of schools, communities, and citizens. This study has attempted to put technical education in a context that could be understood, shared and developed by all

concerned Lebanese stakeholders. It has also attempted to draw the limits of consensus around the most critical issues in the VTE, identifying the most critical one. In response to that, the Lebanese Ministry of Education and Higher Education should direct all stakeholders concerned to an urgent examination of a national classification of qualifications, the occupational skills required by employers, and the range of courses VTE schools should be offering to meet the labour market demands. Pursuant to that, an appropriate sector strategy should be developed to tackle all problems identified in this study with a priority objective to ensure that existing VTE Institutions would have the skills, foresight, and freedom to identify and respond to the labour market demand for more flexible and highly skilled workers.

DEDICATION

This paper is dedicated to the memory of a friend and a great man: H.E. Dr. Bassel Fuleihan, a supporter of economic development and VTE reform in Lebanon who was assassinated in Beirut in the tragic events of February 14th, 2005.

REFERENCES

Adwan, C., (2005). Corruption in Reconstruction: The cost of national consensus in post-war Lebanon. In *Corruption in Post-War Reconstruction, Confronting the Vicious Circle, based on the Proceedings of the 11th International Anti-Corruption Conference, Seoul, 25 May, 2003*. The Lebanese Transparency Association. [Online] http://www.tiri.org/documents/press_releases/20_jan_05/PWR_Lebanon_Adwan.pdf

Atchoarena, D., (2001). From research to reality: An international perspective. In *Research to Reality: Putting VET Research to Work, Proceedings of the Australian Vocational Education and Training Research Association (AVETRA) 4th Conference in Adelaide, Australia March 28-30, 2001.*

European Training Foundation (1999). *Overview of Vocational Training and Education in Lebanon*. [Online] http://www.etf.eu.int

Interlaken Declaration (2001). Initiating debates on liking work, skills, and knowledge: learning for survival and growth. *International Conference, 10-12 September 2001, Interlaken, Switzerland.* [Online] http://www.workandskills.ch/

Lynch, R.L. (2000). High school career and technical education for the first decade of the 21st Century. *Journal of Vocational Education Research, 25* (2). [Online] http://scholar.lib.vt.edu/ejournals/JVER/v25n2/lynch.html

Powell, M. (2001). A comparative study of TVET projects – Implementation experiences from Jamaica to the Gambia. *International Journal of Educational Development, 21,* 417-431.

Qureshi, M. A. (1996). Current trends and issues in technical and vocational education in Asia and the Pacific. *UNEVOC INFO 8* (Aug), 1-3.

Ramadan, B. (2002). Toward a more demand driven system of vocational and technical education in Lebanon. Republic of Lebanon Update*, World Bank. Fourth Quarter*, 2-6.

Ryan, R. 2001. Master concept or defensive rhetoric: Australian VET policy against past practice and current international principles of lifelong learning. *International Education Journal 2* (3), 133-147.

Skilling Australia: New Directions for Vocational Education and Training, (2005). Australian Government, Department of Education, Science, and Training. Canberra: Commonwealth of Australia.

Su-Lin, H.L.L. and Westbury, I. (1998). The transformation of Taiwan's upper secondary education system: A policy analysis. *Education Policy Analysis Archives 6*(18) 27p.

Tabbron, G. and Yang, Jin, (1997). The interaction between technical and vocational education and training (TVET) and economic development in advanced countries. *International Journal of Educational Development 17*(3), 323-334.

Tecsult –Kredo, (2004). *Developing a VTE sector strategy, inception report*. Beirut, Lebanon: Republic of Lebanon, Ministry of Education and Higher Education, Directorate of Vocational and Technical Education.

Wilson, D. (2001). *Réformer l'Enseignement et la Formation Techniques et Professionnels (EFTP) au Bénéfice d'un Monde du Travail en Mutation* (in French). *Perspectives XXXI,* (March).

World Bank (2004). Implementation completion report on a loan in the amount of US$ 29 million to the Lebanese Republic for a LB-Vocational and Technical Education Project, Report No. 29120 Washington, D. C.: World Bank.

Ziderman, A. (1997). National programmes in technical and vocational education: Economic and education relationships. *Journal of Vocational Education and Training, 49*(3), 351-366.

❖IEJ

Cultural barriers in educational evaluation: A comparative study on school report cards in Japan and Germany[1]

Masashi Urabe
Research Fellow of the Japan Society for the Promotion of Science, Institute for Comparative and International Education, Graduate School of Education, Hiroshima University, Japan
murara@hiroshima-u.ac.jp

This paper discusses cultural barriers in educational assessment by comparing Japanese and German school report cards. The discussions on assessment fluctuate between two intellectual extremes: objectified selection or educational diagnosis. In Japan, many teachers make written comments on school report cards with ambiguous expressions to avoid negatively motivating their students. German school report cards, on the other hand, are objective, but may cause pressure through their focus on marks. An analysis of examples of German and Japanese report cards reveals that Japanese report cards give priority to educational diagnosis while German report cards focus on objective selection. It depends on the culture and, in particular, cultural barriers as to which dimension is given priority. A cultural barrier is unique to people of the same cultural group. Japanese cultural barriers are characterised by concern for others' emotions and as such they prefer to use indirect communication. German cultural barriers, in contrast, are characterised by honesty which makes it difficult to report anything but the truth. Therefore, it can be difficult for Germans to flatter by distorting the truth.

Japan, Germany, cultural barrier, evaluation, assessment, school report card, objectified selection; educational diagnosis

INTRODUCTION

The purpose of this paper is to consider cultural barriers in Japan and Germany in educational assessment by comparing Japanese and German school report cards.

Traditionally, the discussions on assessment of the students have moved between between two intellectual extremes: objectified selection or educational diagnosis (Jürgens and Sacher, 2000; Scheckenhofer, 1975). Objectified selection is a dimension of assessment requested by a given society; while in educational assessment, the education system is required to select the students for the future division of labour, especially as the labour market needs excellent workers. Therefore, a clear distinction in the achievements between students is needed if this dimension has priority. Educational diagnosis is another dimension of assessment that students need in order to monitor their own progress. Without assessment, students are unable to identify their performance and make progress. If this dimension has priority, more detailed information about the students

---

[1] This article was extensively edited by Dr B. Matthews, Research Associate, Flinders University Institute of International Education.

should be provided. I am sure that these two dimensions may be well-balanced, but the priority given to a particular dimension differs between countries and it is significantly influenced by culture. Therefore, I must assume that cultures – particularly cultural barriers – are reflected in the students' attitude toward assessment at school.

By Nakayama's (2004) definition, a cultural barrier in this context is a framework that unconsciously influences our ways of thinking and feeling since people's ways of thinking generally depend on their own culture. The Japanese are restricted by their own language and culture. Nakayama calls these cultural restrictions the 'barriers of Japanese people'. This situation can be similarly recognised not only in Japan but also in many other countries in the world, including Germany. In fact, the German people are also restricted by their own language and culture. The significance of this study is to try to identify some of the invisible cultural barriers that exist in Japan and Germany.

These cultural barriers are reflected in various assessments at school, and the essence of those assessments is normally summarised on the school report card. Ideally, the school report card should visibly identify all of the most important parameters of educational assessment at school. Through the school report card, all the participants in the education process – teachers, parents and students – communicate aspects with each other about the assessment process at school. This communication plays an extremely important role in the education of children, and also has definitive meaning in the larger societal context. In this paper, therefore, Japanese and German cultural barriers are examined by comparing the school report cards as modes of communication in these two countries.

This paper focuses only on school report cards used for third to ninth graders, because school report cards for first and second graders have different formats and forms. The school report cards beyond tenth grade are also disregarded because students are no longer under compulsory education.

OUTLINE OF THE SCHOOL REPORT CARDS IN JAPAN AND GERMANY

Comparison of the Systems

In Japan, there are three documents used to record the achievements of students: the cumulative guidance record (*Shidoyoroku*), the confidential report (*Chosasho/Naishinsho*), and the school report card (*Tsushinbo*). The cumulative guidance record is an official document whose contents are regulated by the *MECSST* (Ministry of Education, Culture, Sports, Science and Technology) and each regional board of education. It is the official record of all the school documents. The confidential report is also an official document that contains a candidate's records for admission from lower school to high school (for example, from junior high school or high school), and for new students' selection to higher education, that is, to high school or university. On the other hand, the school report card is a private document that each school voluntarily composes just for the families of students (Kajita, 1999).

The Japanese school report card is an unofficial document. It is used to communicate between the school and the family (Tanaka, 2004). Through the school report card, the school reports the academic achievements of students to their parents at the end of each school term. In this way the school asks students to reflect on their present situation in order to motivate themselves towards academic improvement (Kajita, 1999).

The school report card has two characteristics: first, it is a private, voluntary document and, second, it is the only document through which the students and their parents can learn about their children's achievements at school. The contents of the cumulative guidance record and the confidential report are not revealed to pupils and their parents and form part of the documentation about students that is kept confidential within school records (Ishida, 2002).

The German school report card (*Schulzeugnis*), on the other hand, is an official document on which the school records the academic achievements of each student in a summarised form at the end of each school term. In Germany, each of the 16 federal state governments has its own school systems, but the grading system has been unified in legislation according a resolution passed at the *KMK* (*Kultusministerkonferenz*: a meeting of state Ministers of Education) on October 3, 1968 (Schaub and Zenke, 1995).

The German system of school report cards has three characteristics. First, the school report card is an official document that must be completed according to government laws and official regulations. The contents of an official document can not be changed or deleted after the document is completed and signed by the principal and the classroom teacher (Schaub and Zenke, 1995). Second, the school report card is not only an official record of assessment at school but also a certificate used to enter the next grade; for recommendations about the type of school, either academic or vocational; a child should attend after primary school; or for finding a job. Parents may request the school to release all the information about the achievements of their children at school (Rebitzki, 2003). The original report card belongs to the students and the school keeps a copy of it. Finally, the contents of the school report cards should be completed before the official conference on the school report card (*Zeugniskonferenz*), which consists of the teachers and representatives of the parents and students (Rebitzki, 2003).

Japanese Ways of Assessment

In Japan, the official record of the school report card is the cumulative guidance record. Thus, the content and form of the school report card are constructed in accordance with this document (NIER, 2003). The assessment presented on the Japanese cumulative guidance record has been conceived to be the basis for the Japanese school report cards (MECSST, 2001).

The assessment on the cumulative guidance record consists of the evaluation of the academic achievements and behaviour of the students, and notes written by the teacher (MECSST, 2001). The assessment of the academic achievements occurs in two forms: the marks on the assessment criteria for each subject and the general mark for the subjects.

These are the marks for the sub-components for each of the subjects. Achievements are evaluated in the three-tiered rank system, according to the goals stated in the national curriculum (NIER, 2003):

'A/3' = 'satisfactory',

'B/2' = 'almost satisfactory',

'C/1' = 'needs effort'.

For the overall mark for a subject, achievements at primary school (from the first to sixth grade) also evaluated in the three-tiered system. This is illustrated in Figure 1.

In junior high school, the achievements are assessed in a five-tiered ranking system:

'5' = 'high level of very satisfactory achievement',

'4' = 'very satisfactory',

'3' = 'almost satisfactory',

'2' = 'needs. effort',

'1' = 'needs special effort'.

In the assessment of student behaviour, which may be unique to Japan, the personality of students is assessed according to the teachers' observations throughout school life. On the school report card, there are assessment items such as fundamental lifestyle (for example: greetings, putting one's affairs in order, personal health, independence, responsibility, creativity, cooperativeness, kindness to animals or nature, volunteer spirit, fairness, and sense of public morality) (NIER,

2003; MECSST, 2001). For the behaviours of students, a 'circle' is drawn next to each item on the school report cards as shown in Figure 1.

Evaluation of Achievements					
	Contents and Achievements of Learning	General Mark	satisfactory	almost satisfactory	needs effort
Japanese	S/he is interested in Japanese language and tries to express appropreately and read many books.	**2**		O	
	S/he can understand and express the most important points through summarizing the story.			O	
	S/he can write fully worked-out structures of the sentences in order to be understood by others what S/he wants to say.			O	
	S/he can understand the focus of the contents and read aloud with stress.		O		
	S/he can deal well with the Kanji dictinary and understand the basis of the sentence structure or the orthography exactly.			O	
	S/he takes care of the size and arrangement of the characters and can write them orderly.				O
Social Studies	S/he is interested in the activities for health and tries to work actively.	**2**		O	
	S/he thinks of the relationship between the activities for health and daily life, and can also judge appropriately.			O	
	S/he can research the activities for health and present the consequence clearly.		O		
	S/he learns the means or efforts for keeping the health and understand the meaning with the life.			O	
Mathematics	S/he is interested in mathematics and tries to learn actively.	**3**		O	
	S/he can read and write the big numbers (e.g. million, billion) and understand the construction.			O	
	S/he can understand the characteristics of a circle or sphere and draw a circle.			O	
	S/he understands the rules of the division and can calculate easy divisions on paper.			O	
	S/he can calculate (2-figure number) * (3-figure number) : (1-figure number) on paper.			O	
	S/he can regulate and read the data from two aspects.		O		
	S/he understands the characteristics of the angle and can measure or draw it.			O	
Science	S/he is interested in nature and tries to use in life what S/he has already learned.	**1**		O	
	S/he understands the activities and the situations of the growth of animals and plants, which are active especially in spring and summer.		O		
	S/he understands the effect of electricity through learning the effects of a dry battery or photoelectric cell.				O
	S/he learns the characteristics of the stars and understands the position change of them according to the time.		O		
Music	S/he is interested in music and tries to learn it actively.	**2**		O	
	S/he can feel the variety of phrases, stresses and tempoes and find how to express or appreciate music.			O	
	S/he can sing songs in a natural voice and play the instruments taking care of tones.			O	
	S/he takes care of the characteristics of melodies and can listen to the music feeling the variety of the concept.			O	
Art	S/he tries to enjoy scupture actively and appreciate its pleasure.	**2**		O	
	S/he is creative and can design a work considering the beauty and purposes of use.			O	
	S/he can fully show his/her own talents and expressions.			O	
	S/he can appreciate artistic works with interest in good points, beauty and difference of the feeling.			O	
Sports	S/he tries to observe the rules and to enjoy exercising in cooperation with friends.	**3**		O	
	S/he can enjoy jumping higher with the secure form.		O		
	S/he tries to make his/her skill better and can enjoy the gymnastics.			O	
	S/he can enjoy swimming through expanding the distance or trying new forms.		O		
	S/he understands growth of the body.			O	
Notes	Your strong point is making friends. You can relay joyful topics about yourself to others. I think it is really wonderful!				

Figure 1. An example of Japanese primary school report card

Points of the behavior evaluation										
	First Term			Second Term			Third Term			
Points	satisfactory	almost satisfactory	needs effort	satisfactory	almost satisfactory	needs effort	satisfactory	almost satisfactory	needs effort	
1 S/he listens to what others say calmly.										
2 S/he forgets nothing at home which S/he should take to school.			o							
3 S/he puts his/her affairs in order and deal with everything carefully.										
4 S/he can actively express his/her own opinion.	o									
5 S/he carry out everything to completion.										
6 S/he works his/her duty for homeroom voluntary.										
7 S/he can put himself/herself in others'place.	o									
8 S/he is careful of his/her language and greets politely.										

No circle always means "almost satisfactory".

Figure 1. Continued

In the notes, teachers describe how students behave at school. Included are comments about their personal characteristics and abilities as well as their voluntary activities outside the school. These commendations are also written in the school report cards (NIER, 2003; MECSST, 2001). Moreover, no student repeats a class in Japan and all students can go to the next grade automatically, because the attendance is more important for promotion than the achievement made. In fact, the academic achievements should be controlled through the competitive entrance examinations as a rite of passage.

German Ways of Assessment

The German School Report Card, on the other hand, consists of the assessment of the academic achievements and behaviour associated with study and social rules, and the evaluations of students' behaviour. This is illustrated in Figure 2. The academic achievements are assessed on a six point scale (*Zeugnisnote*). The marks and their meaning have been decided by *KMK* as follows (Ziegenspeck, 1999):

'1' = *Sehr gut* (very good),

'2' = *Gut* (good),

'3' = *Befriedigend* (satisfactory),

'4' = *Ausreichend* (adequate),

'5' = *Mangelhaft* (poor),

'6' = *Ungenügend* (very poor/unsatisfactory).

The passing marks are from '1' to the '4', whereas '5' and '6' denote failure. The marks are accorded by teachers on the basis of written tests and examinations as well as oral contributions to in-class discussions (Rebitzki, 2003).

The assessment of the behaviour of the students is assessed from two perspectives, the working behaviour (*Arbeitsverhalten*) and the social behaviour (*Sozialverhalten*). For example, in the State of *Niedersachsen* (Lower Saxony), working behaviour includes students' readiness for learning and working, goal-orientation, cooperativeness, independence, attentiveness, patience, and reliability. Social behaviour includes the ability to reflect on one's learning and to discuss with others, honesty, fairness, readiness to help others, responsibility, and cooperation (Hayek, 2000). The state of Saarland has almost the same definitions of the working and social behaviours (Saarland, 2000).

Required Subjects

German	**3**	Physics/Chemistry	**2**
Spelling	**3**	Music	**-**
English (Course A)	**4**	Art	**2**
Religion (Catholic)	**3**	Crafts	**-**
World and Emvironment Studies	**3**	Clothing	**3**
Mathematics (Course A)	**3**	Sports	**2**
Biology	**2**		

Elective Subjects

Club Activity:	Soccer
Instrument Class:	Guitar
Working Behavior	meets the demand completely
Social Behavior	meets the demand completely
Notes:	promote to the next grade

Figure 2. An example of a German school report card

Moreover, the assessment of academic behaviour on the school report cards occurs in three formats. The first type is to describe behaviour in sentences (for example in the state of *Bayern*, *Berlin*). The second type is to give marks to these behaviours (for example in the state of *Baden-Württemberg*, *Sachsen*). The third type shows both forms. In the lower grades behaviour is reported in sentences while in the upper grades behaviour receives a numerical mark. At higher grades, the marks for the various behaviours are given on the school report cards (for example in the state of *Hessen*, *Rheinland-Pfalz*). All the federal states may decide which form they intend to use on the report cards (Rebitzki, 2003). In the teacher's notes section, there is an indication as to whether the students are to be promoted to the next grade or whether they are required to repeat the class.

At secondary level, grade four students in Germany usually have some idea about what their prospective career is likely to be. Therefore, they need to choose the type of senior secondary school that they will attend. This depends on their academic ability. They can either enter a secondary school that prepares them for a more manual job or for university. The former school types are known as *Hauptschule* and *Realschule*, and the latter is called *Gymnasium*.

In addition, German schools have a repeat system. If students are not able to meet the academic demands, they repeat the grade. The demands are different in each state. Thus, when a student receives a mark of '5' or '6' in more than two principal subjects (for example. German and Mathematics), he/she is not allowed to go to the next grade in the state of *Hessen* (Amano, Yuki and Beppu, 1998). In the state of *Bayern*, they have to repeat the classes if the average of their marks is below '4.0' (Das Bayerische Staatsministerium für Unterricht und Kultus, 1998). In secondary school, students have to change schools (for example from a *Gymnasium* to a *Realschule)* if they repeat the class twice. In Germany, there are many repeaters. For example, 2.5 per cent of the second graders repeated a class in the school year 1999 (Statistisches Bundesamt, 2001). In comparison, in Japan the repeat rate is almost 0 per cent because all pupils are allowed

to graduate from the compulsory education even though 0.02 percent of the pupils may have been absent from the school for more than 30 days (MECSST, 2003).

OBJECTIFIED SELECTION OR EDUCATIONAL DIAGNOSIS?

The 'Educational Consideration' on Japanese School Report Card

The Japanese school report card attaches greater importance to educational encouragement than to objectified selection. The educational consideration is that the reliability and objectivity of the assessment can be disregarded on the school report card if teachers would like to encourage and motivate the children to learn (Ishida, 2002). The *MESC* (the predecessor of the *MECSST*: Ministry of Education, Culture, Sports, Science and Technology) also advises that to reprint what is described on the cumulative guidance record directly on to the school report card is not always appropriate, and that teachers should pay attention to the particular situations of individual students and consider the contents of the school report card carefully (MESC, 1980).

A specific example was noted of a father who complained on a TV program in 1969 that the relative assessment with five-rank system was not fair because some students would get bad marks in any case on the school report card. In the 1970s, school report cards were reformed step by step to what they are today (Yamane, 2002). The aim was to 'evaluate for education' in order to motivate children, instead of the 'evaluation for selection' approach which sounded inhumane to the Japanese. Thus, Japanese people expect 'educational consideration' at school, in case grades rank students and cause them to develop an inferiority complex, or make parents uneasy (Hirahara and Terasaki, 2002, pp.229-230). This is uniquely Japanese and is certainly an important cultural consideration.

Thus educational consideration can be seen from two perspectives: the document system and the assessment methods. For the document system, it should be pointed out that the facts on the school report card may be different from the facts written on the cumulative guidance record. Therefore, the assessment data which are available to students and their parents are different from the data which are not accessible to them. This is called a 'double document structure' (Ishida, 2002; Yamane, 2002). As to the methods, it should be recognised that some teachers show leniency to students, whose general marks are not very good, by giving them an 'A' in subjective assessments or by drawing a 'circle' against assessment items concerning their non-academic behaviours. Other teachers describe them as praiseworthy in the notes on the school report cards (Hasegawa, 2004; Nagayama, 2002). For example, although a student got a mark of '2' in Japanese, he/she also got an 'A' for the 'skill for reading and listening' (Tanaka, 2002). This is an example of 'gradation' and is discussed later as a cultural barrier.

Achievement Pressure Surrounding German School Report Cards

On the other hand, German school report cards emphasise objectified selection rather than educational diagnosis, because the German school report card shows the mark with a clear six point system and the educational considerations such as in the Japanese school report card do not exist on the German school report card. Moreover, many German students often feel pressure over the results of their achievements, and the extremely strong pressures may sometimes cause them physical and mental problems such as headaches, stomach aches or sleep disorders (Liedtke, 1991).

In Germany, the school should be accountable for students' academic achievements, not only to parents but also to society. Therefore, it is natural for teachers to evaluate students as objectively as possible. Parents have also the right to know about the achievements of their children. While the assessment in German school has been directed towards validity, objectivity and reliability, it may create extremely strong pressure in some children (Ziegenspeck, 1999).

DISCUSSION ABOUT DIFFERENCES BETWEEN THE TWO COUNTRIES

Cultural Barriers in Japanese Educational Assessment

In the context of the Japanese communication system, it is more effective to tell others indirectly what they feel negatively rather than to explain to them directly and logically, if one wants to make others understand (Nakayama, 1996). Japanese people are famous for vague and indirect expressions because they feel embarrassed by emotional discord when using unambiguous remarks. Therefore, Japanese people usually express their own ideas modestly even if they have definite opinions (Nakayama, 2004).

Westerners usually assert their own opinions directly in a discussion, whereas Japanese people tend to find a common ground by mutual consideration for each other. The Japanese direct a point of agreement in the form of pre-established harmony by taking a noncommittal attitude, and thereby avoid conflict or disagreement with each other (Nakayama, 2004). Nakayama call this communicative form '*Bokashi* (gradation)' (Nakayama, 1989, p.9).

This tendency can be shown on the school report card as explained above. By assuming ambiguous attitudes, conflicts or misunderstanding between the school and the Japanese families may be avoided. Most Japanese people tend towards the pre-established harmony.

Specifically speaking, the Japanese school report card includes double structures of the ambiguity both in the system and the method. First, a Japanese school report is an unofficial document. In 'unofficial' documents, teachers do not always tell the truth about the achievements if they need to motivate their students to learn more at school (Ishida, 2002). The students are not normally allowed to access official documents. Therefore, they have no opportunity to learn about their actual results and at the same time the result of any achievements is therefore ambiguous. Second, teachers try to help the academically poor students by giving some good marks or comments on the subjective assessment items on the school report cards. If the general marks need to be negative, teachers can make the results ambiguous through remarks in terms of the subject (Hasegawa, 2004). Otherwise, they try to give some good marks for the student's attitudes or in the form of positive comments on the school report card (Nagayama, 2002).

Thus, Japanese teachers choose not to escape from the cultural barriers. This encourages teachers to provide the vague or false results about achievements on the school report card. Here we have identified some Japanese cultural barriers in evaluation and assessment in Japanese education.

Differences in Cultural Barriers in the German School Report Card

In the German case, we can also approach difference from the perspective of cultural barriers. European people tend to clarify differences and discuss them openly, whereas Japanese people give way to others in order to resolve any conflicts of the interests. Germans tend to express their own opinions directly, feeling that honesty is more important than discomfort.

For example, Kotthoff (2003) conducted an experiment on compliments among German and American students in a seminar at the University of Constance. This experiment compared differences in response between German and American students. As an example, the following case was shown to the students:

> You live in a dormitory with flat mates and one of the flatmates knits a sweater for herself. You know that she spent a lot of time and energy making the sweater through chatting with her. One day, you find she approaches you wearing the sweater, which she has completed. If you thought that the sweater is not appealing, what would you say to her? (Kotthoff, 2003, pp.298-299)

The results of the experiment show different reactions given by German and American students. German students did not compliment her on the sweater. On the contrary, they expressed their own impressions directly: 'Are you really satisfied with the sweater' or 'I do not think that the sweater is suitable for you, but you think it suitable, don't you?' On the other hand, all of the American students complimented her and only the strength of the compliments varied from person to person. Then in the seminar, all the students discussed the difference in the responses between German and American students. The American students regarded the Germans as unsociable, while these German students thought it more important to express their own opinion than to maintain the status quo. If the German students complimented her, they would only say to her 'that was nice knitting wool' (Kotthoff, 2003).

Therefore, the Germans and Americans had no consensus and it is clear that the predominant principle differs between countries. Americans tend to pay attention to social manners, while Germans thought it was polite to give their own opinions honestly regardless of the social consequences (Kotthoff, 2003). The more important the relationship between them, the more honestly they told others what they thought. Americans complimented others in the scenario which was judged to be hypocritical appearance by the Germans (Kotthoff, 2003, 1989).

According to Kotthoff, the experiment shows that Germans tend to think it more polite to speak honestly than to flatter. In other words, it is very difficult for German people to compliment others with empty words, based on Kotthoff's research. Günthner (1993, 2000) also states that Germans criticise more directly and openly than Americans and Chinese in comparison to other cultures.

Now that I have demonstrated that Germans tend to state the facts, it follows logically that 'educational considerations' are not likely to be found on the German school report card. It is difficult to find the educational considerations in Germany because teachers think it is unethical not to tell the children and their parents the results of achievements honestly.

That is why German school report cards can be not only an official record but also a certificate of progress and teachers can also show the achievements of the students clearly on the school report card. Even if some students suffer from mental or physical stress because of the pressure of achievement, it is not accepted practice in Germany to make the achievements ambiguous through vague comments on the school report card.

Using Kotthoff's studies as examples, we can identify a German cultural barrier in evaluation of education. Honesty is more important than discomfort even though some students may be hurt. Therefore, because German teachers insist on giving the achievement data to the students and their parents, this may be considered a cultural barrier by some people.

CONCLUSIONS

This examination of cultural barriers enables us to gain some understanding of the reasons for differences between Japanese and German evaluation and assessment as evidenced by the school report cards of the two education systems. Why do Japanese school report cards prioritise the dimension of educational diagnosis while German report cards give priority to objectified selection? This may occur because it is impossible in Japan to select students fairly according to the results on the school report cards if teachers make the achievements of the students vague by using educational considerations. In fact, Japanese students should pass the objective entrance examination if they are to be promoted to higher school levels. They appear to require another document such as the confidential report, to which not even students and their parents may access as an assurance of students' actual achievement. On the other hand, German school report cards can be trusted in society as official documents. Therefore, if the achievements of the students are accurately recorded, and people can accept the system of repetition, then they can actualise the qualification system through the graduation examination such as *Abitur*.

Surely, it is very difficult to know how to cope with cultural barriers. If accountability is important for the parents, it may be said that the dimension of objectified selection should be taken into account more in Japan. For example, should the Japanese school report card be unified to one official document as is the case in Germany? In other words, should the Japanese double documentation system be reformed and the facts in the official record (the cumulative guidance record) be made available to students and their parents because the school as a public institution should be accountable for the achievements and development of the students?

However, if motivation of the students is important, the educational considerations in Japanese school report card can be effective in motivating Japanese students. The ambiguous results in the school report card may prevent the students from harm and encourage them to try harder. Therefore, it could also be said that German school report card should not forget to consider the dimension of educational diagnosis. In fact, a part of the German school report cards has changed, for example, from the *Notenzeugnis* (School report card with marks) to the *Berichtszeugnis* (School report card with verbal comments) (Ziegenspeck, 1999).

After all, we always have to optimise between two dimensions, but our own cultural barriers need to be overcome at the same time. The discussion about assessment tends to focus on the reliability, objectivity and fairness of evaluation and assessment. Without considering our cultural barriers, however, the innovation of assessment can lead to unintended consequences. Therefore, culture should be considered further in educational studies. Here the cultural barriers are examined in order that a study of the structure of the cultural barriers may provide a model for further research.

REFERENCES

Amano, M., Yuki, M., and Beppu, A. (Eds) (1998) *Doitsu no Kyoiku* [*Education in Germany*]. Tokyo: Toshindo.

Das Bayerische Staatsministerium für Unterricht und Kultus (1998) *Schulordnung für die Volksschulen in Bayern vom 23. Juli 1998, § 27* [*School Rules for the Primary Schools in Bayern on July 23rd 1998, § 27*]. München: Das Bayerische Staatsministerium für Unterricht und Kultus.

Günthner, S. (1993) German-Chinese Interactions: Differences in Contextualization: Conventions and Resulting Miscommunication. In: *Pragmatics*, 3/3, pp. 283-304.

Günthner, S. (2000) Argumentation in German-Chinese Conversations. In: Spencer-Oatey, H. (Eds.) *Culturally Speaking: Managing Relations in Talk across Cultures*. London: Cassell, pp. 217-239.

Hasegawa, J. (2004) *Gakko no Joshiki* [*Common Sense of the School*]. Tokyo: Art Villege.

Hayek, H.-J. (2000) Zeugnisse in den allgemeinbildenden Schulen [School Report Cards in Normal Schools]. In Hayek, H.-J. (Eds.) *Schule und Recht in Niedersachsen - schure.de* [*School and Law in Lower Saxony – schure.de*] [Online] http://www.schure.de/zeugnis.htm [2002, February 2].

Hirahara, H., Terasaki, M. (Eds.) (2002) *Shinban Kyoiku Shojiten* [*New Educational Dictionary*]. Tokyo: Gakuyo Shobo.

Ishida, T. (2002) *Shin-Tshushinbo* [*New School Report Card*]. Tokyo: Toshobunka.

Jürgens, E., Sacher, W. (2000) *Leistungserziehung und Leistungsbeurteilung* [*Education of Achievement and Assessment of Achievement*]. Neuwied: Luchterhand.

Kajita, E. (1999) *Kyoiku Hyoka* [*Educational Evaluation*]. Tokyo: Hoso Daigaku.

Kotthoff, H. (1989) Stilunterschiede in argumentativen Gesprächen oder zum Geselligkeitswert von Dissens [Style Differences in Arguments or Disagreements in Value to Society]. In Selting, M., Hinnenkamp, V. (Eds.) *Stil und Stilisierung* [*Style and Articulation*]. Tübingen: M. Niemeyer.

Kotthoff, H. (2003) Aspekte der Höflichkeit im Vergleich der Kulturen [Aspects of Etiquette in Cultures in Comparison]. In *Muttersprache* [*Mother Tongue*]. 4/2003, pp. 298-299.

Kowalczyk, W., Ottich, K. (2003) *Versetzung gefährdet* [*Promotion Endangers*]. Berlin: Cornelsen.

Liedtke, M. (1991) Ist das Zeugnis das Armutszeugnis in der Schule? [Is the School-Report a Shortcoming of School?]. In Hohenzollern, J. G. P. v., Liedtke, M. (Eds.) *Schülerbeurteilungen und Schulzeugnisse* [*Evaluation of Students and School Report Card*]. Bad Heilbrunn: Klinkhardt, pp. 25-36.

MECSST (Ministry of Education, Culture, Sports, Science and Technology) (2003) *Statistical Abstract 2003 Edition*, Tokyo: Ministry of Education, Culture, Sports, Science and Technology Japan.

MECSST (Ministry of Education, Culture, Sports, Science and Technology) (2001) *Tsuchi: Shogakko-Jido-Shidoyoroku, Chugakko-Seito-Shidoyoroku, Kotogakko-Seito-Shidoyoroku, Chutogakko-Seito-Shidoyoroku narabini Mogakko, Rogakko oyobi Yogogakko no Shogakubu-Jido-Shidoyoroku, Chugakubu-Seito-Shidoyoroku oyobi Kotobu-Seito-Shidoyoroku no Kaizento ni Tsuite* [*Notification for the Improvement of the Cumulative Guidance Records of Primary, Secondary and Special School*]. Unpublished manuscript, Tokyo: Ministry of Education, Culture, Sports, Science and Technology Japan.

Nagayama, H. (2002) *Genbakara Mita Kyoiku Kaikaku* [*Educational Reform analyzed by the Field of the School*]. Tokyo: Chikuma Shobo.

Nakayama, O. (1989) *Bokashi no Shinri* [*Psychology of Gradation*]. Tokyo: Sogensha.

Nakayama, O. (1996) *Amae no Seishin Byori* [*Psychiatry of Amae*]. Tokyo: Yosensha.

Nakayama, O. (2004) *Nihonjin no Kabe* [*Barriers of Japanese People*]. Tokyo: Yosensha.

NIER (National Institute for Educational Policy Research) (2003) *Tsushinbo ni Kansuru Chosa Kenkyu* [*Research on the School Report Card*]. Unpublished manuscript, Tokyo: National Institute for Educational Policy Research.

Rebitzki, M.(2003) *Noten: kein Grund zur Panik* [*Marks: No Reason for Panic*] Berlin: Cornelsen.

Saarland (2000) *Amtsblatt des Saarlandes vom 12. Mai 2000* [*Official Gazette of Saarland on May 12, 2000*]. Saarbrücken: Der Chef der Staatskanzlei.

Schaub, H., Zenke, K.G. (1995) *Wörterbuch zur Pädagogik* [*Dictionary of Pedagogy*]. München: Deutscher Taschenbuch Verlag.

Scheckenhofer, H. (1975) Objektivierte Selektion oder Pädagogische Diagnostik? [Objectified Selection or Educational Diagnosis?]. In *Zeitschrift für Pädagogik*, 21 (6), 929-950.

Statistisches Bundesamt (2001): *Bildung im Zahlenspiegel* [*Education in the Numerical Value*]. Wiesbaden: Statistisches Bundesamt Deutschland.

Tanaka, K. (Eds.) (2002): *Atarashi Kyoiku Hyoka no Riron to Hoho I: Rironhen* [*New Theory and Method of Educational Evaluation I: Theory*]. Tokyo: Nippon Hyojun.

Tanaka, K. (2004) *Gakuryoku to Kyoikuhyoka no Ima wo Yomitoku* [*Read the Actuarity of the Achievements and Educatinal Evaluation*]. Tokyo: Nipponhyojun.

Yamane, T. (2002) *Shidoyouroku no Jissai to Tsushinbo no Kaizen* [*The Reality of the Cumulative Guidance Record and Innovation of School Report Card*]. Tokyo: Showado.

Ziegenspeck, J. (1999) *Handbuch Zensur und Zeugnis in der Schule* [*Handbook of Mark and School Report Card at School*]. Bad Heilbrunn: Klinkhardt.

Enhancing access in theory and practice: A study of graduates of an Israeli large public college in 1995-2003

Nitza Davidovitch
College of Judea and Samaria, Ari'el, Israel *d.nitza@yosh.ac.il*

Dan Soen
College of Judea and Samaria, Ari'el, Israel; Kibbutzim School of Education, Tel-Aviv
soen@macam.ac.il.

This paper carefully follows graduates of the largest of Israel's public colleges, their success in their studies at the College, and in their studies towards graduate degrees in institutions of higher education in Israel. It explores who these graduates are, where they came from, their academic success, and where they headed after attaining an undergraduate degree. The aim is to examine the links between graduates' academic success and the preliminary conditions for their admission, that is the socio-economic background from which they developed and their scholastic achievements prior to admission into the college. The paper cautiously indicates that the College fulfilled its social objective as defined by the Commission for Higher Education's decision to establish a system of colleges alongside the universities. It also points to several patterns typical of graduates of institutions of higher learning in Israel in general, from a broader perspective of academic graduates in the Western world.

Higher education, stratified system, graduates ,academic success,
scholastic achievement, family background

INTRODUCTION

On the Global Revolution in Higher Education and its Repercussions

Until the end of World War II, the higher education system functioned as a hothouse for the cultivation of elite groups. Consequently, it reflected and reproduced the existing social structure (Havighurst, 1989; Morrison, 1998). The surge of growth in higher education at the beginning of the latter half of the twentieth century modified its target audience. In 2001, over one-third (34%) of the 25-34 year old age group in Australia and France had received higher education. In Spain and Sweden, 36 per cent and 37 per cent of this age group, respectively, had received higher education. In Belgium, Finland and Norway, 38 per cent of this group had received higher education; 40 per cent in South Korea, 48 per cent in Ireland and Japan and 51 per cent in Canada (OECD, 2003, Table A24). The average percentage of individuals with a higher education of this age group in all the member countries of the OECD's umbrella organisation was 28 per cent (OECD, 2003).

This explains the discussion on higher education for the masses or the massification of higher education (Trow, 1974). Higher education is no longer the privilege of a minority. It has become a universal right, and strives to become accessible to all. A BA certificate has become the norm in developed countries, similar to the status of a high-school diploma (or matriculation certificate) in

the twentieth century (Allen and Allen, 2003; Scott, 1995; Trow, 1974). The era of higher education as the exclusive benefit of the elite is over. The contemporary debates in developing countries no longer concern whom higher education targets, but the need and the means to increase access to higher education as a consequence of social equality. The premise that is now taking hold is that higher education should be accessible to all able and qualified individuals (Tonks, 1999). Furthermore, by virtue of the dominant principles of human capital economics, individual and social welfare are both increasingly dependent on formal education (Mortenson, 2000; Brennan, 2000).

This dramatic expansion of higher education, yet to be exhausted, generated significant debates on its social implications. There are two schools of sociologists debating this point. On the one hand are the advocates of the diversity approach, representing the functionalist stream in sociology. On the other hand are the advocates of the stratification approach, representing the conflict school of sociology. The first group views the extension of higher education to the masses as a process that contributes to increased social equality. This contribution is reflected in the development of a broad and diverse spectrum of institutions of higher education operating alongside classic research universities, and targeting various and unique student sectors (Dey and Hurtado, 1999; Meek et al., 1996). The second stream views the expansion of higher education in its current format as a mere optical illusion, insufficient to open a genuine window of opportunities to society's periphery. According to this view, an education imparted by research universities is not equal to the education imparted by the various colleges. Moreover, the diverse institutions of higher learning reflect the existing order and function as a speculum of social status. The centre remains the centre, while the periphery remains the periphery (Archer et al., 2003; Dougherty, 1994).

In this manner, for example, a survey conducted in England several years ago (Archer, 2000) found that the majority of respondents believed that only the less prestigious institutions of higher learning were open to the working class. The prestigious research universities are considered the exclusive estate of the middle and upper-middle classes. Working class youngsters, having no alternative, contented themselves with second-class regional colleges. A second survey, conducted slightly less than 15 years ago, indicated that while the upper two social strata in England's stratified class system constitute 39 per cent of all 18 year old, they constitute 70 per cent in England's prestigious universities (Hasley, 1992).

Independent of the debate between these two streams, various sociologists noted that the expansion of higher education generated an excess supply or surplus of graduates. This surplus created what is currently termed *credential inflation* (Collins, 1979; Dore, 1976). Individuals are required to present academic credentials even for occupations in which such credentials are not necessary. Many individuals are prevented from engaging in an occupation they are able to perform without assistance, only because they lack the appropriate certificate (Hurn, 1990, p.59). Credential inflation also contributed to the perpetuation of inequality in education, by encouraging competition over degrees awarded by prestigious institutions, which are more highly valued in the market than degrees from other institutions (Bills, 2004; Van de Qwerfhorst and Anderson, 2004).

In summary, we cannot deny that the policy of higher education for the masses was designed to implement the principle recently defined by Australians as a knowledge nation (Breen, 2002, p.18). Following the transformation, access to higher education has indeed increased. In the entire developed world, a broad spectrum of institutions of higher education has emerged, diverse in their academic emphases and directions of training as well as their growing geographical distribution. At the same time, not all individuals share an equal opportunity to study in prestigious institutions in high demand. Individuals from the sociological centre still have an advantage over individuals in the periphery. The cultural capital (using this term following Collins, as a type of certificate and degree, not necessarily the contents they represent) available to the graduates of the prestigious institutions greatly exceeds that available to others.

The Higher Education Revolution in Israel

Similar to the rest of the world, an enormous increase in the number of students and their weight in the general population occurred in Israel since the establishment of the State in 1948. In 1948, approximately 1600 students attended the two institutions of higher learning – the Hebrew University and the Technion-Israel Institute of Technology. At the end of the first decade of statehood, the number of students reached 9000. In the 1960s, the student population grew at a rapid annual pace of 14 per cent, and reached 35,000 in 1970. This accelerated growth continued as the student population reached 56,000 in 1980 and 76,000 in 1990 (Soen, 2004).

This development was summarised in a proclamation of the Association of Regional Colleges in Israel in the late 1990s, stating that:

> the population of undergraduate students in Israel, based on data of the Commission for Higher Education (CHE), increased **forty-fold** (emphasis – NDandDS) since the establishment of the state, while the population of the country increased **five-fold** (emphasis – NDandDS) during the corresponding period. (Association of Regional Colleges in Israel, 1997)

In the 1990s, in an amendment to the Law of Higher Education, the CHE accredited a long line of colleges to award academic degrees. The decision was accompanied by an explanation (Commission for Planning and Budgeting, 1997), according to which a system of higher education would be thereafter composed of two strata. One stratum would encompass the universities and would be designed to promote engagement in research and promotion of knowledge, and grant advanced degrees. The second stratum would encompass the colleges, which would focus on undergraduate studies and function as an instrument to achieve social justice and equality by virtue of the fact that the gates of higher education would be open to students from the periphery.

Until the 1980s, over 90 per cent of all undergraduate students studied at one of the six universities in Israel (Shavit et al., 2003). This situation changed substantially following the amendment in the Law of Higher Education. While 46,516 undergraduate students attended universities in 1989-90, compared to only 8,286 students who attended colleges, including teaching colleges, in 2002-3 there were 76,581 undergraduate students in universities and 68,115 undergraduate students in colleges (CBS, 2004, p.209). When we add the 11,971 students who studied at an extension of foreign universities (Traubman and Chromachenko, 2005) to these figures, the number of undergraduate students attending colleges surpassed the number of undergraduate students at universities for the first time. In this year, over one half of all undergraduate students in Israel attended colleges.

As noted, following the reforms of the 1990s and the declaration of intent by the CHE, several scholars term the current system of higher education in Israel as dichotomous or binary (Guri-Rosenblit, 1996, 1999). Others prefer to define the Israeli system as a stratified system, where two types of academic institutions differ in their prestige (Shavit et al., 2003b). In any case, all concur with the opinion that universities should, ostensibly, engage primarily in the autonomous functions (Trow, 1970), that is in imparting that is known in the social sciences as high culture (or *hochkultur* in German): the promotion of science through research, and the formation and accreditation of elite groups. Colleges, on their part, should engage in the popular functions (Trow, 1970), which entails exposing new population sectors to the contents of higher culture, and awarding the certificates required to ensure proper employment.

As previously noted, the CHE viewed the stratum of academic colleges as a tool for the achievement of social equality and justice, by virtue of the fact that they opened the gates of higher education to students from the periphery, and provided access to higher education for new population segments for which this opportunity did not exist. The fact that the admission rejection

rate declined from 30-34 per cent in the 1990s, to a mere 19 per cent in 2000, speaks for itself in this context (Kimmerling, 2000). The consistent increase in high school graduates accepted into higher education programs also constitutes a significant index indicating the achievement of this goal. Moreover, data presented in Table 1 underline that the proportion of high school graduates accepted into academic colleges, of all high school graduates, is also steadily increasing.

Table 1. Post-secondary studies within eight years of high school graduation, by institution type (%)

Year of graduation	Continuing Graduates in:					
	University	Open University	Academic colleges	Teaching colleges	Post-secondary programs	Total
1991	21.2	7.5	5.7	7.0	8.0	49.4
1992	21.4	7.5	6.7	6.8	9.1	51.4
1993	20.9	7.3	7.2	7.1	9.7	52.3
1994	20.2	7.6	7.2	6.9	10.9	52.7
1995	20.3	7.3	8.5	7.0	12.3	55.4

Source: CBS 2004, Table 8.32

Notably, the relatively high rate of graduates from towns in the lowest socio-economic clusters[1] who continue studies in colleges also emphasises their significance as a **social equaliser**. Needless to say, there is a positive relationship between the rate of high school graduates who continue their studies, and the socio-economic stratum of their town. While only 31.8 per cent of all 1995 high school graduates in towns in the two bottom clusters (1 and 2) continued their studies within 8 years of graduation, 73.6 per cent of all 1995 high school graduates in towns in the two top clusters (9 and 10) continued their studies within 8 years of graduation.

Notably, 38.1 per cent of cluster 1 and cluster 2 high school graduates who continued their studies attended colleges, while 27.0 per cent attended universities. Of cluster 3 and cluster 4 high school graduates who continued their studies, 28.6 per cent attended colleges compared to 34.0 per cent who attended universities. The situation is substantially different with regards to the upper classes. Of cluster 9 and cluster 10 high school graduates 50.34 per cent continued their studies in universities while merely 27.4 per cent continued in colleges (Table 2). In other words, the relative significance of academic colleges as institutions for academic studies is much greater for individuals in lower, rather than higher socio-economic clusters.

Who are the students and what do they study? On the link between continuation to higher education and various variables

In any case, there is broad agreement that education in general, and higher education in particular, is defined as a major resource in the acquisition of social-economic status in modern, industrial and post-industrial societies. In this context, studies and surveys point to an increasing gap between the income of university and college graduates, on the one hand, and high school graduates, on the other (Fenwick, 2005). In 1979, income levels of university and college graduates in the US were 48 per cent higher than income levels of high school graduates. In 2000, this gap rose to 100 per cent. Studies conducted in Israel illustrate a similar trend. The income levels of employees with 16 years of education or more increased. It exceeded the average salary by 153 per cent in 1980-1982 and rose to 171 per cent of the average salary in 1995-1997. On the other hand, the income levels of employees with 8 years of education or less dropped from 74 per cent and 59 per cent of the average salary in 1980-1982 and 1995-1997, respectively (Mualem and Frisch, 1999). Between 1978 and 1983, the income levels of employees with 16 years of education

---

[1] The CBS developed a socio-economic development index based on many indicators and resulting in 10 clusters. The lowest cluster is 1, the highest – 10.

or more exceeded income levels of employees with 10-12 years of education by 38-49 per cent. In 1992-1997, this gap increased to 72-80 per cent, underlining the significance increase in the return on educational investments. Moreover, accreditation (or certification) by an institution of higher learning, rather than the studies themselves, accounted for the majority of this gap in income. The 2000 US Census data indicated that the 20 highest-paying occupations required an academic degree (Fenwick, 2005).

Table 2. 1995 high school graduates who continued studies within 8 years of graduation, by socio-economic cluster of place of residence and higher education institution

Socio-economic cluster of town	Percentage continued studies	University	Open University	Academic college	Teaching college	Post-secondary studies
1-2	31.8	8.6	1.8	1.7	10.4	9.3
3-4	47.6	16.2	4.3	4.7	8.9	13.5
5-6	55.8	18.5	6.8	8.8	5.7	16.0
7-8	65.4	25.5	11.3	11.8	5.5	11.3
9-10	73.0	36.7	11.1	17.1	2.9	5.2

Source: CBS 2004, Table 8.32

Extensive sociological literature confirms that the decision to continue studies in an institution of higher learning is a function of a series of diverse factors, the most important of which is the individual's scholastic achievements in high school (Baker and Velez, 1996; Cairns et al., 1989; Finn and Rock, 1997; McDonough, 2004; McNeal, 1995). Other factors are career and education aspirations, cognitive abilities (Deci and Ryan, 1985, 2000), gender (Green, 2003; Hess-Biber, 1985; Jacobs, 1995, 1999; Percell et al., 1992l Sewell et al., 1980, Street et al., 1996), and the individual's family SES (parents' education, occupations and income levels) (Andres and Grayson, 2003; Astone et al., 1999; Hansen, 1997; Hossler et al., 1999; McDonough, 1997; Tinklin, 2000; Zaff et al., 2001).

The latter variable is of great significance and scholars concur that the family transmits to its offspring various types of capital, which either encourage or undermine continuation to higher education. Thus, a family may confer upon its offspring financial capital to assist them in their studies and occasionally allow the selection of expensive study programs (Steelman and Powell, 1991), social capital, which implies social ties, political power and the appropriate knowledge to pave the way to the desired type of education (Coleman, 1988); and cultural capital, which implies attitudes, tastes, preferences, orientations, patterns of speech and expression also have a not insignificant effect on higher education choices (Bernstein, 1975; Blau, 1995; Bourdieu and Passeron, 1977; Kohn, 1969). A large number of studies point to a link between the various types of family capital and the academic achievements of the offspring (Aschaffenburg and Ineke, 1997; Dar and Resh, 1996).

As previously noted, extensive literature exists on the effect of gender on the educational decision making process. It is a statistical fact that the proportion of women who continue their studies in institutions of higher education has risen significantly in recent years. In many countries, women constitute a majority of the undergraduate and graduate student body. This is also the situation in Israel. According to CBS data, 56.4 per cent of all university students in 2003/2004 were women. Women constitute 55.9 per cent of all undergraduate students, 57.3 per cent of all graduate students and 52.8 per cent of all doctoral students (CBS, 2005).

At the same time, we should take into consideration a long series of findings of studies conducted on the link between gender and continued studies. For example, studies indicate that the differences between men and women in the process to attain social status may account for the different academic choices made by each gender (Doron, 1983; Jacobs, 1995; Lysine, 1981; Spates et al., 1977; Street et al., 1996). This is also true for the differential significance attributed by each gender to the centrality of family and career (Archer, 1985; Gilligan, 1982; Hess-Biber,

1985). This is to say nothing of the fact that job opportunities are greatly affected by the gender of the applicant (Charles, 1992). Gender-based variance may ultimately find expression in different selections of fields of study (Jacobs, 1999) or institutions (Davies and Guppy, 1997; Percell et al., 1992).

Needless to say, this fact is very prominent in the distribution of students in Israel, as shown in Table 3. For example, women comprised a significant majority in education and teacher training, arts, and applied arts programs in 2003-2004. This is also true for language programs, literature and regional studies in the humanities. In schools of health sciences, women are prominent in medicine and other para-medical professions. In the natural sciences, women are prominent in para-medical occupations and biology. This is also true for the social sciences. On the other hand, men feature prominently in mathematics, statistics and computer sciences, and especially in engineering and architecture.

Table 3. University students by program 2003-2004

Program	Men	Women
Humanities – total	31.3	68.7
General humanities	43.7	56.3
Languages, literature and regional studies	24.0	76.0
Education and teacher training	16.4	83.6
Arts, crafts and applied arts	28.7	71.3
Social Sciences – total	38.3	61.7
Social sciences	34.1	65.9
Business administration and management studies	52.0	48.0
Law	45.9	54.1
Medicine and para-medical occupations – total	29.5	70.5
Medicine	47.2	52.8
Para-medical occupations	20.2	79.8
Mathematics and natural sciences – total	54.7	45.3
Mathematics, statistics and computer science	67.0	33.0
Physical sciences	61.8	38.2
Biological sciences	36.6	63.4
Agriculture	41.5	58.5
Engineering and architecture	72.7	27.3

Based on CBS 2005, Table 3

FIELD STUDY

The study population

In view of the above, the authors decided to examine the profiles of graduates of Israel's largest academic college, in an attempt to explore the connections between their academic success and their decision to continue to graduate studies on the one hand, and their socio-economic background, and their scholastic achievements before entering the College, on the other hand.

The College was established in 1982. Initially functioning as a regional college, the institution opened academic study tracks in 1990/91 as an extension of a university. Eventually, the College established its own autonomous departments and was accredited by the CHE to award undergraduate degrees. Today, the College comprises over 20 departments, and it awards full-fledged academic degrees in engineering, architecture, social sciences and the humanities, natural sciences and health sciences. For the academic year of 2005/6, the College received a permit to initiate graduate studies in social work. Of approximately 6000 students who attended the College in the academic year of 2004-5, a small number represent the last of the students in the university extension, which is scheduled to close in 2005-6.

Between 1993 and 2004, 3,016 students were awarded undergraduate degrees by the College (Davidovitch and Soen, 2004). The present study focuses on the graduates of this period, including students who studied at the College's independent departments, as well as the students who studied under the auspices of the university and completed their studies at the College campus. The study population excludes students who attended programs defined by the university as 'specialisation programs.' This latter group attended classes at the College during their first two years of studies, and completed their final year at the university campus. Thus, the present study encompasses 2641 graduates. Their numbers and distribution over the period reflects the growth of the College. For example, over half of the students awarded degrees during the entire period, graduated in 2002-3. The number of graduates in the College programs, in contrast to the university-sponsored programs, also grew steadily over the period, reflecting the College's trend toward independence and its gradual detachment from the university-sponsored programs. Almost one half of the graduates of this period (48.6%) studied in the Faculty of Engineering, 13.7 per cent studied in the Faculties of Science, Social Science and Humanities; 32.6 per cent studied in university-sponsored programs. Notably, the predominance of students in the social sciences and humanities in the entire student body of the College increased steeply in recent years. In 2004-5, the Faculty of Social Studies and Humanities was the largest faculty in the College. A distribution of graduates by faculty is presented below in Table 4.

Table 4. Distribution of ACJS Graduates by Faculty, 1995-2003

Year	Architecture		Engineering		Social Sciences and Humanities		Health Sciences		Bar Ilan Programs		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
1995	0	0	0	0	0	0	0	0	16	100	16	100
1996	0	0	21	35.6	0	0	0	0	38	64.4	59	100
1997	0	0	44	32.8	21	15.7	0	0	69	51.5	134	100
1998	0	0	111	37.2	37	12.4	0	0	150	50.3	298	100
1999	0	0	128	50.0	16	6.3	0	0	112	43.8	256	100
2000	0	0	101	49.5	6	2.9	0	0	97	47.5	204	100
2001	5	1.4	151	43.5	27	7.8	0	0	164	47.3	347	100
2002	38	6.1	363	58.0	86	13.7	0	0	139	22.2	626	100
2003	33	4.7	365	52.1	170	24.3	11	1.6	122	17.4	701	100
Total	76	2.9	1284	48.6	363	13.7	11	0.4	907	34.3	2641	100

Research Questions

In view of the aforesaid background data on the system of higher education in Israel, the authors posed the following series of six research questions.

1. Is there a connection between College graduates' personal and family background variables (gender and socio-economic strata) and other academic variables (faculty, study track, admission score, and year degree awarded)?

2. Is there a connection between College graduates' personal and family background variables (gender and socio-economic strata) and their grade average (honor status) at graduation?

3. Is there a connection between College graduates' personal and family background variables (gender and socio-economic strata), and their progression to graduate studies?

4. Is there a connection between College graduates' initial admission scores and their personal and family background variables (gender and socio-economic strata)?

5. Is there a connection between College initial admission scores and their grade average upon graduation?

6. Is there a connection between College initial admission scores and their progression to graduate studies?

Research Tools and Methodology

Analysis of findings was based on data collected from the following three sources.

1. **The College Michlol Database**: The College's computer database provides complete information on the two primary facets in this study:

   a. personal profile (gender, place of residence), and

   b. academic profile (faculty, track, year degree awarded, academic achievements upon graduation).

2. **Survey**: A survey, including a self-addressed envelope, was sent by mail to College graduates for completion. Questionnaires were sent as part of a survey conducted in preparation of the establishment of an Alumni Association. The questionnaire comprised mainly closed questions but also included several open-ended questions. In total, 530 graduates responded to the survey by mail.

3. **Telephone survey**: In order to reach the maximum number of graduates, we conducted telephone surveys with graduates who failed to return a questionnaire by mail, or with their family members.

Information on 2641 graduates was collected.

STATISTICAL ANALYSIS

Various statistical analyses were performed to explore the internal links between various parameters as directed by the research question. The two main reference sets were graduates' personal-family data and their academic achievements.

Personal-family background variables (gender and socio-economic strata) were measured as follows:

a. study track (university-sponsored program or College program),

b. faculty,

c. year degree awarded, and

d. admission score (psychometric score, matriculation grade average, post-secondary education diplomas, conditional admission status). Students whose admission stores did not meet the minimum requirements, were granted conditional status and permitted to study General Studies. These students were admitted into their second year of studies on the basis of their first year average, after achieving a minimum grade average.

Graduates' achievements were measured by:

a. grade average upon graduation,

b. honors awarded (*summa cum laude*, *cum laude*, other), and

c. graduate studies.

The present study used chi-square tests to examine the connection between the variables, t-tests to examine differences in independent samples, and uni-directional analysis of variance. Where significant differences were found, we performed Bonferoni tests to identify the source of the differences.

FINDINGS

Personal-Family Profile and Academic Profile

Our first research question concerned the link between graduates' personal and family profile (gender, SES) and their academic profile (faculty, track, admission scores and year degree awarded).

Gender

We found a significant statistical relationship between year of graduation and gender ($\chi^2(8)=29.21$, p<0.001). In the majority of years, similar proportions of men and women graduated from ACJS. However, in the years 1995, 2000 and 2002, the respective graduating classes contained more men than women. This statistical relationship has a simple explanation for one of the three irregular years (2002). In this graduating class, 363 of the 626 graduates studied in the Faculty of Science, where, consistent with national figures, the majority of students are generally male. In the two remaining irregular years, graduating classes had a preponderance of students from the Faculty of Social Studies, generally comprised of a majority of women. The fact that men constituted a majority in the graduating classes in those two years is, apparently, **incidental**, because today women constitute a majority in this Faculty.

We also found a significant relationship between gender and admission scores ($\chi^2(2)=473.16$, p<0.001). Table 5 shows that the proportion of students, who were accepted after having met formal admission criteria, was higher among men than women. Nonetheless, the fact is that only a minority of the students, either male or female, were accepted on the basis of formal admission criteria. Of all female graduates, 56 per cent were admitted to university-sponsored programs on the basis of informal admission criteria, 24 per cent were admitted into College programs on the basis of informal admission criteria, while 20 per cent were accepted on the basis of formal admission criteria. Of all the men graduates, 16.9 per cent were admitted to university-sponsored programs on the basis of informal admission criteria, 57.8 per cent had been admitted into College programs on the basis of informal admission criteria, while 25.3 per cent were accepted on the basis of formal admission criteria.

Table 5. Gender and admission scores

Admission based on: Gender	Met formal admission standards		Admitted on the basis of informal admission criteria (university-sponsored programs)		Admitted on the basis of informal admission criteria (ACJS programs)		Total all students over 1995-2004	
	N	%	N	%	N	%	N	%
Female	235	20.0	659	56.0	282	24.0	1176	100
Male	370	25.3	248	16.9	847	57.8	1465	100
Total	605	22.9	907	34.3	1129	42.7	2641	100

The explanation for the fact that more male than female students were accepted to the College on the basis of formal criteria, stems from the fact that the number of male students in university-sponsored programs was much lower than the number of female students in these programs (see Table 5). The proportion of students admitted to university-sponsored programs on the basis of informal criteria was decisive. Since the proportion of female students in these programs was much higher than the proportion of male students, this affected the final balance of proportions of students who were admitted by formal or informal criteria.

Admission Requirements and Other Variables

The College graduates were accepted on the basis of various criteria. As noted above, the colleges were designed, in advance, to open their gates to groups for whom universities were closed. Analysis of the data indicates – and this fact has already been emphasised above in the discussion

on gender – that only a minority of all graduates were accepted by the College on the basis of formal criteria similar to those applied by the universities. Table 6 presents the situation in detail.

Table 6. Distribution of graduates by admission criteria

Criterion	Criteria	N	%
Formal College admission criteria			
	Admission based on Matriculation grades	434	16.4
	Admission based on psychometric scores	126	4.8
	Admission based on Matriculation grades and psychometric scores	45	1.7
Informal College criteria (Enhanced access policy, admission to ACJS programs)			
	Admission based on grade average (technician/practical engineering diplomas awarded by post-secondary institutions)	907	34.3
	Admission based on relaxed Matriculation grades and psychometric scores	941	35.6
	Affirmative action	170	6.4
	Admission based on diploma certificates	11	0.4
Informal university criteria (Enhanced access policy, admission to university-sponsored programs)			
	Admission to General Studies track (conditional status)	7	0.3
Total		2641	100

According to Table 6, only 22.9 per cent of all graduates were admitted on the basis of formal criteria (psychometric scores and Matriculation grades), 42.7 per cent were admitted to College programs on the basis of informal criteria (that is, grade average or post-secondary practical engineering diplomas), while 34.3 per cent were admitted to the university-sponsored General Studies track and granted conditional status.

Matriculation grade average of all students who were admitted on the basis of this criterion was 84.2 with a SD of 10.6. The average psychometric score of students who were admitted on the basis of this criterion type was 541, with a SD of 69.

Based on these data, we were able to examine the relationships between admission criteria and other variables, in this study. We explored the links between admission criteria and study track; admission criteria and faculty; and admission criteria and year of graduation. These examinations indicate statistical significance in all the above relationships, as indicated by Table 7, Table 8, and Table 9.

Table 7. Correlation between study track and admission criteria

Study track	Formal admission		Informal admission: university-sponsored program		Informal admission: College programs		Total	
	N	%	N	%	N	%	N	%
University	0	0	907	100	0	0	907	100
College	605	34.9	0	0	1129	65.4	1734	100
Total	605	22.9	907	100	1129	42.7	2641	100

The most meaningful relationship emerging from Table 6 concerns the large difference between the admission criteria of graduates who studied in university-sponsored programs, and graduates who studied in the College's autonomous programs. **All graduates who studied in the university extension programs were accepted to these programs on the basis of informal criteria. This is not true for graduates of the College programs**. We found a significant statistical relationship between study track and admission criteria ($\chi^2(2)=2641$, p<0.001). All graduates of the university-based programs were accepted, as mentioned previously, on the basis of informal criteria. Of all graduates of the College programs, 34.9 per cent were accepted on the basis of formal criteria, while 65.1 per cent were accepted on the basis of informal criteria. In addition to the relationship between admission criteria and study track, we also found a statistically significant relationship between admission criteria and faculty.

We found a significant relationship between faculty and admission criteria ($\chi^2(10=2910.53$, p<0.001). Table 8 indicates each faculty was characterised by a different proportion of students

who were admitted on the basis of informal criteria. This is not true for the university-sponsored programs. In these programs, students were accepted into a General Studies track in one of two faculties (Faculty of Science or Faculty of Social Sciences), on the basis of informal criteria.

Table 8. Correlation between faculty and admission criteria

Faculty	Formal admission		Informal admission: university-sponsored program		Informal admission: College programs		Total	
	N	%	N	%	N	%	N	%
Architecture	65	85.5	0	0	11	14.5	76	100
Engineering	343	26.7	0	0	941	73.3	1284	100
Social Sciences & Humanities	193	53.2	0	0	170	46.8	363	100
Health Sciences	4	36.4	0	0	7	63.6	11	100
University– Natural Sciences	0	0	46	100	0	0	46	100
University– Social Sciences	0	0	861	100	0	0	861	100
Total	605	22.9	907	34.3	1129	42.7	2641	100

The College's department of architecture was unique: 85.5 per cent of all the graduates of this department were accepted on the basis of formal criteria; while a mere 14.5 per cent of the graduates were accepted on the basis of informal criteria (including achievements in post-secondary education). Of all graduates of the Faculty of Social Sciences and Humanities, 53.2 per cent were admitted on the basis of formal criteria, while 46.8 per cent were admitted on the basis of informal criteria (including diploma studies or affirmative action policies). In Health Sciences, 36.4 per cent and 63.6 per cent of all graduates were admitted on the basis of formal and informal criteria, respectively. In the Faculty of Engineering, these figures were 26.7 per cent and 73.3 per cent for formal and informal criteria, respectively.

As previously noted, the data indicate a relationship between graduates admission criteria and the year of graduation. We examined these data for graduates of the College only, because graduates of the university-sponsored programs were admitted on the basis of informal criteria, as shown in Table 9. We found a significant relationship between admission criterion and graduation year ($\chi^2(7)=97.80$, $p<0.001$), with an increase in admissions based on formal criteria over time.

Table 9. Correlation between admission criterion and graduation year of College-program graduates

Graduation Year	Formal admission		Informal admission		Total	
	N	%	N	%	N	%
1996	2	3.4	19	32.2	59	100
1997	11	8.2	54	40.3	134	100
1998	16	5.4	132	44.3	298	100
1999	44	17.2	100	39.1	256	100
2000	20	9.8	87	42.6	204	100
2001	63	18.2	120	34.6	347	100
2002	185	29.6	302	48.2	626	100
2003	264	37.7	315	44.9	701	100
Total	605	22.9	1129	42.7	2641	100

Socio-Economic Profile

In this study, graduates' socio-economic background was defined on the basis of geographical clustering of towns (between 1-10) by the Central Bureau of Statistics. According to this method, as already mentioned above, all towns in Israel are divided into socio-economic clusters. Cluster 1 reflects the lowest socio-economic stratum, and 10 reflect the highest socio-economic stratum. The most interesting result emerging from the analysis is the statistically significant relationship between socio-economic profile and admission criteria.

Not less interesting is the finding that a mere 8.6 per cent of all graduates belong to the lowest four clusters (no graduates representing Cluster 1). Average socio-economic profile is M=6.49, with a SD of 1.43. We managed to classify 2080 graduates of all 2641 graduates in our original sample into clusters, as shown in Table 10.

Table 10. Distribution of graduates by residential cluster [upon admission]

Cluster	Frequency	%
1	-	-
2	4	0.2
3	60	2.9
4	114	5.5
5	461	22.2
6	176	8.5
7	644	31.0
8	597	28.7
9	24	1.2
10	-	-
Total	2080	100

A total of 60.9 per cent of the graduates were classified as belonging to relatively high SES clusters (Clusters 7,8 and 9), while a mere 8.6 per cent belonged to relatively low SES clusters (Clusters 2,3 and 4). No students were classified in the lowest cluster, and very few students belonged to second to lowest cluster. No students were classified in the highest SES cluster, and the second to highest cluster (9) had a mere nominal representation among graduates (1.2%). We can therefore conclude that the two highest and two lowest clusters are not represented among the graduates. Approximately 60 per cent of the graduates came from middle-class neighbourhoods (strata 7 and 8).

In examining the differences in SES clusters by study tracks, we found no significant differences (t(2078)=1.92, p>0.05). Table 11 shows that the average SES profile for students who attended university-sponsored programs was similar to the average SES profile of College-based programs (M=6.41, SD=1.39, and M=6.53, SD=1.45; respectively). We found no differences in SES groups by year of graduation (F(8,2071)=0.70, p>0.05).

Table 11. Distribution of SES cluster by admission criteria

Cluster	Formal admission		Informal admission: university-sponsored program		Informal admission: College programs		Total	
	N	%	N	%	N	%	N	%
1-5	130	20.7	229	36.5	268	42.7	627	100
6-7	167	20.5	273	33.5	376	46.1	816	100
8-9	177	28.5	190	30.6	253	40.8	620	100
Total	474	23.0	692	33.5	897	43.5	2063	100

However, significant differences in SES distribution were found by faculty (F(5,2074)=4.20, p<0.01). The SES profile of students of architecture (M=7.19) was higher than graduates of university-sponsored social studies programs in the social studies (M=6.42), ACJS students of social sciences and humanities (M=6.41) and engineering students (M=6.53). In other words, the SES profile of graduates of architecture was the highest of all graduates. A significant relationship was found between SES cluster and admission criteria ($\chi^2(4)=17.57$, p<0.01).

A similar proportion of students from SES clusters 1-5 and 6-7 were admitted on the basis of formal admission criteria (20.7% and 24%, respectively). However, a higher proportion of students from SES clusters 8-9 were admitted on the basis of formal criteria (28.5%).

Of the graduates from clusters 1-5, 32.7 per cent were admitted on the basis of formal admission criteria, while 30.8 per cent of the graduates from clusters 6-7 and 41.2 per cent of the graduates from clusters 8-9 were admitted on the basis of formal criteria.

Correlation between Personal-Family Profile and Academic Achievements upon Graduation

Our second research question concerned the relationship between graduates' personal-family profile (gender and SES) and their average grades and honor status at graduation.

Two interesting findings emerged in this context. One, we found a significant relationship between gender and grade average at graduation, **with female students showing a clear and significant advantage over male students.** Two, we found no significant statistical relationship between graduates' SES cluster and their grades at graduation. This point is especially interesting in view of the fact that students' SES had an explicit effect on the admission policy and criteria applied. As we explained, students from low SES clusters had a lower initial starting point, compared to students from higher SES clusters.

Table 12 shows the significant relationship between gender and graduation honor status ($\chi^2(2)=32.33$, $p<0.001$). We found that 17.9 per cent of all female graduates graduated *cum laude* or *summa cum laude* (14% and 3.9% respectively), compared to 12.9 per cent of all male graduates (10.2% and 2.7% respectively).

Table 12. Distribution of graduates by honor status at graduation

Gender	Graduated without honors		*Cum laude*		*Summa cum laude*		Total	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Female	966	82.1	165	14	45	3.9	1176	100
Male	1277	87.2	149	10.2	39	2.7	1465	100
Total	2243	84.9	314	11.9	84	3.2	2641	100

Grade averages also reflected significant differences ($t(1669)=3.28$, $p<0.01$), although these differences were not large. Female graduates had higher final grades (M=84.68, SD=5.14) than male graduates (M=83.80, SD=5.00).

We wished to explore the link between gender and progression to graduate studies, as Table 13 presents. We assumed that since there were a larger number of honor students among the female graduates, who also had a higher final grade average, more female than male graduates would continue to graduate studies. Our data, however, did not confirm this assumption. We found no significant relationship between gender and continuation to graduate studies ($\chi^2(1)=0.34$, $p<0.05$) and the explanation for this finding remains unanswered. The question is interesting, especially since women constitute the majority of graduate students in national-level data.

Table 13. Distribution of gender and progression to graduate studies

Graduate Studies	NO		YES		Total	
	N	**%**	**N**	**%**	**N**	**%**
Female	1062	90.3	114	9.7	1176	100
Male	1313	89.6	152	10.4	1465	100
Total	2375	89.9	266	10.1	2641	100

Links between Admission Criteria and Graduates' Achievements

Graduates' achievements upon graduation were assessed on the basis of several criteria:

1. **Graduation honors**: Of all graduates, 84 (3.2%) graduated *summa cum laude*, 314 (11.9%) graduated *cum laude* and 2,243 (84.9%) graduated without honors. Final graduation grades were available for 1,671 graduates. Average final grade was 84.1 (SD=10.6).

2. **Progression to graduate studies**: Slightly over 10 per cent of the graduates (266) noted that they continued to graduate studies, while 89.9 per cent (2,375) did not note similar studies.

Final graduation grade

A significant relationship was found between study track and graduation honor status ($\chi^2(2)=32.33$, p<0.001). Among graduates of the university-sponsored programs, 79.6 per cent graduated without honors, 16.6 per cent graduated *cum laude* and 3.7 per cent graduated *summa cum laude*. In other words, over 20 per cent of all university extension graduates graduate with some type of honor. Among graduates of College programs, 87.7 per cent graduated without honors, 9.4 per cent graduated *cum laude*, and 2.9 per cent graduated *summa cum laude*. Table 14 presents the findings.

Table 14. Correlation between graduation honor status and study track

Track	Graduated without honors		Graduated *sum laude*		Graduated *summa cum laude*		Total	
	N	%	N	%	N	%	N	%
University-sponsored	722	79.6	151	16.6	34	3.7	907	100
College	1521	87.7	163	9.4	50	2.9	1734	100
Total	2243	84.9	314	11.9	84	3.2	2641	100

No less interesting is the relationship between students' graduation honor status and the criteria on the basis of which they were admitted that is comparing graduates who were accepted on the basis of formal criteria. Ostensibly, we should expect higher achievements from students who were accepted on the basis of **formal** criteria. The data in Table 15, however, indicate a more complex picture.

Table 15. Graduation honor status and admission criterion

Admission Criterion	Graduated without honors		Graduated *sum laude*		Graduated *summa cum laude*		Total	
	N	%	N	%	N	%	%	N
Formal	524	86.6	65	10.7	16	2.6	605	100
Informal: university-sponsored programs	722	79.6	151	16.6	34	3.7	907	100
Informal: College programs	997	88.3	98	8.7	34	3.0	1129	100
Total	2243	84.9	314	11.9	84	3.2	2641	100

A significant relationship was found between admission scores and graduation honor status ($\chi^2(4)=34.04$, p<0.001). Among the graduates who were accepted on the basis of formal criteria, 10.7 per cent graduated *cum laude* and 2.6 per cent graduated *summa cum laude*. Among graduates who were accepted to university-sponsored programs on the basis of informal criteria, 16.6 per cent graduated *cum laude* and 3.7 per cent graduated *summa cum laude*. Among graduates who were accepted to College programs on the basis of informal criteria, 8.7 per cent graduated *cum laude* and 3.0 per cent graduated *summa cum laude*.

No differences were found (F(1,1669)=0.24, p>0.05) between graduates accepted on the basis of formal criteria and graduates who were accepted to College programs on the basis of informal criteria, M=84.0, SD=5.0; and M=84.1, SD=5.1, respectively). As noted, this analysis was performed only on graduates for whom such data were available.

In sum, graduation grades reflect no difference between these two groups of graduates. Honor status differed among students in the College programs. As anticipated, students who were accepted on the basis of formal criteria showed an advantage. On the other hand, it emerged that the proportion of students with excellent achievements was especially high among graduates of the university-sponsored programs who were accepted on the basis of informal criteria.

Progression to Graduate Studies

At this point, we sought to explore the nature of the relationship between graduates' initial admission criteria and their progression to graduate studies. We assumed that the lower students' admission scores would be, the lower the probability of their continuing to graduate programs. We first examined the relationship between study track and progression to graduate programs. Data presented in Table 16 confirm our assumption. The proportion of graduates who continued to graduate programs was lower among graduates of the university-sponsored programs, compared to graduates of the College's independent programs.

Table 16. Correlation between study track and graduate studies

Study track	Graduate studies not noted		Graduate studies noted		Total	
	N	%	N	%	N	%
University-sponsored programs	832	91.7	75	8.3	907	100
College-based programs	1543	89.0	191	11.0	1734	100
Total	2375	89.9	266	10.1	2641	100

Thus, a significant relationship was found between graduates' study track and graduate studies ($\chi^2(1)=4.96$, p<0.05). A total of 8.3 per cent of the graduates of university-sponsored programs, and 11.0 per cent of the graduates of the College programs noted that they had continued to graduate studies. Readers should be informed of a fact that bears dramatically upon this issue: approximately one half of the College-based program graduates graduated from the Faculty of Engineering. The proportion of engineering graduates continuing to graduate degrees is very low, based on national-level data (Central Bureau of Statistics, 2005, Table 3). Taking this into consideration, there is a high proportion of graduates of College-based programs who continued to graduate studies.

We then examined the relationship between admission criteria and progression to graduate studies, as shown in Table 17. In contrast to the significant statistical relationship found between study track and graduate studies, no significant relationship was found between admission criteria and progression to graduate studies ($\chi^2(2)=5.01$, p<0.05).

Table 17. Correlation between admission criterion and graduate studies

Admission criterion	Graduate studies not noted		Graduate studies noted		Total	
	N	%	N	N	%	N
Formal admission	537	88.8	68	11.2	605	100
Informal admission: Bar Ilan	832	91.7	75	8.3	907	100
Informal admission : ACJS	1006	89.1	123	10.9	1129	100
Total	2375	89.9	266	10.1	2641	100

SUMMARY

The present study is the first attempt to explore systematically the profiles of College graduates in Israel. We made an attempt to uncover links between graduates' personal, family and scholastic profiles and their graduation achievements, and studies toward graduate's degrees.

Orderly and detailed studies following graduates of various institutions of higher learning have been conducted for many years in western countries. Rich data exists for Canada, United States, United Kingdom and Australia. International organisations including UNESCO and OECD publish detailed data from graduate studies. Furthermore, we now have convenient access to graduate studies conducted by numerous universities in many countries. Extensive information is also available through web-based search engines.

In Israel, however, available data in this area are lacking. We found no published national study on this issue. Although several institutions have conducted internal studies (i.e. Ben Gurion University; Beth Berl Teachers College), access to these studies is difficult and almost impossible.

Ultimately, a series of conclusions emerged from the above study, based on a survey of graduates, which confirmed the findings from other countries, yet also indicated that, fortunately at this stage at least, reality fulfils the intentions of the CHE when making the decision to establish regional colleges in Israel.

The main findings of the study relate to a) the link between graduates' SES background and their academic studies; b) the link between gender and academic studies; and c) the link between admission criteria, achievements and progression to graduate studies.

As previously noted, the study found that the SES profile of College graduates is not high. Members of the two highest and two lowest clusters are absent. Approximately 60 per cent of the graduates come from clusters 7 and 8, that is, the middle class. Approximately 30 per cent come from the lower middle class, and an additional 8.5 per cent come from lower class clusters 3-4. From this perspective, we can say that the proportion of the population from the periphery – using the sociological meaning of this term – is not insignificant among the graduates. There is no doubt that this confirms the colleges' contribution to their social objectives.

In the connection between SES profiles and academic achievements, the study also pointed to two interesting points. First, there is a significant statistical connection between graduates' SES profile and their academic admission criteria. This implies that the SES profile of graduates who were accepted on the basis of formal criteria (M=6.63) is higher than graduates who were accepted on the basis of informal criteria (M=6.41). Moreover, this connection is reflected differently in the different faculties. The SES profile of graduates of architecture (M=7.19) was found to be significantly higher than SES profiles of all other graduates. Thus, we can say that graduates of this faculty have the largest social, economic and cultural capital of all graduates. Second, **no significant statistical relationship was found between graduates' SES profiles and their grades.**

The second question explored by this study concerned gender. The authors found several notable findings. The first is the fact that, in contrast to the known advantage women enjoy in education, the profiles of female students upon admission were inferior to those of male students. Only 20 per cent of all female graduates were admitted to the College on the basis of formal admission criteria, compared to 35.3 per cent of the male graduates. However, with regards to achievements at the College, women show clear superiority. Both the average final grade and the proportion of honor graduates are higher among female graduates compared to male graduates. Compared to 12.9 per cent of the male graduates who graduated with honors, 17.9 per cent of all female graduates graduated with honors. Female graduates' final grade average was 84.7 per cent compared to an average of 83.8 per cent for male graduates. Nonetheless, no gender-based difference was found in the progression to graduate studies.

The third question addressed by this study concerned the connection between admission criteria and academic achievements. The most important finding emerging from this study is **the lack of any connection** between admission criteria and academic achievements. Survey findings indicated an amazing starting point for students at the College. A mere 23 per cent were accepted on the basis of formal criteria, that is slightly less than one quarter of all graduates. The majority of College graduates were accepted on the basis of informal criteria of various kinds. Nonetheless, the findings of this study clearly indicate the steady decline over time in the proportion of students admitted on the basis of informal criteria. Among the class of 1996, this group comprised 90 per cent of the graduating class, as against a mere 54 per cent of the graduating class of 2003.

Despite the College's commitment to social aims, the more it becomes established and the demand for admission increases, the College poses stricter admission criteria. The average final grade of graduates who were accepted on the basis of formal criteria is 84.0 – while the average final grade of graduates who were accepted on the basis of informal criteria is 84.1. Similarly, no statistically significant connection was found between admission criteria and progression to graduate studies.

In sum, we can point to the following main conclusions of this study.

1. A large proportion of the graduates were admitted to the College, although their admission scores were such that would probably not have allowed admission into other academic institutions.

2. These inferior admission profiles, however, did not impede students' progress or achievements at the College, and had no adverse effect on their ability to graduate, or on their final graduation marks.

Thus, the philosophy of the CHE was found to be justified. The College opened a second chance to groups who otherwise would be barred from entry into higher education. We can assume that other public colleges play and will continue to play a similar role. We believe that these findings are the first step towards a discussion on an additional series of interesting questions relating to the profiles of college graduates.

REFERENCES

Hebrew Sources

Ayalon, H. (2000). Differences between men and women in selection of university study programs. *Sociologia Yisraelit, 2*(2), 523-544.

Bulotin-Chachashvili, S., Shavit, Y., and Ayalon, H. (2002). The expansion of higher education and its implications on stratification in Israel: 1980-1996. *Sociologia Yisraelit, 4*(2), 317-345.

Central Bureau of Statistics (2004). *Students at Universities and Other Institutions for Higher Education, 2003*, Press Release 209/2004.

Central Bureau of Statistics (2005). *Students at Universities and Other Institutions for Higher Education*. Jerusalem.

Commission for Planning and Budgeting (1997). Higher education in Israel toward the 3rd Millenium. *Information Bulletin (YEDI'ON),* 9, 5-6. Jerusalem: CHE.

Doron, N. (1983). *On the Path to Success*. Tel Aviv: Yahdav Publishing.

Havighurst, R.V. (1989).Education, social mobility and social change in four societies. In R. Shapira and R. Peleg (eds.): *The Sociology of Education: A Reader,* (pp. 187-203). University Library, Am Oved: Tel Aviv.

Hershkovitz, S. (1997). *The Higher Education System in Israel – Trends and Developments*. Jerusalem: The Council for Higher Education.

Hurovitz, T. and Wolensky, A. (1997). From a monolithic to a pluralistic system – Processes of change in the higher education system in Israel (1948-1996). In A. Peled (ed.). *Jubilee of the Israeli Education System,* (pp. 911-937). Jerusalem: Ministry of Education, Culture and Sport.

Kimmerling, B. (2000). Foundation Law – The right to learn. *Ha'aretz,* May 19.

Planning and Budgeting Committee (1997). Higher education in Israel in anticipation of the third millennium. *Yedion, 9,* 5-6. Jerusalem: The Council for Higher Education, Jerusalem.

Shay, S. (1996). *Access to Higher Education: Public Opinions, Stage 2*. Study report submitted to the Council of Higher Education. Jerusalem: Guttman Institute for Applied Research.

Sherman, N. (1996). *Colleges as a Resource in Developing the Periphery*. Rehovot: Center for Development Studies.

Soen, D. (2004). Center and periphery in higher education in Israel – A second chance for whom? *Education and Context, 26*, 153-166.

Svirsky, S., and Svirsky, B. (1997). *Higher Education in Israel*. Tel Aviv: Adva Center.

Traubman, T. and Chromchenko, Y. (2005). Flexible degrees for civil servants, *Ha'aretz,* July 25, A8.

Zadok, M. (1996). Post-secondary education in Israel in 2000. In A. Peled (ed.). *Master Plan for Israel in the 21rst century – Content-Based Planning Policy: The Educational System,* (pp. 281-291). Jerusalem, Ministry of Education.

English Sources

Ahola, S and Nurmi, J. (1997). Choosing University or Vocational College – The Formation of Educational Preferences. *Scandinavian Journal of Educational Research.* 41, 127-39.

Allen, C.M. and Allen, W.B. (2003). *Habits of Mind*. New Brunswick, Transaction Publishers.

Andres, L. and Grayson, P.J. (2003). Parents, educational attainment, jobs and satisfaction: What's the connection? A 10-year portrait of Canadian young women and men. *Journal of Youth Studies*, 6, 2, 181-202.

Archer, L. (2000). *Social Class and Access to Higher Education – A Report of Findings*. Paper presented as evidence to the House of Commons, Education and Employment Select Committee, London: Institute of Policy Studies in Education, University of East London.

Archer, L. (1985). Career and Family: The Identity Process for Adolescent Girls. *Youth and Society,* 16, 289-314.

Archer, L., Hutchings, M., Ross, A. with Leathwood, C., Gilchrist, R. and Phillips, D. (2003). *Higher Education and Social Class – Issues of Exclusion and Inclusion*. London: Routledge Falmer.

Aschaffenburg, K and Ineke M. (1997). Cultural and Educational Careers: The Dynamics of Social Reproduction. *American Sociological Review,* 62, 573-87.

Astone, N.M., Constance, A., Nathanson, R.S. and Young, J.K, (1999). Family demography, social theory and investment in social capital, *Population and Development Review*, 25, 1, 1-31.

Baker, T. and Valez, W. (1996). Access to and opportunity in postsecondary education in the United States: A review, *Sociology of Education, Extra Issue*, 82-101.

Bernstein, B. (1975). *Class, codes and control,* vol. 3. London: Routledge and Kegan Paul.

Bills, D.B. (2004). *Creeping Credentialism in the Unites States and Germany: Changing Relationships Between Educational Credentials and Occupational Assignment.* [Online] http://www.iuperj.br/rc28/papers/bills%20rc28%20brazil%20hiring%trends.pdf

Blau, P. (1995). *Structural Context of Opportunities*. Chicago: University of Chicago press, Chicago.

Blosssfeld, H.P. and Shavit, Y. (1993). *Persistent Inequality: Changing Educational Attainment in Thirteen Countries*, Boulder, CO.: Westview Press.

Bourdieu, P. and Passeron, J.C. (1977). *Reproduction in Education, Society and Culture*. London: Sage.

Bourdieu, P. and Saint-Martin, M.(1987). Agregation et Segregation. Le Champs des Grandes Ecoles et le Champs du pouvoir. *Actes de la Recherche en Sciences Sociales*, 2-50.

Breen, J. (2002). *Higher Education in Australia: Structure, Policy and Debate*. Monash University. Internet: www.csse.monash..edu.au/~jwb/+

Brennan, J. (2000). *Graduate Employment: A Review of Issues*. London: The Open University.

Cairns, R.B., Cairns, B.D. and Neckerman, H.J. (1989). Early school dropout: Configurations and determinants. *Child Development*, 60, 1437-1452.

Canny, A. (1995). School-leavers' Career choices: An investigation of the relationship between action and structure. *Irish Journal of Sociology* 5, 164-91.

CBS (Central Bureau of Statistics) (2004). *Recipients of Degrees from the Universities and Other Institutions of Higher Education, 2002/2003*, September 5th, Jerusalem, Press communicate 238/2004.

Charles, M. (1992). Accounting for Cross-National Variation in Occupational Sex Segregation. *American Sociological Review* 57, 483-502.

Coleman, J.S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, Supplement, S95-S120.

Collins, R. (1979). *The Credential Society*. New York: Academic Press.

Creswell, J.W. and Roskens, R.W (1981) The Biglan studies of differences among academic areas. *Review of Higher Education* 4(3) 1-16.

Dar Y. and Resh, N. (1996). Exploring the persistence of academic achievement gaps: Social Differentials in family resource returns in Israel. *Research in Sociology of Education and Socialization* 11, 233-261.

Davies, S. and Guppy, N. (1997). Fields of study, college selectivity, and students' inequalities in higher education. *Social Forces* 75, 1417-38.

Deci, E.L. and Ryan, R.M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227-268.

Deci, E.L. and Ryan, R.M., (1985). *Intrinsic Motivation and Self-Determination in Human Behavior*, New York, Plenum.

Dey, E. and Hurtado, S. (1999). Students, colleges and society: Considering the interconnections. In P.G. Altbach, R.O. Berdahl and P.J Gumport (eds.). *American Higher Education in the Twenty-First Century: Social, Political and Economic Challenges*, (pp.282-322). Baltimore: Johns Hopkins University Press.

Dore, R. (1976). *The Diploma Disease: Education, Qualification and Development*. London: George allen and Unwin.

Dougherty, K.J. (1994). *The Contradictory College: The Conflicting Origins, Impacts and Futures of the Community College*. Albany: SUNY Press.

Fenwick, R. (2005). *Report to the Ohio Faculty Council on the Effects of College Graduation on Individual Income: A Summary of Research Results in the Sociological Literature*. Department of Sociology, University of Akron.

Finn, J.D. and Rock, D.A., (1997). Academic success among students at risk for school failure.. *Journal of applied Psychology*, 82, 221-234.

Gilligan, C. (1982). *In a Different Voice*. Cambridge, MA: Harvard University Press.

Green, R.J. (2003). Sex and higher education: Do men and women attend college for different reasons? *College Student Journal*, Dec.

Guri-Rosenblit, S. (1999). Changing boundaries in Israeli higher education. *Mediterranean Journal of Educational Studies*, 4, 91-114.

Guri-Rosenblit, S. (1996). Trends in access to Israeli higher education 1981-1996: From a privilege to a right. *European Journal of Education* 3, 321-40.

Hansen, M.N. (1997). Social and economic inequality in the educational career: Do the effect of social background decline? *European Sociological Review* 13, 305-21

Hasley, A. (1992). *Opening Wide the Doors of Higher Education*. London: National Commission on Education, Briefing No.6.

Hearn, J.C. (1991). Academic and nonacademic influences on the college destinations of the 1980 high school graduates. *Sociology of Education* 64,158-72.

Hess-Biber, S. (1985). Male and female students' perception for higher academic environment and future career plans: Implications for higher education. *Human Relations* 38, 95-105.

Hodkinson, P. and Sparkes, C. (1997). Careeship: A sociological theory of career decision making. *British Journal of Sociology of Education,* 18, 29-44.

Hossler, D., Shmit, J.L. and Vesper, N., (1999). *Going to College: How Social, Economic and Educational Factors Influence the Decisions Students Make.* Baltimore, MD., Johns Hopkins University Press.

Jacobs J. A.(1999). Gender and the stratification of colleges. *The Journal of Higher Education*, 2, 161-187.

Jacobs, J. A. (1995). Gender and academic specialities: Trends among recipients of college degrees in the 1980s. *Sociology of Education,* 68, 81-98.

Jallade, J. (1992*). Access to Higher Education in Europe: Problems And Perspectives*. Paper presented at the Joint Conference on Access to Higher Education in Europe.

Kohn, M.L. (1969). *Class and Conformity*. Homewood, IL: Dorsey Press.

Marini, M.M., Shin, H.,and Raymond, J. (1989). Socioeconomic consequences of the process of transition to adulthood. *Social Science Research,* 18, 89-135.

McDonough, P. M. (1997). *Choosing Colleges: How Social Class and Schools Structure Opportunity*. Albany: State University of New York Press.

McNeal, R.B., Jr. (1995).Extracurricular activities and high school dropouts. *Sociology of Education*, 68(1), 62-80.

Meek, L., Goedebuure, L., Kivinen, O. and Rinne, R. (eds.) (1996). *The Mockers and the Mocked: Comparative Perspectives on Differentiation, Convergence and Diversity in Higher Education*. London: Pergamon.

Morrison, T. (1998). *Welcome to the World: Quality, Higher Education and Change*. Mauritius: Mauritius Institute of Education.

Mortenson, T.G. (2000). Poverty, race and the failure of public policy: The crisis of access to higher education. *Academe*, 86(6) (Nov.-Dec). [Online] http://www.aaup.org/publications/ Academe/oond/Ndoomose.htm

OECD (2003). *Education at a Glance.* [Online] http://www.oecd.org/document/

Percell, C.H., Catsambis, S. and Cookson, P.W. Jr. (1992). Gender pathways to selective colleges. *Sociology of Education* 65, 208-25.

Roberts, K. (1981). The sociology of work entry and occupational choice. In A.G. Watts et al. (eds.) *Career Development in Britain*. Cambridge: CRAC/Hobson Press.

Ryan, R.M. and Deci, E.L. (2000). Self determination theory and the facilitation of intrinsic motivation, social development and well-being. *American Psychologist*, 55, 68-78.

Scott, P. (1995). *The Meanings of Mass Higher Education*. England: Bury St. Edmunds, SRHE and The Open University Press.

Sewell, W.H., Hauser, R.M. and Wolf, W.C. (1980). Sex, schooling and occupational status. *American Journal of Sociology*, 86, 551-583.

Shavit, Y. Bolotin-Chachashvili, S., Ayalon, H. and Menachem, G. (2003). *Diversification, Expansion and Inequality in Israeli Higher Education*. Tel Aviv: The Pinchas Sapir Center for Development, Tel-Aviv University.

Skoldberg, K. (1991). Strategic change in Swedish higher education. *Higher Education ,* 21, 551-72.

Soen, D. and Davidovitch, N., (2004). Centrre and periphery in higher education: The case of Israel. *International Education Journal*, 5 (4), 439-457.

Spates, J.L. (1977). Differences in the occupational achievement process between male and female college graduates. *Sociology of Education,* 50, 206-217.

Steelman L.C. and Powell B. (1991). Sponsoring the next generation: Parental willingness to pay for higher education. *American Journal of Sociology,* 96(6), 1505-1529.

Street, S., Kimmel, E. and Kromrey, J. (1996). Gender-role preferences and perceptions of university students, faculty and administrators. *Research in Higher Education*, 37, 615-632.

Tinklin, T. (2000). The higher education in Scotland: A multi-level analysis. *Higher Education Quarterly*, 54, 4 (Oct.), 343-385.

Tonks, D. (1999). Access to higher education, 1991-1998: Using geodemographics. *Widening Participation and Lifelong Learning*, 1(2). [Online] www.staffs.ac.uk/Journal/art_/

Trow, M. (1987). Academic standards and mass higher education. *Higher Education Quarterly,* 41,268-92.

Trow, M. (1974). Problems in the transition from elite to mass higher education. *Policies for Higher Education.* From the General Report on the conference on further structures of post-secondary education, 132-164. Paris: OECD.

Trow, M. (1972). The expansion and transformation of higher education. *International Review of Education*, 18, 61-64.

Trow, M. (1970). Reflections on the transition from mass to universal higher education. *Daedalus – Journal of the American Academy,* Winter, 1-42.

Van de Werfhorst, H.G. (2001). *Field of study and social inequality: Four types of educational resources in the process of stratification in the Netherlands*. Ph.D. Dissertation. Nijmegen: The Catholic University of Nijmegen.

Van de Werfhorst, H.G. and Andersen, R. (2004). *Social background, credential inflation and educational strategies*. [Online] http://users.fmg.uva.nl/hvandewerfhorst/cred_inflat.pdf

Zaff, J.F., Moore, K.A., Papillo, A.R. and Williams, S. (2001). Implications of extracurricular activity participation during adolescence on positive outcomes. Paper presented at the biennial meeting of the *Society for Research in Child Development*, Washington DC.

❖IEJ

Implementation and evaluation of the debate-style tutorial study in a third-year dental curriculum in Japan

Ryuji Shingaki
Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Japan
shingaki@md.okayama-u.ac.jp

Hiroshi Kamioka
Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Japan

Masao Irie
Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Japan

Fusanori Nishimura
Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Japan

We introduced a debate-style tutorial exercise into the third-year tutorial classes with the purpose of developing the students' logic, broadening their vision and encouraging them to express their opinions in public, before an audience. The issues for debate included medical (dental) and non-medical topics. Two separate debate exercises were performed and each session concluded with an open debate. The groups' performance was evaluated by the audience, which included students and tutors. The groups received high scores; their understanding of the subjects was superior and they provided logical arguments using good presentation skills. The program appeared to have had the desired results. Thus, it was suggested that the introduction of debates into the curriculums of lower classes would be effective in teaching students new ways of thinking about problems. This would prepare them suitably for future education.

Debate, tutorial classes, problem based learning, dental education, decision-making

INTRODUCTION

The improvement of the education system requires continuous efforts by educators. Trials continue to be conducted in various areas for the development of new and effective educational methods. Among these, medical education is likely to be subjected to change. This is primarily due to the innovative nature of the field; it is also due to the strong social demand that future doctors should acquire sufficient interpersonal skills to deal with various patients. The manner of imparting medical education has been changing from a lecture-based, one-way approach to a more self-directed manner of study. As an alternative to passive lectures, 'problem based learning' (PBL) has been incorporated into medical and dental education (Schmidt, 1993; Barrows, 1998; Last, 2001; Pau and Croucher, 2003). PBL education, now widely employed in various areas of education, was initially developed at McMaster University in Canada in 1969 (Neufeld, Woodward and Macleod, 1989). Since then, a number of medical schools in the West have adopted PBL programs into their curriculums in various modified forms and have reported the results (Albanese and Mitchell, 1993). Khoo (2003) evaluated PBL programs in Asian medical schools and reported that Asian students had accepted PBL as well as schools in the West had. In

Japan, PBL was rapidly introduced in the medical curriculum during the past decade (Kozu, 1997). However, alongside the spread of PBL education, there have been conflicting reports regarding its effectiveness and efficiency. One report favoured PBL in comparison to the traditional passive lecture (Norman and Schmidt, 2000); others raised doubts regarding its effectiveness (Colliver, 2000; Albanese, 2000).

Tutorial education was introduced in the Okayama University Dental School in 1999. The curriculum requires the students to attend tutorial classes in their first, third and fifth years of study. The first-year tutorials focus primarily on 'how to learn'. For example, methods of obtaining information and participating in group study on a functional basis are taught (Kuboki et al., 2000). The main purpose of the final, fifth-year tutorial, is to study 'evidence-based medicine' (EBM). The students are presented with diversely designed clinical cases for which they attempt to formulate a treatment regimen or a suitable strategy based on EBM (Miyamoto et al., 2002). In the past years, tutorial study in the third year had been carried out as an intermediate program linking first- and fifth-year exercises. Thus, the style depended on the chief tutor in each year. As part of the exercise, an informal debate was held within the group for the analysis of a given issue. This led us to realise that debates might be beneficial for students, which in turn prompted us to introduce a full debate format into the tutorial classes. In this paper, we report the results of debate-style tutorials that were incorporated into the third-year classes of the Okayama University Dental School in 2003.

METHODS

The first session

Two sets of sessions on debate-style tutorial exercises were conducted during the first and second quarters of the third-year classes. Fifty third-year students and six bachelor graduate entrants were divided into 11 groups. Each group comprised four to six students and was divided into half for the purpose of debating. In the first session, the debate was conducted within the group. The general topic was 'Life' and the students selected the following themes.

a) The government should legalise euthanasia.

b) The government should prohibit smoking and the sale of tobacco.

c) The government should promote the fluoridation of the water supplied to people.

d) The government should increase the promotion of preventive medicine.

e) The government should prohibit the use of IRESSA (a drug for lung cancer in relation to which several fatal side-effects have been reported).

f) Use of disposable products: right or wrong?

g) Production of genetically modified food: right or wrong?

h) The Japanese *yutori kyoiku* (a less intense education system with reduced curriculum): right or wrong?

The second session

The second debate was conducted between groups that took the affirmative stand and groups that took the negative stand on a certain issue. The general topic chosen for the second exercise was 'Insurance' and the students selected the following themes.

a) The government should maintain a public medical care insurance system for all citizens.

b) Insurance should provide cover for health screening.

c) Insurance should provide cover for aesthetic dental treatment.

d) Insurance should provide cover for dental treatments involving implants.

e) Insurance should provide cover for alternative medicine.

Each week, 180 minutes were allocated to the core tutorial classes; the first and second sessions were allocated six and three weeks respectively. The study of the second session concluded with an open, formal debate. The debate format was as follows: constructive speech by the side defending the affirmative position (5 minutes); cross-examination by the side defending the negative position (2 minutes); constructive speech by the side defending the negative position (5 minutes); cross-examination by the side defending the affirmative position (2 minuets); rebuttal by the side defending the negative position (3 minutes) and rebuttal by the side defending the affirmative position (3 minutes).

Evaluation

Each session concluded with a debate-style presentation. Each group and tutor then evaluated the other groups' performance. In the first session, the group presentations were evaluated according to the following five criteria: originality, logical manner of presentation, scientific point of view, appeal and preparation. Each item was graded on a scale of 1–4 (4: excellent; 3: good; 2: average and 1: inferior.) In the second session, the open debate was evaluated according to the following five criteria: problem analysis, argument and evidence, rebuttal, construction of speech, and questions and answers. Each item was graded on a scale of 1–4, as in the first session. For the assessment of individual students in the process of the tutorial study, we adopted the style of the Tokyo Women's Medical University and the tutors evaluated the skills and attitudes of the students in accordance with the university's evaluation sheet (Kozu and Ishii, 1996). Each student was evaluated for the following four items: extraction of learning subjects and recollection of related matters from given problems, selection of the objects of study, planning and implementation of study, and attitudes in the group study. The above four items included five sub-categories which the tutors checked whether the students met the required standards.

RESULTS

The first session

Of the 56 students, only three had had previous debating experience. Therefore, in the first session, the debate was conducted within each group in order to get the students accustomed to it. The students appeared slightly puzzled in the first class, but with the tutor's help, they soon accepted the concept and became interested in the debate format. In addition, they understood its effectiveness as a tool to address problems, and this appeared to be a fresh and joyful experience for them.

Table 1 lists the positions of the 56 students with regard to each proposition. The number of affirmations and negations varied among the propositions; however, one proposition gave rise to 100 per cent affirmation. Although such a proposition might be inappropriate for a formal debate, we adopted it for the first session in order to observe how the students defended its negative position. The proposition was: The government should increase the promotion of preventive medicine, which sounds plausible. However, the students who took a stand against the proposition refuted the others by pointing out the lack of reliable medical tests for gauging the quantifiable efficacy of the medicines as well as the fear that such a policy would interfere with the privacy of individuals. A student who took the affirmative stand described in her 'impressions' that while these refutations did not change her position, the degree of her conviction was substantially altered after the debate. She appeared to feel that blindly accepting what was advocated might

prove dangerous. Each group was allotted 20 minutes for the presentation and the students clearly stated the points under discussion for each issue. Among the various propositions tested, the proposition regarding IRESSA (Gefitinib, a drug for lung cancer) yielded the highest score. The debate was the efficiency of the drug versus its adverse side-effects. The group chose this proposition because it was ideal for the so-called 'merit versus demerit' treatment and developed their arguments using this debate model. As shown in Figure 1, the average score of the student groups for five items was above 3 ('good'); the exercise was very fruitful as the score for 'logic' was the highest of all the scores. Thus, the exercise appeared to have been effective, since one of the reasons for incorporating the debate system was to improve the students' ability to reason logically.

Table 1. The propositions in the first session and the students' positions on them

Propositions	Affirmation	Negation
The government should legalise eutahansia	44	12
The government should prohibit smoking and sale of tabacco	23	33
The government should promote the fluoridation of the water supplied to people	31	25
The government should increase the promotion of preventive medicine	56	0
The government should prohibit the use of IRESSA	22	34
Use of disposable products: right or wrong?	36	20
Production of genetically modified food: right or wrong?	27	29
The Japanese *yutori kyoiku*: right or wrong?	21	35
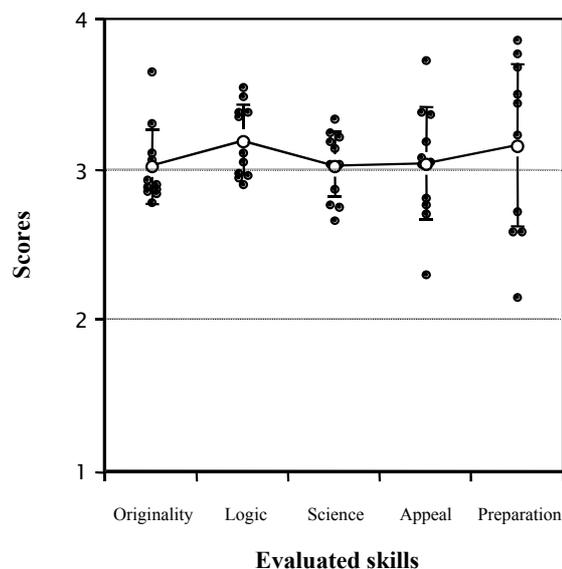
Figure 1. The distribution of the scores for group presentation in the first session

Each group presentation was evaluated according to the following five items: originality, logic, science, appeal and preparation. Each item was graded on a scale of 1–4 as follows: 4: excellent; 3: good; 2: average and 1: inferior. The open circles with error bars represent the mean scores and standard deviations for each item.

The second session

Table 2 lists the students' positions on the propositions before the second session and after the debate. In one case, the students' positions were reversed; in another, the degrees of affirmation and negation changed greatly. Unfortunately, the second session was extremely short and it was not possible to consider the given issues in detail. In addition, this was the first time that the students had performed in an open, formal debate in public before an audience. Consequently, some of the debates had little climax. On the basis of the low scores in the 'rebuttal' and

'questions and answers' sessions (Figure 2), it can be judged that most of the groups spent a considerable amount of time studying the system of insurance and each given issue, both of which were unknown subjects for the third-year students. Under such conditions, the debate on the topic 'Insurance should provide cover for health screening' was a mature one. This was probably because the students had gained some experience while debating a similar proposition, 'the promotion of preventive medicine', in the first session.

Table 2. The propositions in the second session and the students' positions on them

Propositions	Affirmation : Negation before → after
The government should maintain the public medical care insurance system for all citizens	42 : 8 → 42 : 7
Insurance should provide cover for health screening	39 : 11 → 25 : 24
Insurance should provide cover for aesthetic dental treatment	18 : 32 → 15 : 34
Insurance should provide cover for implant dental treatment	38 : 12 → 19 : 30
Insurance should provide cover for alternative medicine	20 : 30 → 23 : 26
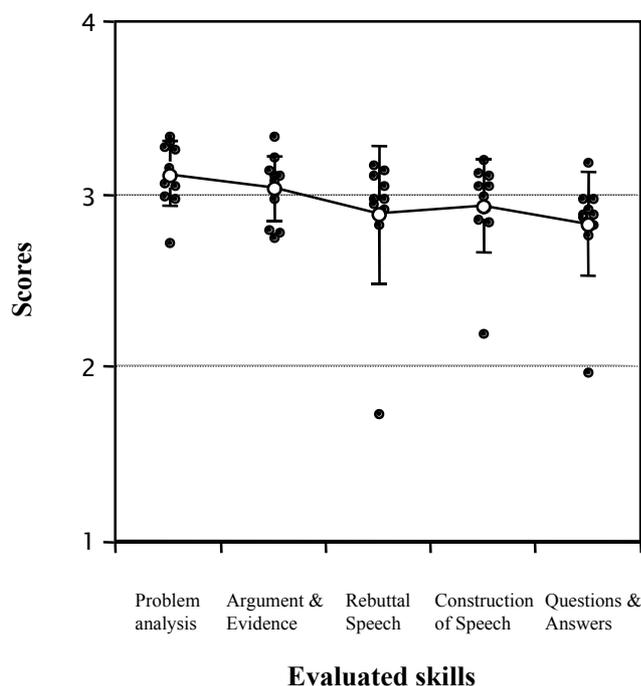
Figure 2. The distributions of the scores for open group debate in the second session

Open debate was evaluated for each group according to the following five criteria: problem analysis, argument and evidence, rebuttal speech, construction of speech and questions and answers. Each item was graded on a scale of 1–4 as follows: 4: excellent; 3: good; 2: average and 1: inferior. The open circles with error bars represent the mean scores and standard deviations for each item.

DISCUSSION

Debate-style tutorials

The incorporation of debates into the education system is more common in the West, where they are considered to play an important role in providing students with various skills, such as how to consider, analyse, state, listen, communicate and make presentations (Huryn, 1986; Green and Hadley, 1990; Crone, 1997). Dundes (2001) has reported a case in which a small group debate was conducted in a criminal justice class. She found that debating was beneficial in helping the

students to think through their problems with maximum involvement. The PBL tutorial study introduced in many medical school curriculums is expected to help students to acquire a self-directed style of study, including ways of learning subjects by themselves along with solving the given problems. Although the goals are not the same, it is thought that the process of a small group debate may cover parts of the educational aims of the tutorial study in lower classes. Therefore, a formal debate was conducted as part of the third-year tutorial exercise.

As an educational tool, the formal debate exceeded our expectations. In the case of certain propositions, this was the first time that the students had been forced to look at an issue from a point of view that was different from their own, which greatly helped them to consider the problems from a variety of perspectives and contributed in the fostering of their objectivity. In addition, they learnt the importance of logical reasoning, collecting materials and using them effectively in order to demonstrate their opinions to a third person. Although it was said that adding a competitive event to the curriculum was undesirable, our observations indicated that the students' desire to win the debate led them to acquire various skills unwittingly.

Another reason for the incorporation of the small group debate was the activation of discussions within the group. The tutors reported that the students showed more engagement and enthusiasm in these discussions than in the former tutorial exercises. Although group work does not always function positively (Hitchcock and Anderson, 1997; Dolman, Wolfhagen, van der Vleuten and Wijnen, 2001), the students learnt much from active debating. Some students appeared not only to learn about cooperative learning, but also to realise their thoughts and personalities and those of the other students. The responses to the question "what did you acquire in this tutorial study," which was asked after the program, included 'realised my potential' or 'realised the potentials and thinking of my classmates', together with gaining a style of debating and knowledge about the given issues.

Students' performance and evaluation

The students exceeded our expectations of the capacity third-year dental students to engage in a problem-solving type of study. Khoo (2003) investigated the incorporation of PBL in Asian medical schools and enthusiastically reported that a similar effect was observed in schools in the West, where students have accepted this mode of study. The effect appeared to be the same in our school, where the students have been adapting to the tutorial classes. The same was also true in the case of the debate method. The students displayed a high talent for considering issues from opposing viewpoints. This demonstrates that the students are sufficiently flexible to respond to a new type of education. As shown in Figures 1 and 2, most of the groups received high scores for their performances in the presentations. In addition, the scores awarded by the tutors and the students were almost the same. The tutor also evaluated the attitudes, activities and understanding of the students in the process of the debate tutorial exercises according to the four criteria, which included a total of 20 sub-categories. The numbers of ticks (which implied that the students met the standard for each sub-category) varied from 2 to 20. Although it was difficult to evaluate each student accurately because they studied, for instance, different subjects in a group, they received evaluations from every tutor. Further, we attempted to correct the biases by discussing them with the tutors. Consequently, we graded approximately 70 per cent of the students as 'A' (Excellent) and the rest as 'B' (Good), which resulted in a high 'A' ratio as compared to that of the other regular subjects that the students attended simultaneously. We believe that this was purely due to their enthusiasm for the tutorial class. In any case, it is extremely important that the students receive precise evaluations for their performances in the educational program. Therefore, we should establish a more sophisticated evaluation system for measuring the understanding and efforts of individual students in the tutorial study and overcome the problems and the biases that might be occurring.

The students' understanding of the debate-style tutorial

As described above, the students soon adapted to the debate-style tutorials and found the debate to be an effective approach to address problems. They appeared to acquire, or realise the necessity of acquiring, several skills from the debate-style tutorial studies. However, a problem was encountered in the further cultivation of these skills. The students collected various materials to support and strengthen their arguments for the debate. These materials were obtained from relevant literature such as academic papers and reference books, and from the Internet. Some groups distributed a questionnaire to the class and obtained results. However, materials were not readily available in the case of propositions that involved very recent issues, and students became confused and worried about researching them. We expected them to discover and develop their own opinions, which is an important factor in determining a person's skills when he or she is faced with unfamiliar issues. However, most of the students were rather anxious about presenting their own views with little supporting material. This could be attributed to the character of the Japanese students. The students should be encouraged to express their opinions in public in addition to thinking critically; they should not rely overly on the opinions in available literature.

On conducting a debate, we discovered that it was difficult to prepare suitable propositions for the third-year dental education program. The propositions were required to be in accordance with the students' level of understanding. In addition, in order to carry out a fair debate, the propositions required nearly an equal number of affirmations and negations. In order to meet these criteria, eight propositions related to 'Life' and five prepositions related to 'Insurance', were prepared as the main topics of the first and second sessions, respectively. One of the purposes of the second session was to study insurance; therefore, we designed propositions that considered whether insurance should provide coverage for medicine without active treatment (preventive medicine), better living (aesthetic treatment), advanced or specialised treatment (implant treatment) and treatment whose results are unproven (alternative medicine). However, the three-week period was extremely short and the students were unable to have in-depth discussions on the morality of the given propositions or to learn about insurance in detail. There were students who desired more intense discussions on the topic. In addition, some wished for a proposition that was more familiar and required less knowledge and study. Such a proposition may be suitable for the introductory tutorials in which the educational aim is merely to activate discussions, draw out more opinions and measure the thinking power of the students. 'Learning how to learn' and 'collecting cognitive facts' are the two goals of PBL tutorial education, the proportion of which differs for the academic years in which it is conducted. Raising good and balanced problems is the key factor for the successful implementation of PBL tutorials (Lohman and Finkelstein, 2002), together with tutor training (Grave, Dolmans and Vleuten, 1999; Gilkison, 2003; Leung, Lue and Lee, 2003) and preparing an effective class schedule (Hoad-Reddick and Theaker, 2003). With the help and support of academic administrators, improvements for future tutorial studies should be made.

After experiencing two sets of debate sessions, the students appeared to feel that making a decision was very difficult. "The more I consider the problem, the harder it is to arrive at a decision" was the impression of one student. In the future, while administering dental treatment, they will probably come across several cases where tough decisions need to be made, for example, whether or not to extract a troublesome tooth. The experience of the debate teaches them to face such situations. Good skills and experiences are required in order to make the appropriate decision in any field. It is our expectation that students who have experienced the

series of tutorial studies, including the debate exercises, are be better equipped to take the right decisions when faced with clinical problems in the future.

CONCLUSIONS

The introduction of the formal debate as a learning tool in tutorials was found to be effective for teaching students new ways of considering problems, as well as developing their logical reasoning skills and objectivity. For students in the lower grades, the experience of debating an issue relevant to any field is training for future education. For students in the higher grades, especially for Japanese students who are not accustomed to expressing their opinions logically or criticising the opinions of others in public, PBL education is assumed to be beneficial.

ACKNOWLEDGEMENTS

We thank all the tutors for facilitating the students' studies and reporting the circumstances of individual exercises. We also thank the Committee for Undergraduate Education of Okayama University Dental School for arranging tutors, helping in the evaluation of the students' results and preparing the educational facilities for tutorial education.

REFERENCES

Albanese, M.A. and Mitchell, S. (1993). Problem-based learning: A review of literature on its outcomes and implementation issues. *Academic Medicine,* 68, 52-81.

Albanese, M. (2000). Problem based learning: Why curricula are likely to show little effect on knowledge and clinical skills. *Medical Education* 34, 729-738.

Barrows, H.S. (1998). The essentials of problem-based learning. *Journal of Dental Education,* 62, 630-633.

Gilkison, A. (2003). Techniques used by expert and non-expert tutors to facilitate problem-based learning tutorials in an undergraduate medical curriculum. *Medical Education,* 37, 6-14.

Colliver, J.A. (2000). Effectiveness of problem-based learning curricula: research and theory. *Academic Medicine,* 75, 259-266.

Grave, W., Dolmans, D. and Vleuten, C. (1999). Profiles of effective tutors in problem-based learning: Scaffolding student learning. *Medical Education,* 33, 901-906.

Green, C.S. and Hadley, G.K. (1990). Teaching critical thinking and writing through debates: An experimental evaluation. *Teaching Sociology,* 18, 462-471.

Crone, J.A. (1997). Using panel debates to increase student involvement in the introductory sociology class. *Teaching Sociology,* 25, 214-218.

Dolman, D., Wolfhagen, I., van der Vleuten, C. and Wijnen,W. (2001). Solving problems with group work in problem-based learning: Hold on to the philosophy. *Medical Education,* 35, 884-889.

Dundes, L. (2001). Small group debates: Fostering critical thinking in oral presentations with maximal class involvement. *Teaching Sociology,* 29, 237-243.

Hitchcock, M.A. and Anderson, A.S. (1997). Dealing with dysfunctional tutorial groups. *Teaching and Learning in Medicine,* 9, 19-24.

Hoad-Reddick, G. and Theaker, E. (2003). Providing support for problem-based learning in dentistry: The Manchester experience. *European Journal of Dental Education,* 7, 3-12.

Huryn, J.S. (1986). Debating as a teaching technique. *Teaching Sociology,* 14, 266-269.

Khoo, H.E. (2003). Implementation of problem-based learning in Asian medical schools and students' perceptions of their experience. *Medical Education,* 37, 401-409.

Kozu, T. and Ishii, T. (1996). Evaluation. In M. Yoshioka and H. Touma, (Eds) *Tutorial Education*. Tokyo: Shinohara Press, 77-86.

Kozu, T. (1997). Undergraduate and postgraduate clinical education in Japan. *Kobe Journal of Medical Sciences,* 43, 216-235.

Kuboki, T., Ishikawa, K., Arai, H., Yoshida, T., Hirata, A., Ichikawa, H., and other thirty-four authors. (2000). Problem-Based Learning at the Okayama University Dental School. *The Journal of Okayama Dental Society,* 19, 295-304.

Last, K. S., Appleton, J., and Stevenson, H. (2001). Basic science knowledge of dental students on conventional and problem-based learning (PBL) courses at Liverpool. *European Journal of Dental Education,* 5, 148-154.

Leung, K.-K., Lue, B. H. and Lee, M. B. (2003). Development of a teaching style inventory for tutor evaluation in Problem-Based Learning. *Medical Education,* 37, 410-416.

Lohman, M.C. and Finkelstein, M. (2002). Designing cases in problem-based learning to foster problem-solving skill. *European Journal of Dental Education,* 6, 121-127.

Miyamoto, M., Kuboki, T., Takatsuka, T., Nishitani, Y., Washio, N., Minakuchi, H. and other thirteen authors. (2002). A Problem-Based Learning at the Okayama University Dental School Part 2: Evidence-based Dentistry in the 5th year student. *The Journal of Okayama Dental Society,* 21, 247-253.

Neufeld, V.R., Woodward, C.A. and Macleod, S.M. (1989). The McMaster MD program: A case study of renewal in medical education. *Academic Medicine,* 64, 423-432.

Norman, G.R. and Schmidt, H.G. (2000). Effectiveness of problem-based learning curricula: Theory, practice and paper darts. *Medical Education,* 34, 721-728.

Pau, A.K. and Croucher, R. (2003). The use of PBL to facilitate the development of professional attributes in second year dental students. *European Journal of Dental Education,* 7, 123-129.

Schmidt, H. G. (1993). Foundations of problem-based learning: some explanatory notes. *Medical Education,* 27, 422-432.

❖IEJ

Study abroad as innovation: Applying the diffusion model to international education

Kerri Spiering
Office of International Programs, North Dakota State University *kerri.spiering@ndsu.edu*

Sheri Erickson
Minnesota State University, Moorhead *sherieri@mnstate.edu*

This paper uses diffusion of innovation theory as a framework for studying why United States college students who attend study abroad information sessions fail to take advantage of such educational opportunities. Surveys were administered to two groups of undergraduate students – those who studied abroad and those who did not. Students ranked their decision based on five attributes of diffusion theory, relative advantage, compatibility, complexity, trialability, and observability. The results indicated relative advantage and trialability were the most important factors in deciding to study abroad, while those choosing not to study abroad ranked complexity and compatibility as the primary reasons. Recommendations include targeting the role of study abroad adviser as a change agent to influence student study abroad decisions and educating faculty about the benefits of studying abroad.

Study abroad, diffusion of innovation theory, change agent, college students, study adviser, international education

INTRODUCTION

Over the last 70 years, study abroad has gained momentum at United States universities as a way to expand students' education beyond the campus and their everyday world. Offices were established and staff hired to specifically assist students who wanted to spend a summer, semester, or year in another country. According to Open Doors 2003, study abroad continues to attract more and more students. Despite 9/11, study abroad participation in 2002-2003 grew by 8.5 per cent over the previous year (*Open Doors 2003*, 2003).

Even with the impressive numbers of students studying abroad, many more choose not to participate. The intent of this study is to examine why students, after showing interest in studying abroad, fail to take advantage of the opportunity. Roger's diffusion of innovation theory as it pertains to the decision process will be used to identify what factors affect the decision.

In the field of science and technology research, diffusion of innovation theory has been a consistently useful model to study how new information is communicated to the public. But how can this theory be used for more social studies areas? This study explored the applicability of the diffusion model to communication processes in the international education field, placing special emphasis on study abroad itself as a kind of innovation. Although diffusion research has faced criticism, the researchers believe the basic tenets of diffusion as outlined by Rogers (2003) provides a good starting point for examining the decision process involved in study abroad. This article contains a brief review of the pros and cons of study abroad, followed by a review of the principal elements of the diffusion model, including how these principles relate to the context of

study abroad opportunities. Suggestions for international education and the use of the diffusion model in study abroad are also provided.

REVIEW OF LITERATURE

Study Abroad

As far back as the 1930s, education was seen as a key factor in affecting international understanding (Meras, 1932). Students who study abroad are able to learn more about world affairs and increase their acceptance of other countries. Increasing international responsibility can change people's attitudes that in return can affect public opinion and potentially impact foreign policy (Meras, 1932).

Study abroad offices promote study abroad by letting students know what they will gain from the experience. Students can develop new perspectives on academic subjects and real-world issues, achieve proficiency in a foreign language, experience personal growth, and develop valuable career skills (McCormack, 1966; Nash, 1976). Other benefits of study abroad have been identified as an increase in global awareness and a change in attitude (DeLoach, Saliba, Smith, and Tiemann, 2003). According to Northwestern University, "to be successful-personally, intellectually and professionally, students need to become global citizens skilled at interacting in and between multiple cultures and capable of analysing issues on a global level" (*Why study abroad?*, 2003). Through study abroad, students can build this global competence.

Study abroad influences student learning and personal development (Carsello and Creaser, 1976; Kauffmann and Kuh, 1984; Kuh, 1995; Limburg-Weber, 1999/2000). Investigations have shown that study abroad improves students' global perspective, world mindedness and cross-cultural awareness (Bakalis and Joiner, 2004; Carlson and Widaman, 1988; Douglas and Jones-Rikkers, 2001; Kitsantas, 2004; Kitsantas and Meyers, 2001; McCabe, 1994). Study abroad has also been found to make students aware of their own national identity and influence how they view people from other nationalities (Dolby, 2004; Drews and Meyer, 1996). In one particular study, students noted they had developed a deeper interest in the well-being of others, an understanding of multinational economic and cultural issues, an increased self awareness, and increased interpersonal competence (Kuh, 1995).

Students study abroad for various reasons. Some study abroad to raise their job prospects, improve their proficiency in a foreign language, or study under an expert in the academic field (Gullahorn and Gullahorn, 1958; McCormack, 1966). Others study abroad to find personal freedom, seek adventure, or gain understanding of another culture (Carsello and Creaser, 1976; Meras, 1932).

Despite the many perceived benefits of study abroad, a majority of students do not participate in study abroad programs. Students cite time and money as major factors that impact their decision. Other reasons include difficulty in transferring credits, unnecessary for their major, delayed graduation, and no knowledge of a foreign language (Carlson, Burn, Useem, and Yachimowicz, 1991; McCormack, 1966).

Are these the real reasons students choose not to participate in study abroad? Or is there some deeper reasoning behind these excuses? Many non-English speaking countries offer programs in English so students do not need knowledge of a foreign language to study abroad. By planning their study abroad properly, students can still graduate on time. Lastly, with the abundance of study abroad options available to students, virtually any major can benefit from an experience in another country.

Diffusion of Innovation Theory

Rogers (2003) defines diffusion as "the process by which an innovation is communicated through certain channels over time among members of a social system" (p.11). For the purpose of this article, study abroad is viewed as the innovation. The authors examined how study abroad is adopted or not adopted by students.

Diffusion of innovation contains six key concepts (Dearing et al., 1996). The first is 'communication channels', which is how messages are transmitted between people. The second is the 'innovation-decision process' which contains five stages (knowledge, persuasion, decision, implementation, and confirmation) that people pass through when deciding whether or not to adopt a new idea. The third is 'homophily', which is the degree to which two people interacting perceive themselves as similar. The fourth is 'attributes', which describes five characteristics of innovation and how they are positively or negatively associated with the rate of adoption. The fifth is 'adopter categories' that describe people in relation to their rate of adoption. The last is 'opinion leaders' who are people that influence others attitudes.

In this particular investigation, the authors focused on Roger's five attributes of innovation. They are 'relative advantage', 'compatibility', 'complexity', 'trialability', and 'observability'. **Relative advantage** describes the extent to which an idea is seen as better than the idea that precedes it. The more relative advantage an innovation is viewed as having, the faster its adoption rate will be. Students must recognise how study abroad will benefit them before they will adopt it. **Compatibility** is the degree to which an idea is seen as agreeing with an individual's belief system. An innovation that is perceived as fitting with the individual's values and norms will be more rapidly adopted than an innovation that is not. Students who view study abroad as an extra and outside their normal characteristics, will not view it as compatible and will choose not to study abroad. **Complexity** involves the extent the innovation is viewed as difficult to understand and use. Innovations that are more complex will take longer for people to adopt than those that are simpler to use. Students will not participate in study abroad if they see the process as too complicated. Conversely, if the process is seen as smooth and easy, more students will choose to go. **Trialability** describes the degree to which an idea can be tried without fully adopting it. People who can experiment with an innovation first have a higher rate of adoption. Students who have travelled for short periods before maybe more interested in studying abroad than those who have not. **Observability** is the amount of visibility a new idea has to people. The ability to witness the results of an innovation increases the likelihood of adoption. Students who see what others have gained from their study abroad experience may then decide they too could participate in study abroad (Rogers, 2003).

In summary, study abroad is like any other innovation, there must be perceived benefits in participating. Study abroad must be compatible with the values and norms of students. The process cannot be too complex or it may discourage adoption. Students that have travelled overseas before may be more willing to participate in longer experiences. Finally, students must be able to observe study abroad's positive aspects such as through talking with previous participants.

RESEARCH QUESTIONS

The Office of International Programs conducting this study met with over 350 students about study abroad opportunities during the 2003-2004 academic year. However, of that number only 135 students chose to study abroad. What happened to the remaining students? Why did they decide not to study abroad?

This investigation examines study abroad as an innovation and how Rogers' five attributes of innovation influence students' decisions on whether or not to study or not to study abroad. More specifically our research questions are as follows.

RQ1: Which of the five characteristics of adoptability are important to those students who have chosen to study abroad?

RQ2: Which of the five characteristics of adoptability are barriers to study abroad?

METHOD

Two different surveys were developed and sent to undergraduate students electronically through a medium-sized midwestern university computer centre. A total of 117 survey invitations were sent to students who had files in the International Programs Office indicating they had studied abroad. Surveys were also sent to 130 students who had attended an informational meeting about study abroad opportunities, but failed to take advantage of those opportunities. The survey instruments included an attitude scale and other information such as sex, whether they had travelled abroad before, size of their high school graduating class, whether family, friends, and advisers were supportive of study abroad opportunities, opinions about the cost to study abroad, and the effect outside influences such as terrorism and SARS had on their study abroad decision.

In addition, students were instructed to rank from 1 to 5 (1 being the most important and 5 being the least important) the five factors that, according to Rogers (2003), influenced adoptability. The questions on the survey administered to those who had studied (or were about to study) abroad were developed by the researchers to fit the five categories. For example, the trait of relative advantage was constructed as " I see benefits from studying abroad", compatibility was constructed as " Studying abroad fit(s) well with my plans", complexity was written as "The process for studying abroad was easy to carry out", trialability was "I have always wanted to study abroad and felt no need to try it out on a trial basis for a shorter length of time", and observability was constructed as "I talked with others who benefited from a study abroad experience."

The wording of these five attributes had to be written in the negative for those who failed to take advantage of study abroad opportunities. Relative advantage was written as "I fail to see any benefit from studying abroad", compatibility as "I do not feel that studying abroad fits well with my plans", complexity was written as "There are too many barriers or complexities involved in studying abroad", trialability was written as "There is not an opportunity to try out studying abroad for a shorter time period than a year or a semester", and observability was written as "I was not able to talk with others about the benefits of study abroad."

Second requests for responses were mailed out one week after students were invited to take the survey over the Internet. Survey responses were anonymous and students received no compensation or class credit for taking the survey. The survey was closed after three weeks.

RESULTS

As expected, students who had or would soon be studying abroad were more likely to respond to the survey, with a response of 75 out of the 117 (64%) requests e-mailed. Respondents who did not take advantage of study abroad opportunities totalled 31 out of 130 (24%) and included two respondents who were omitted from the analysis because they were mistakenly sent the study abroad version of the survey. This resulted in a rather small sample size of 29. Attitude towards study abroad was measured using a nine-point semantic differential scale (desirable to undesirable; good to bad; beneficial to harmful; wise to foolish; and favourable to unfavourable) and was found reliable (Cronbach alpha = 0.89). An average attitude measure from the attitude scale was calculated for each respondent, indicating no significant difference in general attitude

about travelling abroad between those who took advantage of the opportunity (*M*=8.71, *SD*=0.54, and those who chose not to study abroad (*M*=8.44, *SD*=0.88), t(97)=1.86, *p*=0.066.

Respondents were asked to indicate their academic major and what country they studied abroad in, or, for those choosing not to take advantage of study abroad opportunities, which country they would visit if given the opportunity. Numerous majors were listed for each survey, indicating that students from all university colleges had either taken part or had considered study abroad opportunities. Most of the countries listed on each survey were in Europe, with several respondents listing Mexico and Australia. In no case did students mention that they had a desire to study in a country but were told by the International Programs Office their choice was unavailable. Table 1 provides demographical information:

Table 1. Study abroad demographics

Characteristic	Study Abroad Group		Not Study Abroad Group	
	n	**%**	**n**	**%**
Travelled abroad before?				
Yes	39	53.4	17	58.6
No	34	46.6	12	41.4
High School Class Size				
Under 50	18	24.0	4	13.8
50-199	22	29.3	11	37.9
200-499	28	37.3	10	34.5
Over 500	7	9.4	4	13.8
Sex				
Female	44	58.7	22	72.9
Male	31	41.3	7	24.1
Family/friends support decision?				
Yes	51	68.0	18	64.3
Mixed	24	32.0	6	21.4
No	0	0.0	3	10.7
Not Sure	0	0.0	1	3.6
Academic Adviser Supportive?				
Yes	37	49.3	10	35.7
Not Sure	19	25.3	14	50.0
No	18	24.0	4	14.3
Costs				
High, worth it	37	49.3	13	46.4
Too High	N/a	N/a	4	14.3
Reasonable	31	41.3	9	32.1
Not part of my decision	6	8.0	2	7.2
Low	1	1.3	N/a	N/a
Outside influences				
Not a concern	36	48.0	20.0	71.4
Low	27	36.0	N/a	N/a
Medium	12	16.0	7.0	25.0
High, but not a factor	0	0.0	1.0	3.6
High, big factor	N/a	N/a	0.0	0.0

Note. Percentages adding up to less than 100 per cent were due to omitted questions.

For those choosing to study abroad, the 'relative advantage' of doing so was ranked as the primary reason by 47 out of 73 respondents (64%), indicating students who have or will travel abroad see benefits of doing so. 'Trialibility' ranked second, indicating they had always wanted to study abroad and felt no need to try it out on a trial basis. 'Observability', which was the ability to talk with others about studying abroad, was ranked third and 'compatibility' with plans was fourth. The fifth factor affecting the decision to study abroad was 'complexity', defined here as an easy process to carry out. Table 2 provides rank sum data.

Table 2. Rank sum of students studying abroad

Factors	Number of Students					Rank Sum	Mean	SD
	1	2	3	4	5			
Relative advantage	47	18	3	3	2	324	1.56	0.96
Triability	17	20	13	17	6	244	2.66	1.29
Observability	2	17	27	17	10	203	3.22	1.04
Compatibility	5	16	16	23	13	196	3.32	1.20
Complexity	2	2	14	13	42	128	4.24	1.04

Note. n = 73 for each factor

Students choosing not to take advantage of study abroad opportunities ranked 'complexity' as the number one reason they chose not to study abroad while their second choice was the 'compatibility' factor, indicating the process was either too complicated or there were too many barriers to the process. Not being able to try out the process for a shorter time period ('trialability'), the inability to talk to others ('observability'), and seeing no benefit to studying abroad ('relative advantage') were ranked third, fourth, and fifth respectively. Table 3 provides information sorted by rank sum.

Table 3. Rank Sum of Students Not Studying Abroad

Factors	Number of Students					Rank Sum	Mean	SD
	1	2	3	4	5			
Complexity	10	13	1	2	2	111	2.04	1.17
Compatibility	11	6	4	7	0	105	2.25	1.24
Trialability	3	6	9	7	3	83	3.04	1.17
Observability	2	2	13	7	4	75	3.32	1.06
Relative Advantage	2	1	1	5	19	46	4.36	1.19

Note. n = 28 for each factor

In addition to the above rank sum data, Chi Square tests were performed to determine if any relationships between the decision to study abroad and independent variables in the surveys existed. Due to the small sample size of those choosing not to take advantage of study abroad opportunities, the only Chi Square test the researchers were able to calculate was to determine whether there was a relationship between choosing to study abroad and previous foreign travel. No significant relationship was found between these two variables with Chi Square = 0.226, p=0.63 (df=1, N=102).

DISCUSSION

Those who chose to take advantage of study abroad opportunities made their decision based primarily on recognising the benefits or relative advantage that such opportunities provide. The second most frequently selected factor was 'trialability', indicating that students who have chosen to study abroad have always had a desire to do so, feeling no need to try out the process with a shorter time frame, such as a few weeks of a month rather than a year or semester. 'Observability' was ranked as the third factor, indicating an approximately equal number of respondents felt discussing study abroad programs with others was beneficial in making their decision to take part. 'Compatibility', defined here as "fitting well with my plans" was ranked as the fourth factor involved in making a choice to study abroad, indicating that this factor, along with the fifth choice of 'complexity', were not as strongly considered when making the study abroad decision. This indicates that students in the survey were not as concerned with whether the processes fitted well with their plans, nor were they as concerned with whether the processes involved with studying abroad were easy.

Survey results for those choosing not to take advantage of study abroad opportunities were also quite interesting. Students who attended an informational meeting but went no further in the

process indicated the primary factor for not moving forward with study abroad opportunities was that there were too many barriers or 'complexities' involved in the process. Closely related to this factor is that of 'compatibility'. Respondents ranked this factor second, indicating they felt study abroad programs did not fit well with their plans. In effect, the two factors of 'complexity' and 'compatibility', ranked as least important by those choosing to study abroad, were the same factors listed as the primary reason students not studying abroad gave as the reasons for not choosing to do so.

Alternatively, 'observability', ranked fourth by those choosing not to study abroad, and 'relative advantage', ranked as the last factor, was ranked as reasons three and one respectively by those choosing to study abroad. When combined with the rankings of the other factors, this indicates that the idea of studying abroad is not what is holding students back. Rather, those choosing not to take advantage of study abroad opportunities simply felt the process was too complicated and that such opportunities did not fit well with their other plans. The low ranking of 'relative advantage' and 'observability' for those not choosing to study abroad indicates these were not factors for choosing to abandon the idea of studying abroad. In effect, student respondents did not choose to forgo study abroad opportunities because nobody was available to discuss these plans with them, nor because they saw no benefit to studying abroad. Rather, they simply felt the process was too complex and not compatible with other plans that they had.

The demographic information provided in Table 1 also contains some interesting findings. For example, only four out of 28 (14%) respondents indicated the cost of study abroad as too high. While many often assume that the high cost of study abroad is deterring students from pursuing such opportunities, perhaps this statistic shows otherwise. In fact, the majority of student respondents (49% of those studying abroad and 46% of those choosing not to study abroad) indicated that although the cost was high, study abroad opportunities were worth pursuing. Similarly, outside influences such as SARS and terrorism, were not a concern for either group, with 48 per cent of the study abroad group and 71 per cent of the group not choosing study abroad as an option, indicating such outside influences were not a concern.

IMPLICATIONS

As shown by the above research, students who do not study abroad still see it as beneficial. The reasons students choose not to study abroad are not solely due to time and money. The results indicate that complicated procedures and not viewing study abroad as compatible with their plans impact students who choose not to study abroad the most. These findings of complexity and compatibility are similar to a study by Carlson et al. (1991) that examined students' motivations for studying abroad. Of the control group of students who did not study abroad, 66 per cent said they were willing to commit time and money to study abroad and only 23 per cent indicated they had little interest in studying abroad. The reasons they did not study abroad were because they found it unnecessary for their course of studies, inappropriate for their majors and feared it would delay their graduation.

Even though compatibility and complexity were ranked the lowest for students who participated in study abroad, if study abroad offices wanted to increase involvement, these areas must be addressed. Study abroad offices must show how study abroad is related to students' academic programs and how uncomplicated the process can be.

Targeting the role of the study abroad adviser as the change agent could be influential. Rogers (2003) defines the change agent, as "an individual who influences clients' innovation-decisions in a direction deemed desirable by a change agency" (p.27). Study abroad advisers, in their role as change agents, would explain to students how study abroad could benefit any major. Educating faculty on the process for study abroad would also prove beneficial. Faculty could advise students

more effectively on their class choices so that students can be better prepared on what classes they take on their home campus and what classes they take abroad so as not to delay their graduation. In addition, making faculty aware of the various programs available to students in their academic area might help make them more supportive of the idea.

Working more effectively with faculty and educating them on the benefits of study abroad is one way to make the study abroad process less complicated and more compatible for students. Study abroad offices can work with faculty and the registrar's office to facilitate the transfer credit process. Educating students on the process to study abroad can also make it less complex for them. Showing them how it will benefit their majors and future career opportunities is another option in making study abroad more compatible for students. Through these ideas, study abroad advisers can convert more students to study abroad and increase involvement.

CONCLUSION

The diffusion of innovation theory provides a new framework through which to study why some students take advantage of study abroad opportunities and other do not. The high cost of studying abroad and the threat of outside forces such as SARS and terrorism was shown to have little effect on student decisions on whether or not to study abroad. Due to the small sample size, further research should be conducted on why students who showed an initial interest in study abroad did not participate. By learning more about these factors, study abroad offices can better address these concerns and see more students choosing to study abroad.

REFERENCES

Bakalis, S., and Joiner, T. A. (2004). Participation in tertiary study abroad programs: The role of personality. *The International Journal of Educational Management, 18*(5), 286-291.

Carlson, J. S., Burn, B. B., Useem, J., and Yachimowicz, D. (1991). *Study Abroad: The expErience of American Undergraduates in Western Europe and the United States*. New York: Council on International Educational Exchange.

Carlson, J. S., and Widaman, K. F. (1988). The effects of study abroad during college on attitudes toward other cultures. *International Journal of Intercultural Relations, 12*, 1-18.

Carsello, C., and Creaser, J. (1976). How college students change during study abroad. *College Student Journal, 10*, 276-278.

Dearing, J. W., Rogers, E. M., Meyer, G., Casey, M. K., Rao, N., Campo, S., et al. (1996). Social marketing and diffusion-based strategies for communicating with unique populations: HIV prevention in San Francisco. *Journal of Health Communication, 1*, 343-363.

DeLoach, S., Saliba, L., Smith, V., and Tiemann, T. (2003). Developing a global mindset through short-term study abroad: A group discussion approach. *Journal of Teaching in International Business, 15*(1), 37-59.

Dolby, N. (2004). Encountering an American self: Study abroad and national identity. *Comparative Education Review, 48*(2), 150-173.

Douglas, C., and Jones-Rikkers, C. G. (2001). Study abroad programs and American student worldmindedness: An empirical analysis. *Journal of Teaching in International Business, 13*(1), 55-66.

Drews, D. R., and Meyer, L. L. (1996). Effects of study abroad on conceptualizations of national groups. *College Student Journal, 30*(4), 452-462.

Gullahorn, J. T., and Gullahorn, J. E. (1958). American objectives in study abroad. *The Journal of Higher Education, 29*(7), 369-374.

Kauffmann, N. L., and Kuh, G. D. (1984, April 1984). *The Impact of Study Abroad on Personal Development of College Students.* Paper presented at the American Educational Research Association Annual Meeting, New Orleans, LA.

Kitsantas, A. (2004). Studying abroad: The role of college students' goals on the development of cross-cultural skills and global understanding. *College Student Journal, 38*(3), 441-453.

Kitsantas, A., and Meyers, J. (2001). *Studying Abroad: Does it Enhance College Student Cross-Cultural Awareness?* (Educational Resources Information Center No. ED 456 648).

Kuh, G. D. (1995). The other curriculum: Out-of-class experiences associated with student learning and personal development. *The Journal of Higher Education, 66*(2), 123-155.

Limburg-Weber, L. (1999/2000). Send them packing: Study abroad as an option for gifted students. *Journal of Secondary Gifted Education, 11*(2), 43-52.

McCabe, L. T. (1994). The development of a global perspective during participation in Semester at Sea: A comparative global education program. *Educational Review, 46*(3), 275-287.

McCormack, W. (1966). New directions in study abroad: Opportunities for students in the professional schools. *The Journal of Higher Education, 37*(7), 369-376.

Meras, E. A. (1932). World-mindedness. *The Journal of Higher Education, 3*(5), 246-252.

Nash, D. (1976). The personal consequences of a year of study abroad. *The Journal of Higher Education, 47*(2), 191-203.

Open Doors 2003. (2003). New York: Institute of International Education.

Rogers, E. M. (2003). *Diffusion of Innovations* (5th ed.). New York: Free Press.

Why study abroad? (2003, November 14). [Online] http://www.northwestern.edu/studyabroad [September 29, 2004].

❖IEJ

Readability approaches: Implications for Turkey

Mustafa Ulusoy
University of Illinois at Urbana-Champaign *ulusoy@uiuc.edu*

Finding the right fit between students' reading ability and textbooks is very important for comprehension. Readability studies aim to analyse texts to find the right fit between students and texts. In this literature review, readability studies are classified under quantitative, qualitative and combined quantitative-qualitative readability approaches. The quantitative approach includes readability formulas, cloze test, and checklists and scales. The qualitative approach consists of leveling and checklists. The combined qualitative and quantitative readability approach is new in the field. In this approach, readability formulas can be used together with benchmark passages and checklists. The literature shows that readability formulas rely heavily on surface features of a text, and gives a rough estimate of the text readability. The qualitative approach focuses on the quality of writing style, and is criticised as being too subjective. The paper concludes by evaluating the implications of readability studies for Turkey.

Readability, quantitative and qualitative approaches, Turkey, cloze procedure

READABILITY

Readability is an important issue and finding the right fit between students' reading ability and text difficulty is an important and challenging task for teachers (Armbruster, in press; Fry, 1977a). Students have different prior experiences. In addition, every classroom has students who are above and below the average reading level. Reading texts also have a difficulty range. Although some texts can be read easily by the students, others are hard to read. Finding the right fit between the difficulty level of the text and the students' reading ability is very critical.

In this literature review, different readability approaches and research results are investigated. At the end of the review, readability and its possible implications are evaluated for Turkey. Armbruster (in press), and Gunning (2003) classified the major readability approaches as quantitative approaches, qualitative approaches, and combined quantitative/qualitative assessments. This classification is used to organise the review.

Quantitative Approaches

"The beginning of readability research come from two main sources- studies of vocabulary control and studies of readability measurement" (Chall, 1988, p. 2). In the vocabulary control studies, new words in the texts, repetition of these new words, and their difficulty were studied. From this point of view, the vocabulary control studies and the readability studies had similar purposes to measure the difficulty of texts for learning. Readability studies started in the 1920s for two reasons. First, Thorndike's *Teacher's Word Book* enabled teachers and researchers to measure word difficulty objectively. Second, more students started to go to secondary schools in the 1920s. These students did not have strong backgrounds to read the textbooks written for the earlier secondary school population (Chall, 1988).

As readability formulas, cloze tests, and checklists give quantitative results for text evaluators, they can be examined under the quantitative approaches.

Readability Formulas

Readability is usually determined according to a mathematical formula. Syntactic (sentence) and semantic (vocabulary) dimensions are used to apply the readability formulas. Sentence length and number of syllables per sentence are counted to have a number that represent the readability level of the texts. Generally, it is true that shorter sentences are easier to read than longer sentences and short words are easier to read than long words (Jacobson, 1998).

Generally, readability formulas give a rough estimate of text readability. According to Readence, Bean and Baldwin (2001), over 30 different readability formulas and graphs have been developed. On the other hand, Fry (2002) believes that there are over 100 readability formulas in existence.

Fry and SMOG readability formulas are the most popular for teachers to evaluate middle school and junior/senior high texts (Ruddell, 2005). These formulas are not complex. Teachers can use the formula manually because the calculation are very easy. For the Fry readability formula, teachers select three passages. Each should have 100 words. Proper nouns, initialisation, and numerals are counted. Then, the number of sentences and the number of syllables are counted, and converted to an average. Teachers find the intersect point of these two lines on the graph and the graph gives an approximate grade level from 1 to 17+ grades (Fry, 1968, 1977b).

In the SMOG formula, evaluators count 10 consecutive sentences near the beginning of the text, 10 in the middle, and 10 near the end. Every word of three or more syllables is counted in these 30 sentences. Then, the square root of the number of polysyllabic words is counted. Three is added to the approximate square root to find the SMOG grade (Ruddell, 2005).

In addition to hand-calculated formulas, there are other much complex formulas available on software for computer applications. These are Flesch-Kincaid, Degrees of Reading Power (DRP), ATOS (Advantage-TASA Open Standard), and The Lexile Framework. Scanning the whole text is the biggest advantage in the computer based readability formulas. DRP uses the "Dale List" and average number of letters per word; ATOS uses number of words, and average grade level of words, and Lexile Framework uses the sentence length and word frequency (Gunning, 2003). Flesch-Kincaid is a syllable formula, and it is used in Microsoft Word. The readability statistics include counts of words, characters, paragraphs, sentences, averages of sentences per paragraph, words per sentences, and characters per word. Also, the results give the "Flesch Reading Ease" and "Flesch-Kinkaid Grade Level". Microsoft Word users can find the readability statistics under the "Edit" option if they check "Show Readability Statistics" for MAC (Anderson, 2003). The same specialty can be found under the "Tools" option for the Microsoft Word for PCs.

Readability has the strength of objectivity and consistency. Any person or computer gets the same score when they search for the readability of a particular text. In addition, there is very large research base about the validation of readability formulas (Fry, 2002). On the other hand, these formulas rely heavily on surface features such as word and sentence length, and ignore the conceptual load and deeper syntactic structures (Valdes, Barrera, and Cardenas, 1984). Bailin and Grafstein (2001) also believe that students can understand some long sentences better than short ones because sentence length may actually facilitate comprehension, rather than impede it. In addition, the authors claim that vocabulary changes rapidly and different socio-cultural groups have different core vocabularies. Using the same word lists may not be suitable for these different cultural groups.

Readability formulas are used to evaluate literature, social studies, and science texts. Researchers generally examined the readability levels of the materials. Also, the readability literature contains

some other representative research about the validation of the readability formulas for other languages. Some selected research is given in the following section of the review.

Laughlin (1973) determined the readability level of the 79 easy-to-read books receiving primary level grading in the 1971 Children's Catalog through the use of three readability formulas (Fry, Spache, and Wheeler-Smith). The Fry Formula showed that 73 per cent of the books were suitable for the first grade readers. The Spache and Wheeler-Smith formulas revealed that 14 per cent and 86 per cent respectively were readable at the second grade level. The researcher concluded that easy-to-read failed to designate a specific readability level, even within one series.

Another study was conducted by Baxter (1992) to determine the effect of text difficulty as determined by the Fry readability formula on the comprehension monitoring performance of above and below average fourth grade readers whose selection was based on their standardised test scores. In this study, the subjects were given passages at levels that were matched to their reading levels. The hypothesis that their monitoring performance would get worse as the material got harder was not supported. In this study, readability of the material was determined solely by the Fry readability formula and it did not seem to have any pattern of influence on the performance of any of the readers. The researcher concluded that something in the passages or within the readers did cause performance to vary from passage to passage. Also, the researcher claimed that the match between the reader and the text is much more complicated than the simple matching of reader ability as determined by a standardised test with text readability as determined by a readability formula.

Dohrman (1972) investigated the readability of 75 intermediate social studies topic-articles from eight sets of encyclopaedias with two (Dale-Chall and Fry) readability techniques and determined the suitability of individual encyclopaedia articles for intermediate grade use from the resultant predicted readability scores. She evaluated a total of 600 topic-articles from the eight "Best Quality" encyclopaedias recommended by the American Library Association. The results indicated that there was no significant difference among the eight selected encyclopaedias as to their suitability such as collateral readability with students' graded reading levels, for grades four, five and six with regard to the readability of 75 social studies topics evaluated.

Crawford (1984) attempted to develop a valid and reliable procedure to assess the readability of elementary level materials in Spanish. She used average sentence length and average number of syllables per 100 words as independent variables, and grade levels as the dependent variable. By using multiple regression analysis, she developed a formula and a graph that use the same procedure for the Fry readability graph in English.

Parker and Hasbrouck (2001) used two formulas, modified Fry graph and computerised Spaulding formula, developed for Spanish language text to analyse nine stories that were read by 36 Spanish-speaking second graders with Limited English Proficiency (LEP). The nine passages about animals were translated into Spanish by a team of three native Spanish speakers. To find the modified Fry readability score the evaluators counted the number of syllables and sentences from three 100-word Spanish passages and subtracted the number 67 from the average number of syllables before plotting the results on the graph. The Spaulding formula uses average sentence and a list of most frequently used words in Spanish. Students read the stories and experienced evaluators recorded the errors such as substitutions, omissions, mispronunciations, and so on. Researchers found that the modified Fry formula only moderately predicted oral reading accuracy and oral reading fluency. Spaulding's Spanish readability scale was used only to predict chance levels. The researchers concluded that unique words, word length, and density of syllables were important both in English and in Spanish.

Hamsik (1984) conducted a study to determine if four widely used readability formulas (the Flesch formula, the Dale-Chall formula, the Fry Graph, and the Lorge formula) measured reading

difficulty for ESL students enrolled in intensive English centers in the United States in preparation for academic work. The research results showed that the four readability formulas and graphs can be used to measure readability of ESL students and select material appropriate to the reading level of ESL students.

Borchers (1990) asked teachers whether they used 11 reading strategies including the Fry readability graph and cloze tests. Of the 11 reading strategies, readability formulas had the lowest frequency of use for social studies, science and English teachers in their classrooms. This result shows that readability formulas are not popular for content area teachers.

Cloze Procedure

Cloze procedure was introduced by Taylor in 1953 and is based on the person's ability to complete incomplete words, images or thoughts (Ruddell, 2005; Vacca and Vacca, 2005).

> This techniques is used to determine the readability of written material, an individual's reading level on specific material, an individual's vocabulary level in a specific subject or topic area, an individual's language skills, and an estimate of an individual's general comprehension level. (Mariotti and Homan, 2001, p. 137)

Teachers first select a passage of 275-300 words and type the passage in double-space. The first and last sentences are left intact. Then, every fifth word of the other sentences are deleted. If the fifth word is a proper noun, it is skipped and the next word is deleted. Words are eliminated until there are a total of 50 deletions. Evaluators determine the correct replacements and multiply them by 2. Only the correct exact replacements are accepted as correct answer. According to Rankin and Culhane (1969), scores of 60 per cent and higher indicate that passage can be read independently by students. Scores between 40 and 60 per cent mean that students can read the passage with instruction. A score below the 40 per cent indicates that the passage is too difficult for students.

The cloze test can give evaluators more information than readability formulas because this test estimates how well each student functions when they interact with the text. In spite of these advantages, cloze procedure has one big disadvantage. Students generally do not like to do cloze tests because they are difficult for them. Evaluators should provide students five to ten practice sentences before administering the test. They should not expect a valid score when they first administer the test (Mariotti and Homan, 2001; Ruddell, 2005; Vacca and Vacca, 2005).

Checklists and Scales

Researchers developed alternative approaches to seek interactions between readers and texts. Students bring their prior knowledge, interests, and attitudes to these texts. Several instruments were developed to deepen evaluators' knowledge about the texts and textbooks. Irwin and Davis's (1980) "Readability Checklist" and Singer's (1992) "Friendly Text Evaluation Scale" are the best known scales that give quantitative results to the evaluators.

The Readability Checklist provides information about the readability of the text. It also gives teachers information to make a text more readable (Irvin, and Davis, 1980). The checklist has two variables. These are understandability and learnability. Understandability provides information to the teachers about required background knowledge to comprehend the text, and syntactic difficulty of the text such as sentence construction, main idea, and detail arrangements. Learnability gives information about the clarity and usefulness of the text or book (Ruddell, 2005).

Teachers rate the text by using a five point scale from unacceptable to excellent. After completing the checklist, teachers sum up their ratings, determine lowest rated items, and summarise the weaknesses of the text.

The Friendly Text Evaluation Scale is another way to see what makes a text friendlier than another. It is generally used along with the Fry graph. The scale has five variables: (1) text organisation (discourse consistency, and cohesiveness), (2) explication of ideas (prior knowledge, and organisational basis), (3) conceptual density (number of new ideas and vocabulary), (4) meta-discourse (conversation between the author and the reader about the text), and (5) instructional devices (table of contents, headings, subheadings, glossary and index) (Singer, 1992). Evaluators use a five point scale from strongly disagree to strongly agree. Textbook evaluators rate the scale and sum up their ratings at the end. "A score closer to 34 implies the text is friendly; scores closer to 170 suggest the text is unfriendly" (Singer, 1992, p. 163).

Hookstra (1990) used Singer's scale to evaluate three grade six social studies textbooks. Undergraduate and post-baccalaureate students majoring in elementary education performed the evaluation of the selected textbooks. According to the research results, textbooks were moderately considerate in terms of the five areas (text organisation, explication of ideas, conceptual density, meta-discourse, instructional devices). Organisation and instructional devices were rated highest and appropriate level of conceptual density and appropriate use of meta-discourse features were rated lowest. The researcher concluded that the textbooks were readable but the sub-areas of the Singer scale could of course be improved.

Qualitative Approaches

Readability formulas are useful to analyse average number of polysyllabic words and the average number of sentences taken from sample passages in a text. According to Readance, Bean, and Baldwin (2001), these measures are not applicable to poetry, or the symbolic discourse of such disciplines as mathematics, and chemistry.

The quality of the writing style is also an important factor to evaluate in analysing the readability of texts. Readability formulas are not sensible for scrambled passages. They can give the same score for a scrambled passage and for a passage with acceptable syntax (Readance, Bean, and Baldwin, 2001). In addition, some important text variables such as structure, coherence and cohesion, and important reader variables such as prior knowledge, interest, motivation and purpose for reading cannot be measured by readability formulas (Armbruster, in press). Evaluators can use checklists to have ideas about these important text and reader variables. Leveled books can also be used to establish text difficulty.

Checklists

Instead of a checklist, Alvermann and Phelps (2002, p. 174) give teachers a framework to develop their own checklist. The framework has four headings. These are content, format, utility and style. Every heading has its own open ended questions. For example, the content includes questions about the depth of the content, new or difficult vocabulary, new concepts, and appropriateness of the text and students' prior knowledge. Format has questions about illustrations, introductions, summaries and index. Utility includes questions about activities, teacher's manual and additional readings. The last part of the framework is style and it has questions about the complexity and cohesion of the text or book.

Gunning (1998) claimed that teachers should foster students' ability to choose books by helping them develop criteria. Students should be able to select interesting but not difficult books. According to Fielding (as cited in Gunning, 1998, p. 29), students should be able to ask themselves the following questions in order to find appropriate-level books:

1. Does the book seem interesting?
2. Does the book seem to be like the ones I usually read? Does it have about the same number of words? Does it have about the same number of pictures?
3. Can I read most of the words or figure out most of the ones I don't know?
4. When I try reading a page or two, does my reading seem smooth or do I have to stop a lot to try to figure out words?

Armbruster and Anderson (1981) formulated a set of maxims. They claimed that if authors follow the maxims they can produce "considerate" text. These maxims are:

1. Structure: Choose a discourse structure that best conveys the informative purpose.
2. Coherence: Make the relationships among ideas clear enough so that there is a logical connection or flow of meaning from one idea to the next.
3. Unity: Address one purpose at a time; do not stray from the purpose by including irrelevant and distracting information.
4. Audience Appropriateness: Make sure the text fits the knowledge base of the reader (pp. 2-3).

Readers can gather appropriate information from considerate text with minimal cognitive effort. On the other hand, as the maxims are not presented in the inconsiderate text, readers need to spend extra time to apply them for the text. Readers can comprehend an inconsiderate text but they will need to spend extra time, effort, strategy and skill (Anderson and Armbruster, 1984).

Armbruster and Anderson (1981; 1984) developed a "Textbook Evaluation Response Form". Evaluators can use this checklist to evaluate text quality. The authors implied that the checklist is not an objective method to evaluating texts. The checklist can help evaluators to systematise their subjective judgments about text quality. The checklist can be completed in eight steps. First, evaluators select three 150 to 400 words passages from the textbooks. These passages should have a title or heading. Second, evaluators only read the title and formulate questions based on information found in the heading or title. When they prepare the questions, they should remember that these questions will be answered in the remaining of the passage. Third, they read the passage and underline the parts that are necessary to answer the questions. Fourth, they decide if the passages have complete or adequate answers to relevant questions. Fifth, they rate each paragraph by using 1 to 5 scale (1 is Low, and 5 is High). Sixth, evaluators determine how coherent the passage is. They should answer five sub questions to decide about the passage. These questions are related to connectives, pronouns, nouns, phrases, and order of the events that are found in the passage. Seventh, they determine to what extent the ideas in the passage contribute to a single text unit or frame. Finally, evaluator decides how appropriate the text is for readers.

According to Armbruster (in press), checklists have two major weaknesses. First, teachers do not use the checklists because they do not evaluate the textbooks before their adoption. Second, they do not have time and effort to evaluate the texts.

Garner, Slater, Weaver, and Cole (2001) were interested in finding out if pre-service teachers notice inconsiderate text features. They used the characteristics of inconsiderate text identified by Armbruster and Anderson (1981). The pre-service teachers surveyed the intermediate social studies textbooks. These textbooks had the characteristics of the inconsiderate text. Student-teachers were told to read the chapters three times. Then, they tried to find where the students might experience difficulty understanding the material. The results showed that pre-service teachers were not able to detect inconsiderate text features. Only two of the 17 teachers mentioned any flaws, and detected only a single problem of five appearing in the text segment. The researchers concluded that pre-service methods courses need to provide experience for prospective teachers in noticing and compensating text flaws. Also, they concluded that a

checklist developed by Anderson and Armbruster (1984) can guide evaluators in making judgments about textbooks.

Leveling

"Leveling systems are especially important at the beginning levels of reading where type size, number of words on a page, and helpfulness of illustrations can make a significant difference" (Gunning, 2003, p. 180). Leveling takes a number of "text support" factors into consideration such as illustration, length, curriculum, language structure, judgment, and format (Fry, 2002).

There are different kinds of leveling systems. For example, teachers in New Zealand created a readability system where they categorised the books into nine levels, such as emergent, early 1, early 2, early 3, early 4, and fluency 1, fluency 2, fluency 3 and fluency 4 (Gunning, 2003).

Gunning (1998) used another leveling system and provided annotated listing of best books for beginning readers from Picture level to Grade 2A. He believes that "Informal Reading Inventory" is widely accepted placement device for beginning readers. This inventory has students begin with easy material and read increasingly difficult material. As a result of the inventory, teachers can find the right level for the students. He gives a "Graduated Word Lists" and "Primary Reading Passages Inventory" in his book. According to him, they can give reasonably valid placement information. After students have been assigned a level, teachers check the accuracy of the placement by observing the students.

Fountas and Pinnel (1999) also provided leveled books for K-3. They worked with teachers, and developed levels A through P. There is no rigid division between grade levels in their system. According to their approximate grade level correspondence, Kindergarten level is between A-C, Grade 1 is between B-I, Grade 2 is between H-M, Grade 3 is between L-P, and Grade 4 is between O-R levels.

Pinnel and Fountas (2002) gave a leveled books list in their book for grades 3-6. They create a gradient of text. In their gradient, "Level A is Kindergarten, Level B-I is Grade One, Level H-M is Grade Two, Level L-P is Grade Three, Level O-T is Grade Four, Level S-W is Grade Five, Level V-Y is Grade Six, Level Z is Grades Seven, Eight" (p.13).

Another leveling system was created by Rog and Burton (2002). They created explicit descriptions of what texts look like at each level (Level 1-10) of development. These studies show that there are different kinds of leveling systems. As Brabham and Villaume (2002) said, leveled texts are important because they encourage teachers to select materials that are just right for students. On the other hand, leveling has some limitations. First, leveling is used mostly from K-6. Second, the leveling system is qualitative, and it is more subjective (Armbruster, in press).

Combined Quantitative and Qualitative Analyses

"Combining qualitative and quantitative measures of readability is a new trend but it is still in its infancy" (Armbruster, in press). In this trend, a readability formula can be used as a beginning estimate. Then, teachers can judge the text based on a checklist and benchmark passages (Rothkopf, 1985).

The Qualitative Assessment of Text Difficulty (Chall, Bissex, Conard, and Harris-Sharples, 1996) uses both qualitative and quantitative factors. It can be used for both informational and fictional books, and has six scales and nine levels from grade one through college. First, evaluators select an appropriate scale. Then, they can select 100-word examples from their textbook or text. Evaluators compare the selected passage with benchmark passage, and try to determine sentence complexity, conceptual difficulty and vocabulary difficulty, and number of ideas. If teachers

evaluate a book, they can select different 100-word passages and take an average from the selected passages to determine the difficulty.

Kinder, Bursuck and Epstein (1992) combined quantitative and qualitative methods to measure textbook readability. They evaluated 10 eighth-grade American history textbooks. The authors used an evaluation form based on Armbruster's (1984) conception of global and local coherence. Organisational signals and frequently used text structures were used to evaluate global coherence. Local coherence was evaluated on the paragraph level. Pronouns and their antecedent nouns were found. In addition to these, readabilities were calculated using the Fry Readability Scale for each text. The research results showed that all the textbooks were one or more years above the grade level. Texts had most of the elements of organisation but their qualities were different. Although most of the texts had instructions, only 3 per cent provided review material contained in previous chapters and only 60 per cent provided an overview of material to be presented in the chapter. The researchers identified many questions both within and at the end of text chapters but questions at the beginning were almost nonexistent. The local coherence of the text was found good by the researchers.

Readability in Turkey

According to Oliveira (1996), textbooks are more important to developing countries than they are in developed countries. As a developing country, the importance of the textbooks in Turkey supports Oliveria's claim. Textbooks are considered an essential tool for schooling in Turkey. They are highly valued and used by the Ministry of National Education and teachers because textbooks help them deliver the curriculum.

Readability formulas that are prepared for the English speaking world are not suitable for Turkish since the calculated readability levels of first and second grade level textbooks give results at the 17+ grade readability level. Apparently, this is because of the structure of the Turkish language. Leveling system for English books is also not a suitable way to evaluate the readability level of Turkish books.

The best-known readability formulas such as Fry and SMOG should be validated for Turkish. Developing a leveling system for Turkish story books could also be useful for the teachers and students. It is clear that readability studies for Turkish texts and textbooks are waiting for Turkish researchers. Other qualitative and quantitative text readability methods such as checklists, and cloze procedure can be used in their present form to evaluate Turkish textbooks' difficulty level.

Evaluating the Turkish content area textbooks should be the first step for researchers. After evaluating textbook readabilities qualitatively and quantitatively, suggestions could be made to publishers. Students' achievement on cloze test passages can also be an indicator about textbook readability. These kinds of studies would give publishers information about the match between students' reading and textbooks' difficulty levels.

The best match between the students and textbook can be made by teachers. Turkish content area teachers should be able to evaluate readability of textbooks and students' reading abilities. In-service education for content area teachers and reading courses for pre-service content area teachers may be the solution to inform them about these topics. After having a basic knowledge about the readability, these teachers can evaluate the textbooks for their students.

Teachers' evaluations can give publishers more realistic feedback about the match between students' reading and textbooks' difficulty levels. There is no doubt that readability studies for Turkish content area textbooks and storybooks will help publishers to provide students more readable and comprehensible books.

REFERENCES

Alvermann, D. E, and Phelps, S. F. (2002). *Content Reading and Literacy: Succeeding Intoday's Diverse Classroom*. Boston, MA: Allyn and Bacon.

Anderson, M. A. (2003). Everyday tech tools and reading. *Multimedia Schools*, 10(6), 21-23.

Anderson, T. H., and Armbruster, B. B. (1984). Content area textbooks. In R. C. Anderson, J. Osborn, and R. J. Tierney (Eds.), *Learning to Read in American Schools: Basal Readers and Content Texts* (pp. 193-226). Hillsdale, NJ: Lawrence Erlbaum Associates.

Armbruster, B. B. (in press). Matching readers and texts: The continuing quest. In D. Lapp, J. Flood, and N. Farnan (Eds.), *Content area reading and learning* (3rd ed., pp.). New York: Erlbaum.

Armbruster, B. B., and Anderson, T. H. (1981). *Content Area Textbooks* (Reading Education Report No. 23). Urbana, IL: Center for the Study of Reading.

Bailin, A., and Grafstein, A. (2001). The linguistic assumptions underlying readability formulae: A critique. *Language and Communication*, 21, 285-301.

Baxter, K. M. (1992). Reader-text match: The interactive effect of reader ability and text difficulty on comprehension monitoring. Unpublished doctoral dissertation, University of Northern Iowa.

Borchers, C. A. (1990). Content area teachers' uses of textbooks and content area reading strategies in Kansas science, social studies, and English secondary school classes. Unpublished doctoral dissertation, Kansas State University.

Brabham, E. G., and Villaume, S. K. (2002). Leveled text: The good news and the bad news. *The Reading Teacher*, 55, 438-441.

Chall, J. S. (1988). The beginning years. In B. L. Zakaluk, and S. J. Samuels (Eds.), *Readability: Its Past, Present, and Future* (pp. 2-13). Newark, DE: International Reading Association.

Chall, J. S., Bissex, G. L., Conard, S. S., and Harris-Sharples, S. H. (1996). *Qualitative Assessment of Text Difficulty: A Practical Guide for Teachers and Writers*. Cambridge, MA: Brookline Books.

Crawford, A. N. (1984). *A Spanish Language Fry-Type Readability Procedure: Elementary Level* (Vol. 7 No. 3). Los Angeles, CA: California State University, Evaluation, Dissemination and Assessment Center.

Dohrman, M. H. (1972). A readability evaluation of selected intermediate grade social studies topics from eight encyclopaedias. Unpublished doctoral dissertation, The University of New Mexico.

Fountas, I. C., and Pinnell, G. S. (1999). *Matching Books to Readers: Using Leveled Books in Guided Reading, K-3*. Portsmouth, NH: Heinemann.

Fry, E. (1968). A readability formula that saves time. *Journal of Reading*, 11, 513-516.

Fry, E. (1977a). *Elementary Reading Instruction*. New York: McGraw-Hill.

Fry, E. (1977b). Fry's readability graph: Clarifications, validity, and extension to level17. *Journal of Reading*, 21, 242-252.

Fry, E. (2002). Readability versus leveling. *The Reading Teacher*, 56, 286-291.

Garner, R., Slater, W. H., Weaver V. P., and Cole, M. (2001). Do pre-service teachers notice textbook flaws? *Education*, 106(4), 429-433.

Gunning, T. G. (1998). *Best Books for Beginning Readers*. Needham Heights, MA: Allyn and Bacon.

Gunning, T. G. (2003). The role of readability in today's classrooms. *Topics in Language Disorders*, 23, 175-189.

Hamsik, M. J. (1984). Reading, readability, and the ESL reader. Unpublished doctoral dissertation, The Florida State University.

Hookstra, G. M. (1990). Middle school social studies: An examination of textbook structure, classroom interaction, and student achievement. Unpublished doctoral dissertation, Oregon State University.

Irwin, J. W., and Davis, C. A. (1980). Assessing readability: The checklist approach. *Journal of Reading*, 24, 124-130.

Jacobson, J. M. (1998). *Content Area Reading: Integration with the Language Arts*. New York: Delmar.

Kinder, D., Bursuck, B., and Epstein, M. (1992). An evaluation of history textbooks. *The Journal of Special Education*, 25, 472-491.

Laughlin, M. K. (1973). The readability of the Easy-to-Read trade books. Unpublished doctoral dissertation, The University of Oklahoma.

Mariotti, A. S., and Homan, S. P. (2001). *Linking Reading Assessment to Instruction: An Application Worktext for Elementary Classroom Teachers* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Oliveira, J. (1996). Textbooks in developing countries. In V. Greaney, (ed.) *Promoting Reading in Developing Countries* (pp. 78-90). Newark, DE: International Reading Association.

Parker, R. I., and Hasbrouck J. E. (2001). Spanish readability formulas for elementary-level texts: A validation study. *Reading and Writing Quarterly*, 17, 307-322.

Pinnell, G. S., and Fountas, I. C. (2002). *Leveled Books for Readers Grades 3-6*. Portsmouth, NH: Heinemann.

Rankin, E. F., and Culhane, J. W. (1969). Comparable cloze and multiple-choice comprehension test scores. *Journal of Reading*, 13, 193-198.

Readence, J. E., Bean, T. W., and Baldwin, R. S. (2001). *Content Area Literacy: An Integrated Approach* (7th ed.). Dubuque, IA: Kendall/Hunt.

Rog, L. J., and Burton, W. (2002). Matching texts and readers: Leveling early reading materials for assessment and instruction. *The Reading Teacher*, 55, 348-356.

Rothkopf, E. Z. (1985). Writing to teach and reading to learn: A perspective on the psychology of written instruction. In H. Singer, and R. R. Ruddell (Eds.) *Theoretical Models and Processes of Reading* (3rd ed. pp.879-907). Newark, DE: International Reading Association.

Ruddell, M. R. (2005). *Teaching Content Reading and Writing* (4th ed.). Hoboken, NJ: John Wiley and Sons.

Singer, H. (1992). Friendly texts: Description and criteria. In E. K. Dishner, T. W. Bean, J. E. Readence, and D. W. Moore (Eds.), *Reading in the Content Areas: Improving Classroom Instruction* (3rd ed., pp. 155-170). Dubuque, IA: Kendall/Hunt.

Vacca, R. T., and Vacca, J. A. L. (2005). *Content AREA Reading: Literacy and Learning Across the Curriculum* (8th ed.). Boston, MA: Pearson Education.

Valdes, G., Barrera, R., and Cardenas, M. (1984). Constructing matching texts in two languages: The application of propositional analysis. *The Journal for the National Association of Bilingual Education*, 9, 3-19.

Teaching leadership in the Russian Federation: Looking through the post-Soviet lens

Lynnette F. Brouwer
University of Wisconsin-Stout, Menomonie, United States *brouwerl@uwstout.edu*

This paper addresses the Fulbright experience of an American faculty member in Eastern Siberia, Russian Federation. Both course content and teaching method are contrasted with what is traditional and customary in that region. The author regularly kept a journal, enabling thoughtful post-experience reflection. Continued emphasis on the "collective", as well as a Russian colleague's identification of "the gap between what and how" in post-Soviet culture, helped the author to focus both academic and practical challenges facing students and faculty.

Leadership, teaching, cross-cultural, Russian, Fulbright Scholarship

INTRODUCTION

On May 15, 2003 I received official notification of my Fulbright appointment to the Russian Federation. I had requested an assignment with East-Siberian State Technological University (ESSTU) in Ulan Ude of the Buryat Republic. Buryatia is one of Russia's semi-autonomous republics with its own regional government. It is bordered on the south by Mongolia and on the west by Lake Baikal, the largest body of fresh water in the world. The lake is home to many species found nowhere else and is revered there as the birthplace of the world.

Ulan Ude was off-limits to foreigners during Soviet days (Thomas, 2001). Even today, the trans-Baikal region of Siberia, though a tremendous potential tourist attraction, remains just that—a 'potential' attraction. For this reason, the region has maintained a great deal of its traditional culture, and social and organisational practices. It presents, therefore, superb conditions for examining citizens' post-Soviet views on organisational practice. Views here, in contrast to those in western Russia's large cities, have not been highly influenced by the West but have evolved more slowly, retaining more Russian and Siberian, rather than European, culture.

This paper focuses on my experiences teaching organisational courses while on the Fulbright Scholarship. I taught continuous courses throughout the semester at two different universities and spoke as a guest or conducted intermittent seminars at two high schools, an English language school and one other university. The content of these courses centered on what it takes to build an organisation that provides quality service and various leadership approaches effective in such an organisation.

Quality service and the notion of leadership as something which can be learned are still novel ideas in the post-Soviet environment (for example, Kets De Vries, 2000; Taplin, 1998). Employing my own and my students' cultural lenses, I had a critical encounter with the leadership and service quality material that I simply do not get when teaching from a Western perspective to mostly North American students here in Wisconsin.

METHOD

This paper draws on the journal kept throughout our stay; it takes a qualitative approach to examining the juxtaposition of well-accepted service quality and leadership material presented in an environment where it is certainly new, if not perceived as downright odd (e.g., Barner-Barry and Hody, 1995; Puffer, 1996). I made a deliberate point of writing extensively in my journal at least twice a week, "to catch the process as it occurs" (Taylor and Bogdan, 1984, p. 6) and capture details while still fresh. Further, in qualitative style, I made every effort to "try to understand people from their own frame of reference" (p. 6), often asking students and friends questions to help me fully comprehend their perspective. Of necessity, this paper is presented in the first person as these crosscultural reflections are grounded in first-hand experience.

Living in two different homestay situations, one with a college teacher and her two-year-old son, the other with business owners and a college and high school student, further helped me "to study the reality of everyday life" (Taylor and Bogdan, 1984, p. 11). This broad context of living in the situation, becoming intimately familiar with my post-Soviet environment, further enriched my experience and authenticated the cross-cultural perspective I gained on Western approaches to service quality and leadership. I was left with a perspective stated by Margaret Mead as quoted in Kets de Vries (2001): "As the traveller who has once been from home is wiser than he who has never left his own doorstep, so a knowledge of one other culture should sharpen our ability to scrutinise more steadily . . . our own" (p. 225).

SETTING

Ulan Ude is a city of 350,000 and the capital of the Buryat Republic. Estimates are that about 30 per cent of this population is Buryat, one of the largest indigenous populations remaining in Russia, (Bashkuev, 1995) and nearly all of the remaining 70 per cent is ethnic Russian (Imithenov and Egorov, 2001). A small number of Mongolians, Koreans, and people from such newly independent states as Kazakhstan and Uzbekistan also reside in Buryatia. Many of the Russians are descendants of people exiled here by Stalin and the Czars before him (e.g., Ginzberg, 1982 (1979); Kennan, 1958 (1891); Lincoln, 1994).

Ulan Ude and the whole of Buryatia are hidden treasures. Off-limits to foreigners until the breakup of the Soviet Union, Ulan Ude is home to a world-class ballet, two professional Buryat dance and vocal troupes, four large theatres, as well as numerous smaller ones, and six universities (Imithenov and Egorov, 2001; Pantaeva, 1998). The region hosts an exotic mix of Asian and Caucasian peoples, and several contrasting religions including Russian Orthodox, Judaism, Buddhism and Shamanism (Reid, 2002). The natural beauty of the region is unsurpassed. The rolling steppes in the south, rugged and impassable Sayanna range and the gorgeous and pristine Lake Baikal in the west, and more roadless wilderness to the north, make Buryatia a visual paradise.

I discovered all of this only because I had been introduced to the region by my daughter. I met her when she was seven months old, one of Russia's tens of thousands of children living in its orphanages. I first travelled to Buryatia in January 1998. We went back for two weeks in May of 2001 and 2002, and our semester in the fall of 2003 further deepened my understanding of, and appreciation for, the region.

We arrived in Ulan Ude on August 28, spending one night in St. Petersburg en-route and another (unplanned) night in the Krasnoyarsk airport waiting for winds in Ulan Ude to die down. I began teaching on September 6.

TEACHING LEADERSHIP THE AMERICAN WAY: METHODS AND MEANING

The Friday course with graduate students at ESSTU was the only one that met weekly throughout my stay. By mid-September I arranged three additional courses in which I met with the students once every other week, two at ESSTU and one at the private Humanities University. What follows in this first section are edited and elaborated accounts of key journal entries I kept on the Friday course, in which I taught leadership and service management. In this course I worked closely with my friend Bairma Tsibikdorzhieva who taught and worked in the International Relations Office at ESSTU.

Our first meeting

Sunday, September 8. In class Friday, there was heated discussion among the students about the good old days of the Soviet Union and the shortages and standing in long lines to purchase items in post-Soviet days, specifically 1999- 2001. Twelve rubles were worth a dollar at the beginning of 1998; later that same year, with the ruble's devaluation, it took 24 to make a dollar. Everything jumped in price and for those who had savings, that nest egg was worth half what it had been. Then the ruble's value crept down to 30 per dollar.

Genia claims strongly that during the days of the Soviet Union things were much better than today; she holds Gorbachov responsible. Silent nods from Anna; strong words in Russian from polite Olyssia as she turns in her chair and speaks directly to Genia. Bairma explains to me later that Olyssia has said: "How can you say the times were better when my mother was unable even to buy a dress for her wedding! At least now you can buy a wedding dress!" But, in English, Genia insists that there were not then the children in orphanages and homeless in the street. "Did you see the people sitting on the street begging as you do now?" Her voice is strong and becoming loud. As for me, I think that there was less transparency then. I could be wrong.

They also talked about people not getting paid their salaries in 1999-2001. "It was very hard times," said Bairma. "I wonder how people got through such times, but I was here." She continued: "And I remember someone would call a relative and ask, 'Can I borrow from you for perhaps three month [sic]?' And this is when the politicians began to speak of small and mid-sized businesses, when the workers were not getting paid. But they still talk and it is still a project, nothing happens. Taxes are so high for these businesses that they stay in business maybe only one year." I learn that when Russians use the work *project*, they mean *plan*—that nothing has yet happened.

I told the students before we left class that I hope they have these candid discussions in their economics classes because that is where they really need to explore critically socialism and communism, capitalism and democracy. They look down, shake heads, smile resignedly and Bairma says, "But you remember our style of teaching does not allow for such."

"*Plocha*," I say. And in this case, I do believe it's bad. I try to reserve judgment on the Russian way but these educated young people need to participate in effective economic critique in order to reflect in an informed way on the republic's, and country's, economic situation and participate in moving it forward. Right now, this is what economic education needs to provide for these graduate students. The traditional lecture style of university education in Russia does a disservice to these bright inquisitive minds. If they are to live and work in a country which is inventing its own economic and political path, they need to grapple with the real strategic and leadership issues that path raises. But for now, I know that there is at least no hesitation on the part of these students to discuss difficult issues in ***my*** class.

The students

The students are quick and bright with surprisingly good experience and summer jobs. They are anxious to discuss, and respond quickly to questions. Genia leads the conversation with her strong emotional arguments, yet she accepts confrontation from classmates. Her strong and opinionated mind is willing to learn; she wants to work in international ecotourism and has already spent a summer with Andrei Suknayev's volunteers who come from around the world to help build the Great Baikal trail around the lake. Anna is quiet and thoughtful but she too has had experience practising her English with Americans—students an English teacher brought to her village. Olyssia is reflective and insightful yet unsure of her English and mostly has a knowing look in her eyes as she sits there in the front row. Though they will all graduate in the coming May, she is the only one with definite career plans—to join the Russian Army. Maria is quiet next to Genia, her head often resting on Genia's shoulder. She would like to go into world trade and has just spent the summer working in the travel section for the city of Ulan Ude. Nastya is also outspoken, and she and Genia spar verbally later. Nastya has worked in the local aviation plant, still one of the city's largest employers, translating written documents from English to Russian. Selmack is a bright Buryat who hopes to make her profession in Russian trade relations with China and Mongolia; she studies Chinese in addition to English.

There are to be other students but it seems they may not come until near the end of the month. They are in villages with family and it is difficult for them to get here, the students explain. They will be one, two or perhaps three weeks late. No one knows for sure. There is a casual attitude toward attendance, even more so than in the States. This is something I do not understand until I become familiar with the grading scheme near the end of the semester. Course grades are generally comprised from a large course paper and an oral exam consisting of two or three questions. The course grades are highly subjective, require little if any rationale from the instructor (which is why it is possible to buy grades), and can theoretically, at least, be earned without attending class regularly.

When the rest of the students come in subsequent weeks I learn they are Katya, Boyanna, Andrei, Lana and Natalia. Katya's home is in Chita Oblast to the east; she has also worked with Suknayev's international trail-building group. Shy Boyanna has worked with a local tourist company as a travel agent. Withdrawn Andrei is a manager in his family's renovation business but does not project the decisiveness and extroversion we often associate with managers in the West. I will learn that for Russian citizens, hiring someone in the family is a greater priority than hiring the right person for the job. This is due, at least in part, to decades of mistrust in non-family members. Lana speaks the most fluent English and wears beautiful fur coats along with Katya; the others wear long wool. She has officially changed her name to this more American version of her given Russian name. Finally there is Natalia, Lana's friend, nearly always by her side, whether in class, on the street or in the Project Harmony computer lab.

Soviet context

The strong feelings of the students that things were better in Soviet days stay with me, I say to Bairma after class, "What we read in the States is that the Soviet Union was bankrupt when Gorbachev began making the transition to capitalism and democracy—that the soviet system could not have continued as it was because it had no money."

"Hmm," she furrows her brow in quiet surprise and disapproval. She says Gorbachov is understood as an independent actor, independence generally being frowned on in this communal society. He was free to make a choice for change, or not. He made the choice for change and most of these young people think he made the wrong choice and the country is worse off for it.

As we continue our after-class discussion at a nearby café over beet salad and a meat patty with mashed potatoes, Bairma asks "And what is this *entrepreneur*? Why not *businessman*?" I have used the word in class this morning in reference to Andrei Suknayev.

We discuss the orientation of the entrepreneur, the approach to the world—risk-taking, experimentation, trying any number of new things, starting a business but perhaps choosing someone else to manage it in the long term. She understands—"It is a mentality," she says. Exactly—and a mentality that could get one imprisoned or killed here in the not-too-distant past. For until 1991 it was a crime to even own a business here, never mind the brutally enforced cultural bias against the entrepreneurial orientation of experimentation and risk-taking, of standing out from the group. This is a culture of risk-aversion, and understandably so. Over the coming months I will learn more from my students about how this culture negatively impacts on service quality and the emergence of leadership here.

Pedagogy

Besides encouraging and integrating student discussion and analysis of course material, I brought in practitioners as guest speakers. I understood neither of these approaches were common practice in Russian universities; straight lecture is the norm and colleagues here have advised me this is what students need. There is a rift in Russia between academia and industry that is much greater than that in the States, edging into mistrust. This does nothing to help either industry or academia move forward on Russia's new path toward its own form of democracy and capitalism.

Both speakers were excellent and student discussion during and after their visits was pointed and provocative. On October 4 Andrei Sukhayev of the Great Baikal Trail came in and in November my new friend Gelya, came to discuss her small tourism firm Ethno-Tour. Through these speakers we addressed service quality, entrepreneurship and leadership.

Saturday, October 5. Friday Andrei Suknayev came into class; he was engaging, relaxed and informative as he discussed his business, its beginnings, mission and activities.

One of Andrei's ventures is to bring volunteers from around the world each summer to help him achieve his dream of building a trail to national standards around Lake Baikal. More information is available online at http://baikal.eastsib.ru/fgbt/. They work from several camps spread around the lake, building sections of trail from those locations. He addresses community-building in host villages, team development among volunteers, being a role model as he engages in all aspects of trail building himself, and responding to the varied needs and expectations of a large number of workers—local community members, international volunteers and Great Baikal Trail employees. The students are focused during his presentation and full of comments and questions when he opens the floor. They function well in this environment.

Tuesday, November 25. Gelya spoke in class on Friday about her tourism business. I had purchased Gelya's services myself and so already knew that in her little seasonal business, she provided tourists with an authentic Buryat meal in her *yurta,* accompanied by a thorough explanation of this traditional dwelling's uses and construction, as well as a discussion of Buryat culture and history. She serves people from around the world during March through November, typically hosting groups as large as eight, five times a week and sometimes two in one day. She has one partner, her cousin. Beyond that she has contacts to bring in Buryat musicians and dancers if people wish, and her brother sometimes provides transportation.

We learned that she has an extremely successful little business faced with great opportunities for expansion. With no web presence, she is entirely dependent on local travel agents, as well as one in the United Kingdom and one in Irkutsk—a city of 500,000 in the neighbouring region. Students

identified opportunities for direct sales and marketing through her own web site, increased access by regularly providing a driver to her yurta, and helping tourists locate Buryat mementos by providing a network of personal souvenir shoppers. Growing a small business is difficult here, however, as people are not inclined to hire outside of the family; the history of mistrust is too strong.

Gelya also discussed the difficulty of growing a business based in a village. In Ahtsagaht, a village about one hour from Ulan Ude where Gelya had brought Zoia and me for a weekend to visit the Buryat temple, ride horseback and walk through the woods to the sacred and medicinal spring called an *arshan.* The horse-owner Erdem wants to go into business and provide horseback riding to tourists. The other "settlers"*,* as she called them, are suspicious of foreigners. The family that provided the *banya* (Russian-style sauna) for Zoia and me, does not wish to provide this service on a regular basis because they have several small children to tend to. Most village residents are not on the lookout for personal capitalist ventures; they have their *izba*, the traditional Siberian wooden dwelling, and garden and cow, and need or want little else.

In spite of the difficulties Gelya raised, however, the students were inspired to explore their own small business ideas during our remaining class time. Katya and Genia began hatching a plan to use Katya's flat in the city and Genia's *dacha* (cabin usually with garden) in the country to provide housing and outings for tourists. Others saw individual opportunities to provide personal shopping help for tourists, perhaps posting notices at local hotels.

Gelya started her business for personal reasons—a friend from Moscow planned to visit and wanted Gelya to find authentic Buryat outings for her. When she found none, she decided to start her own. She was living proof for the students that a soft-spoken single woman of modest means with no grand strategic plan or capitalist goals could start a small tourism business and be successful. The excitement they walked out of the classroom with that day could never have come from a faculty lecture, but only from this quiet Buryat woman who had done it herself.

Values

Sunday, October 19. Values discussion in Friday's class—what was really interesting was the values that they said have changed since Soviet days. First we identified what they value as individuals, then what society values and then what Soviet society valued.

They put security in all three columns, saying it is valued by them as individuals, by society and by the former Soviet society as well. They feel less secure financially now and in terms of employment because of the unstable economy. In turn, they feel less physically secure because of increased crime due to the unstable economy. They feel less freedom because of this sense of insecurity.

This deduction, feeling less freedom today than in Soviet times, makes perfect sense when laid out in this domino-like effect, but is absolutely contrary to my naïve assumption. Of course one would feel more freedom today, I thought. But they identified what I would simply have called freedom, as 'freedom of choice'. This, they said, is a new value that has come along with democracy and capitalism. But capitalism remains more an idea than a reality. They are also not sure the extent to which their country has achieved democracy but see themselves on the road toward it. Autonomy and independence, like capitalism and democracy, are fine ideas but without financial security are more dream than daily life.

When we talked about the values of excellent American service firms analysed by Berry (1999), they understood immediately what these values meant and why they would positively impact an organisation. Values are a key component of contemporary approaches to leadership (e.g., Allen et

al., 1998; Kidder, 1995). Those identified in Berry include joy, integrity, innovation, teamwork, autonomy, respect and social profit.

First, **Integrity**. "Does this mean 'entirety' or 'honesty'," asks Bairma.

"Both," I am able to say.

Students at home never give me this lead-in. We discuss the root of this word, which implies entirety or oneness—a singleness of focus and values, an integration of ideals and action. If I am trustworthy and respectful with my family and have integrity, then I will be trustworthy and respectful with my colleagues as well, I explain. And, yes, it also means 'honesty', 'truthfulness', 'candour', 'transparency'—'*glasnost*' or 'openness'. While this has been a Russian Federation ideal since Gorbachev, integrity, whether as honesty and openness or as consistent values, remains more national ideal than reality. In terms of organisations, these students are not sure it is even held as an ideal. They still feel their organisations and politicians do not tell them the truth, that there is an official version of reality in their country, quite unlike the reality they know and live from day to day. The first speaks of democracy and economic opportunity, the other of an overwhelmingly apathetic electorate, economic depression and a huge black market.

Joy. "Why is joy important in an organisation?" I ask.

"Because if you are happy then you will be happy to the customer," responds Boyanna.

It's obvious to them, yet their laughter when I introduce this workplace value reflects what it is here—laughable. Work is pain and drudgery, unlike the fun valued and portrayed in the Southwest Airlines case *Nuts!* (Freiberg and Freiberg, 1996). The Soviet Union depended upon the forced hard labour of millions of its citizens. Yes, work was pain and drudgery and one only hoped to live through it to old age. Yet there is also a deep current in Russian tradition of great pride in work—in scientific, literary and artistic achievements. Still, there has been little tangible reward in the past for quality work and these students see none today either. The concept of work as a source of intrinsic joy is confusing to them, betrayed by the lost look in their eyes when I suggest it. Yes, it would be a good thing to be joyful at work but the oxymoron is too great.

Innovation. This value is especially difficult to understand in this culture—bewildering, in fact. The students did not identify creativity or innovation as a value they hold. How does one come up with new ideas they wonder. If you've never seen something, how can you think it up?

Respect as we understand it in the West is in nearly complete contrast to socialist culture—respect for individual rights, boundaries, goals and ownership. I told the story of Zoia's toys; they understood completely, yet smiled at my American perspective. The story goes like this:

> When we returned from our weekend in Ahtsagaht, Dundop, the two-year-old son of our homestay host, and his little friend were playing wildly with Zoia's windup froggie toy. I only recently bought it for her at the central market. She cried to see froggie so abused but the mothers continued to let their children play with what they knew was Zoia's toy. Zoia was afraid they would break it. They did; I fixed it after dinner.

> A couple of days earlier, Zoia told me that her friend Gera has been taking her toys from her at the *detski sod* (kindergarten). I recalled an adoption agency staffer telling us on our first visit to Buryatia that she would like to give each of the children in the orphanages she visited a picture of themselves but it would surely be taken away because they are not to have anything that is just theirs—everything is communal.

> This cultural norm, called collectivism by Hofsted (e.g., 1993) and laterally extended groups by Adler (2001), naturally applies to children's toys and our living

arrangements as well. Why does this take me by surprise when I teach cultural concepts in my classes? It surprises me because theory in action, especially in action which personally affects, is a whole different class of information.

While on the one hand, our homestay host said on the first day we visited her flat, "This will be your room," it is only partly our room. There is no lock on the door so it is impossible to keep her two-year-old son out, and he is into everything. When we are physically here occupying the room, it is mostly ours. When we are not here it is not ours. Yesterday when we returned Zoia's puzzle was moved off the table and the table moved over to one of the big chairs; our things also moved off the bed. Now this is fine really, but it is evidence of the free use of this room in our absence. It is not our room but communal space.

On the other hand, also on our first visit, our homestay host said, "Everything here you can use." That is the other side. I use her washing tubs and clothes line, she offers me the buckwheat she cooked last night, and I can work on the computer too if I wish but choose to use my own. Perhaps it is the permission-giving that, when it is absent, is assumed by the communal society to be there and assumed by the individualistic society not to be there. She has given permission; we have not. Zoia says so often now, "Teach me something." As we reflect together on our experience, today this is what I teach her.

The students smile and nod at the story. They can see their culture through my eyes and readily understand the conflict I present. Zoia expects people to respect her rights of ownership; when this does not happen she feels disrespected as a person. My students understand this, it is just not part of their world. Respect of ownership and the other's individual self, is not relevant here.

Excellence as continuous improvement—they understood what it means, to not rest in being the best. Their examples were of internet and TV shopping as continuous improvement in the retail industry. In services, excellence means always looking for what the customer might want next, not only delivering well what the customer wants now. This is especially relevant here as people learn about services available in the West and the quality of those services. These students recognise that their expectations are rising slightly as they become exposed to possibilities of different and better service. Yet while they understand the concept of continuous improvement, it is not a practice here; there is no incentive for improvement. I think personal pride should be enough; maybe it is not. These students think it is not.

These classroom encounters enable me to see this material, which I've taught for several years, in a new light. These values no longer seem obvious or simple. There are layers of cultural and historical implication to them. Excellence is providing quality service, but it is also determining what quality service to offer next and that means innovation. The possibility of innovation rests largely in one's experience of joy or satisfaction in work. As we invest in our work, taking risk, continuously improving, gaining satisfaction, we are able to experience integrity with ourselves and our environment. Such integrity leads to self-respect, a prerequisite for respecting others. Integrity, joy, innovation, respect, continuous improvement—these values are interdependent in ways I had not thought through until now, until I evaluated them in a foreign context. That interdependence means they will likely be practised as a package or rejected as a package. There is little possibility for the former in this still strongly Soviet environment.

Teamwork: an area in which I indicated a collective society may have an advantage but they were not sure. Lana cited the members of the United States Olympic men's basketball 'Dream Team'—each understood their individual role on the team, played it, and then the team worked as one, she said. The students pointed out the interdependence between respect and individuality, and

teamwork—another relationship between these values that I had not considered. They say, "yes", they work in groups here but no one takes individual responsibility, so everyone waits for everyone else, there is no action and the team is unproductive. For effective teamwork there must first be individual responsibility, they maintain, and respect for one another as individuals.

We ended with **Social Profit**. Investing in the social aspects of the business, in the community and workers, is actually very easy for them to understand—from a Soviet point of view. After all, this is exactly what the youth group, Komsomol, taught young people in Soviet days—to engage together in community efforts helping comrades in need. But in a capitalist environment? Like joy, social profit is an odd notion. Why would anyone in business for themselves give money away they wonder. Yet here is a country in which government is not able to provide the benefits and support it used to, or that people think it should. To provide a solid social infrastructure, investment by business and volunteerism by individuals is critical. They understand this, buy how ever would it come to be? In their minds, social profit is in direct conflict with their path toward capitalism.

Adopting Values That Support Excellence

Saturday, October 25. In class Friday we revisited the values from Berry (1998) and I asked, "If we analysed excellent service firms in Russia, what values would we find in there?"

The students were stumped. I recalled "the gap between what and how" that Valentina Makhrova, the Foreign Languages Department Chair at Buryat State, named the day before. There is no idea how to get from here to there, for example, from fear of standing out, so prevalent in Soviet days, to innovation. I led a seminar at Buryat State on the Greenleaf servant leadership article (1991). Valentina said they had just been told to institute computer-based distance learning at the University with no idea how to do it or where to get the resources. She explains that in this system there is plenty of being told 'what' but a void in being told 'how'. Traditionally a Russian would expect to be told both what and how, not to be engaged in collaborative management or their own independent thought.

Here too among my students there is the same gap; these students understand what innovation is but not how to get there. I suggest rewards for innovation and ask for examples of cost-free rewards they would value.

"Development and possibility for promotion," says Anya, and I recall my Ph.D. thesis research (1995) in which American women too said exactly this. We discuss professional development through job enrichment and the reward of telling people they have done well. But these sound mostly hollow in the depressed economy here. I can not help but recall Maslow's hierarchy (e.g., Hughes, Ginnett and Curphy, 1999); they are supporting his theory that until certain physiological conditions are met, other forms of motivation do not work. Right now, money talks here and not much else.

As noted previously, 'joy' as a workplace value is too much for them to accept. As a bridge, I suggest this value in Russia is perhaps 'warmth'—the warmth that Russians express in their homes could be extended to the workplace. The students smile and nod, indicating they are acutely aware of the contrasts in their national culture—the hospitality and generosity displayed in private homes, contrasting with the cool and somber tone of public life. Then Bairma reminds us of organisational protocol—simply taking the warmth from home is not appropriate because then we see things like I did at a recent conference. After his opening comments at dinner, a university rector grabbed the faculty member standing nearby and gave her a big sloppy kiss. What may fit instead is warmth in the context of organisational protocol, as Bairma suggested.

I tell them of the huge training effort that has occurred in the States in the last 20 years to help men understand what is appropriate protocol with women at work; that it is exactly this kind of long-term training effort that will be needed here for organisations to become more joyful and innovative; that effective democracy and free enterprise require not just a national cultural change, but a change in the culture of a critical mass—hundreds, perhaps thousands—of organisations; that this starts in kindergarten. I tell the story of my realisation this very morning when we had a hard time finding Zoia's mittens.

> I am angry with Zoia for not keeping track of her things; I know the teachers will think me a bad mom if she shows up not dressed for the weather. As we are walking out the door I say to our homestay host, "In Russia when a child does not take responsibility for their things, it's Mommy's fault. In the States when a child does not take responsibility for their things, it's at least partly the child's issue." This was one of Zoia's American kindergarten learning goals. The children did not just bring their things to school, they put those things in the appropriate place—the science table, the homework basket, the library book crate, the gym shoe box. This was **their** job.

The students smile and nod. They understand their culture and are coming to understand mine, but still is this *gap between what and how.*

Assessing Leadership Models

I bring charismatic leadership forward to explore further this idea of the 'gap between what and how'. This is part of what envisioning, enabling and energising (Nadler and Tushman, 1990) are about—closing that gap. One needs to articulate the vision clearly and enthusiastically so others can join in it and then help to provide the resources and show the path to get there. Part of energising is being on the path **with** the followers. The charismatic leader here must close the gap between what to do and how to do it.

I then asked them to examine charismatic leadership (e.g., Nadler and Tushman, 1990) and trait theory (e.g., Kirkpatrick and Locke, 1991) and determine which of the qualities in each approach they were good at and which they would like to improve. Genia and Katya decided to indicate not only what **they** think they are good at but also what **the other** thinks they are good at. In both cases when their friend shared what she thought the other was good at, the other denied it. I applauded them on their choice of method and indicated that in the States I often give this as an assignment—ask someone who knows you well what you are good at, and then own it.

"It's yours," I said. "Claim it." They giggled, then nodded, trying on this perspective, sitting taller in their chairs.

Nearly all of them say they are bad at leadership motivation as identified in trait theory (Kirkpatrick and Locke, 1991), that is, they do not **want** to be leaders. (This is just like the two young teachers in the Buryat State faculty seminar. When Valentina said they would be the formal leaders one day, "No!" they exclaimed, and shrunk back into their chairs). So I distinguished personal leadership motivation for one's own gain from socialised leadership motivation for others' gain. The students could relate to socialised motivation, where one desires to be a leader for the good of others. This, of course, fits with the collectivist cultural quality. But still they note that they would not want the responsibility.

"When you are a leader you are responsible for others," said one. They're not going to take that on. I want to disagree, for in my democratic ideal the team is collectively responsible; informed followers share in the decision-making and responsibility (Rost, 1991). But leadership here in

Russia is not a team activity and would not become one for some time. So, yes, I have to admit to myself, when you are a leader, especially here in Russia, you are responsible for others.

"But who if not you?" I ask them. They are quiet.

TEACHING PERSONAL RESPONSIBILITY AND INDIVIDUAL ACTION

Sunday, November 2. Tuesday I spoke to Yulia's social work class about services available to young children with special needs, from the perspective of a parent of such a child. I talked about our Birth to Three program in which physical and speech therapists came to our home, first to teach Zoia and me ways to move her toward sitting and standing, and later to assess and help develop her language skills. Then I explained the special school-based program for four-year-olds which continued to address language and physical development. Some students day-dreamed, others looked just as overheated as I was, having dressed for a winter day but now sitting in a stuffy overheated classroom in which no one dared open a window for fear of encountering the outside air they believe carries illness. Some asked questions: who pays for this, how did you find out about the services, why did your child need this help?

Near the end of class a student asked, "Is it your aim to develop a program for the disabled here in Russia?"

While this question shocked me in a way, it also came as no surprise. I'd been told that Russians had become used to Americans coming here and setting up American systems. Then the Russians, with little management know-how or understanding of the systems, would watch them fail or turn them into one more black market opportunity. Yet some Americans still came for this purpose and some Russians still anticipated being rescued.

I rarely lecture in my classes at home. By 'lecture' I mean pontificate, advise, admonish young people from the wise professor stance. But I was coming to realise that this was at least somewhat expected here. I'd watched Bairma do this with a group of social work students two years ago when they sat silent and timid in a session I attended. Suddenly Bairma was speaking strongly and pointing her finger at them. With my limited Russian I knew she was telling them in no uncertain terms that what she and I were doing in writing a grant proposal in English was their job. "Do you know English?" she asked them in Russian. To shy nods she asked even more sternly, "Do you want to practise your English?" Then she lectured them for several minutes in this direct, parental, almost shaming tone. As I responded to the question about my goal here, I heard myself doing the same thing.

"No that's your job," I said. "This is **your** Russia. You have to decide what you want it to look like. And if you think it needs a program for the disabled, then build one. If you think it needs programs for children or the elderly, then start them. That's why you're here studying in this program isn't it?" There was chuckling, nervous glancing—at the floor and one another.

"There's no one else but you," I continued. "You are the new generation—the one that is going to have to make a difference. I cannot do that. No one from the outside can. You've got children in orphanages, old men, women and kids living on the streets, lots of people who need to be cared for. How is that going to happen?" No response.

Thursday morning in the faculty seminar at Buryat State I relayed the question the student asked, and my dismay at having been asked. The faculty had read the Greenleaf (1991) servant leadership essay in which he addresses independent action and initiative as central to servant leadership and community. We are still punished for it, they said, meaning independent action and initiative.

"It is a remnant of the Soviet era, of the levelling," said a large British-accented woman.

"I think there are also other reasons," said Valentina, the department chair. "It is cold here; if you are alone you die."

"No, it is the levelling," said the other woman firmly. They do not look at each other in this exchange. They can disagree if they look at me or at the air in front of them. So remains the culture—where disagreement with a colleague is intensely uncomfortable, and it's not only students who find that taking personal responsibility and initiating individual action have not replaced this Soviet holdover.

Thursday, November 6. In one of my every-other-week courses I had also assigned the Greenleaf (1991) servant leadership essay. Only two of the students read it. I asked these two young men how it felt to take responsible independent action, which I had indicated was one of the qualities identified in the essay as essential to effective community and leadership. One of the two students said he felt like a white sheep among black.

"Are you proud?" I asked, assuming, of course, that they would be.

"No!" he responded immediately and emphatically. He then started speaking in Russian as he tried to determine how to express his thoughts in English. I heard a telltale word.

"Did I hear the word *collectiva*?" I asked.

He and several others smiled, cast each other sideways glances, murmured, "Yes."

I suspected where we were headed with this—that being a white sheep among black was bad, not good—cause for embarrassment, not pride. He worked to express himself in a combination of Russian and English, explaining exactly this.

"OK, is this what I'm hearing?" I asked, "that you'd rather not have done your homework so you could be part of the *collectiva* than to have done the responsible thing by preparing for class?"

He nodded and chuckled along with his classmates. So I drew the collective on the board with one person stepping out and showed how rather than alienating that person (or pulling the person back in to the *status quo* through peer pressure as Bairma pointed out later), the collective could shift its direction and follow this new idea. They watch, listen, nod. While class started with me being perturbed with them for not preparing, we engaged together on this contrast between the pressure of the *collectiva,* and the necessity of responsible independent action.

ACHIEVING A VISION—IN MOVIES OR ON THE GROUND

Sunday, November 30. I was a guest in two classes, one at a private Language Institute and one at ESSTU. In both, the students talked about what they know of the United States—from American movies and TV.

I laugh and explain, "But that is only part reality."

"Why?" they ask, surprised. "Russian movies are not this way." And I remember the honest-to-the-point-of-depressing Russian movies I've seen and realise this is true. Russian movies are all painful reality. So why is it this way, I wonder, why is there this difference in our movies?

"I think it has always been this way in the States," I say, recalling an 'Anthropology of Films' course I took years ago. "American television and movies often depict part reality and part myth—a vision of a perfect world by American standards, what **could** be."

As I think about this emphasis in the United States I realise it reflects a deep cultural contrast. While movies in the United States may not be a perfect vision of the future, they are a vision—

they are someone's vision—the producer, writer, actor . . . . Somebody dares to **have** a vision, though it may, in fact, run counter to reality. It may even be laughable. In contrast, I recall the movie our homestay family saw last weekend. The missing father came back into his children's lives, took them to an island for a short holiday and wound up falling or jumping from a tall building. He dies and the children go back to live with their mother. What's that about? Hope, joy, love, die and the survivors go back to their *normalna* daily routine? There is much of this in Russia's history.

This week in class as I discussed leadership I began to realise that a couple of the key barriers to effective charismatic leadership here are the challenges to envisioning and enabling (Nadler and Tushman, 1990). What **is** the vision of this huge country undergoing this great change? Yesterday on our bus tour to Russian Orthodox monasteries the young woman Yanna referred to Russia as an **emerging** democracy. Yes, it truly is still just emerging, and the socialist or capitalist economy is also only emerging.

This emerging nature of the political and economic goals here creates a significant leadership challenge. First, it is difficult to have a vision at all about something so complex and dynamic. Secondly, Russians are simply not used to having, or being able to have, a vision. There have been so many barriers—political, educational, historical, cultural. The message has been: one person here has a vision and you'd better **not** have your own.

Last night on Russian 'Survivors' the college student in our homestay explained they have two voting rituals—not just to vote a person out, but first to vote on **how** they will vote a person out. A black stone means the voter wants to choose a person to decide for the group; a white stone means the voter wants to decide directly. If there are more black stones, they decide **who** they want to decide for the group. Last night I began watching as they were revealing the votes for the person who would decide. The elderly white-haired gentleman was chosen, and he decided to eliminate the young woman. This is painful for me as a woman and as an American who believes in **direct** democracy.

I recall the response of the Humanities College students to my question, "What is leadership?" Their answers: a person having control over some part of your life; someone who has priority, takes care of you, knows more than others. No one offered words even remotely close to 'enabling' or 'empowering'. I introduced transformational leadership (e.g., Burns, 1978) as a relationship between leaders and followers in which they heighten one another's sense of morality and motivation. This concept of followers taking such responsibility and engaging in a partnering relationship with the leader, rather than following top down authoritarian command, is so novel here, and scary too.

The highlight of this day's teaching was the Thanksgiving party the students hosted that night. They are hosting an American party for us every other week as part of their curricula. One student used my sister's recipe for pumpkin bars. They tasted so fresh and moist—still warm from the oven and made with fresh pumpkin. Another baked a pumpkin pie—thick buttery crust topped with homemade pumpkin jam and then meringue. A baked chicken replaced the turkey.

As part of our keeping the holiday, I asked the students to each say one thing they were thankful for. This was my own small effort at enabling these students. Zoia and I both started in order to give an example. Then one of the teachers burst forward with three or four examples. When she finished I turned to the student next to me and asked her to say what she was thankful for. She asked what I wanted her to do. Then the other teacher offered her contribution, followed by that of one student. Then another student invited everyone to eat.

"No!" I heard myself exclaiming. I was not going to let this pass; I needed them to take individual responsibility at least for this small thing, to claim their role as a part of this course. So I explained again what I wanted, they asked again, I explained a fourth time and finally the students went around the circle and each said what they were thankful for. Then they all said the same thing—"family." This is true, I believe, as far as it goes, but having forced them to speak I could not force them to think for themselves. Did they really not understand that I intended to hear from all of them, or were they so shocked at my insistence that they each needed to participate, that they assumed I could not mean what I was saying—that this was one more Potemkin village? They can imagine I would ask their teachers to participate, but not them.

FINAL NOTES

Wednesday, December 3. In class this week I showed Joel Barker's *Paradigms* videotape which I purchased dubbed in Russian to make sure any audience here would understand it. I noted that in the United States we saw Gorbachev as a 'paradigm pioneer', one who stepped out ahead, grounded in his intuition and values. One of the two teachers in the classroom agreed, exclaiming she recalled being overjoyed when she watched his election acceptance speech, crying because finally someone was going to open things up and tell the truth—*glasnost*. It was a time of great energy and commitment. Literature never before available could be read here for the first time; people were doing that and gathering to discuss it. There was great enthusiasm for a new way of being. But now things are hard, people do not have money for clothing or, in some cases, food.

I recounted the observation of the college student in our homestay—"Everything is about money today in Russia." The teacher agreed.

"How does it change," I asked her.

"Someone with great energy and commitment can move it forward." Just as in Soviet days, this bright accomplished educator who sat in on most of my classes still saw the change coming from 'someone'—not from her or her students.

Later that week, when taking the tram downtown, my Zoia turned to me and said, "Mommy, I do not want to leave." This from a child who had cried herself to sleep two months earlier over missing her friends, cousins and toys.

"Why not?"

"Because I will miss my friends here."

Yes, and so would I miss my friends and my work as well. I did not know if I had made a difference here but I was sure this place and its people had imprinted on me.

REFERENCES

Adler, N. J. (2001). *International Dimensions of Organizational Behavior* (4th ed.). Cincinnati: South-Western College.

Allen, K. E., Bordas, J, Hickman, G. R., Matusak, L. R., Sorenson, G. J., and Whitmire, K. J. (1998). In G. R. Hickman (ed), *Leading Organizations: Perspectives For a New Era,* pp. 572-590. Thousand Oaks, CA: Sage.

Barker, J. A. (Producer/Writer) (1995). *Discovering the Future: The Business of Paradigms* [Motion picture]. St. Paul, MN: Starthrower Distribution.

Barner-Barry, C., and Hody, C. A. (1995). *The Politics of Change: The Transformation of the Former Soviet Union.* NY: St. Martin's.

Berry, L. B. (1995). *On Great Service.* New York: Simon and Schuster.

Berry, L. B. (1999). *Discovering the Soul of Service.* New York: Free Press.

Bashkuev, G. (1995). *The Buryats: Traditions and Culture.* Ulan Ude, Russian Federation: Ministry of Culture of the Buryat Republic.

Brouwer, L. F. (1995). What do women want? A grounded theory of women in corporate America (Doctoral dissertation, University of Minnesota, 1995). *Dissertation Abstracts International, 56,* 3205.

Burns, J. M. (1978). *Leadership.* New York: Harper Collins.

Fitzsimmons, A. J., and Fitzsimmons, M. J. (2001). *Service Management* (3rd ed.). New York: McGraw Hill.

Freiberg and Freiberg. (1996*). NUTS! Southwest Airlines' Crazy Recipe for Business and Personal Success.*

Ginzberg, E. (1982 (1979)). *Within the Whirlwind.* NY: Harvest/HBJ.

Greenleaf, R. K. (1991). *The Servant as Leader.* Indianapolis, IN: Robert K. Greenleaf Center.

Hofstede, G. (1993). Cultural constraints in management theories. *Academy of Management Executive, 7*(1), 81-95.

Hughes, R. L., Ginnet, R. C., and Curphy, G. J. (1999) *Leadership: Enhancing the Lessons of Experience*. New York: Irwin McGraw-Hill.

Imithenov, A. B., and Egorov, E. M. (Eds). (2001). *Ulan-Ude.* (2001). Ulan Ude, Russian Federation: Buryat Scientific Center

Kennan, G. (1958 (1891)). *Siberia and the Exile System.* Chicago: University of Chicago.

Kets De Vries, M. F. (2000). A journey into the 'Wild East': Leadership style and organizational practices in Russia. *Organizational Dynamics, 28,*(4), 67-81.

Kirkpatrick, S. A., and Locke, E. A. (1995). Leadership: Do traits matter? In J. T. Wren (ed), *The Leader's Companion* (pp. 133-143). New York: Free Press. (Original work published in 1991).

Lincoln, W. B. (1994). *The Conquest of a Continent: Siberia and the Russians.* NY: Random House.

Nadler, D. A. and Tushman, M. L. (1995). Beyond the charismatic leader: Leadership and organizational change. In J. T. Wren (ed), *The Leader's Companion* (pp. 108-113). New York: Free Press. (Original work published in 1990).

Pantaeva, I. (1998). *Siberian Dream.* NY: Avon.

Puffer, S. M. and Associates. (Eds.). (1996). *Business and Management in Russia.* Brookfield, VT: E. Elgar.

Reid, A. (2002). *The Shaman's Coat: A Native History of Siberia.* NY: Walker and Company.

Taplin, M. (1998). *Open Lands: Travels Through Russia's Once Forbidden Places.* South Royalton, VT: Steerforth.

Thomas, B. (2001). *Trans-Siberian Handbook.* Surrey, UK: Trailblazer.

❖IEJ

Popular culture in mainland Chinese education

Wai-Chung Ho
Department of Music, Hong Kong Baptist University, Hong Kong – China
tediwch@hkbu.edu.hk

The policy and practice of school education in mainland China have changed in response to the political and economic reformations and opening-up of the late 1970s. This paper argues that, despite the introduction and emphasis on popular culture in some areas of school education, traditional Chinese culture and values continue to consolidate the authority of the State. The paper first establishes a framework for the analysis of popular culture in education. Secondly, it enquires into the policy of incorporating popular culture in education and educational reform, in accordance with current social changes in China. Thirdly, the paper analyses three pairs of social and political relationships that shape education and cultural identity in the school curriculum: (a) between collectivist Communist education and individualist popular culture; (b) between the education of Chinese traditions and virtues on the one hand, and popular culture on the other; and (c) between schools' and teachers' attitudes toward popular culture, and students' reactions to classroom learning. The paper concludes with a discussion of the contentious political issues surrounding the integration of popular culture in education.

Mainland China, popular culture, education reform, social change, challenge

INTRODUCTION

The diversity of cultural engagements that learners bring to their education and the impact of mass media on learning and teaching have stimulated an increasing interest in the study of popular culture in education. For Bourdieu, culture is a field of struggle, in which agents (producers, consumers and distributors) take advantage of the symbolic cultural capital entailed in these various socially determined positions (Webb et al. 2002; also see Bourdieu, 1977, 1984, 1986). In order to build on Bourdieu's work, we could explore a range of social categories derived from media and popular culture that are deeply embedded within a particular group of children's daily literacy experiences at home (Couldry, 2005). In the light of actual classroom experience, the notion that teachers might 'liberate' students through rational ideology critique has been increasingly questioned in practice (Callahan and Bronwen, 2004; Hunt and Hunt, 2004). McCarthy et al. (2003) argue that educators should pay special attention to developments associated with cultural globalisation, and the rapid migration of cultural and economic capital and electronically mediated images. They also suggest that pedagogical interventions that privilege popular culture as a site of legitimate critique can open up new avenues of exploration and investigation within a radical, progressive democracy premised on the basic values of love, care, and equality.

The influence of popular culture on today's youth has been a subject of intense debate and public interest for a much longer time, and has led scholars to examine the integration of popular culture into the school curriculum. For example, there are studies by Rose (2003) on developing a general science course called 'Biology in the Movies', Ashcraft (2003) on incorporating popular culture

into sex education though an analysis of the teen film *American Pie*, Buckingham (1998), Bloustein (1998), Willett (2005), and Xu (2002) on youth culture and media literacy, and Grugeon (2005) on developing insights into the role of socio-dramatic play for relating children's expertise outside the classroom to their literacy practices in school. The most obvious example of the Harry Potter phenomenon is that popular culture has lured children from computer screens to books, and caused them to identify with familiar themes of school, teachers, friendship, family and competitive sports (Nicola, 2001; Rowling, 2000, 2003, 2005). Through an eclectic mix of digital and interactive media technologies, children engage in cultural and expressive practices and thereby engage in new forms of social interaction (Brignall and Van Valey, 2005; Dyson, 1993, 1997; Jenkins, 1988; Newkirk, 2002). It is also argued that, if we are to come to an understanding of the impact of educational policies and developments, we must take into account the cultural experiences of children and youth both in and out of schools (Duncan-Andrade, 2004; Fain, 2004; Suárez-Orozco and Qin-Hilliard, 2004; Valenzuela, 1999).

The changing patterns of culture resulting from changing demographics and a highly interconnected world, complicate the understanding of any curriculum-related change. With special reference to mainland China this paper examines under-researched relationships between social transformation, popular culture, and educational reform. The transition from a planned to a socialist-market economy in the mainland since the 1980s has involved many aspects of social and cultural life, and posed new challenges for education development in the twenty-first century. This paper begins by challenging contemporary debates concerning popular culture in school education by asking two key questions about the dynamics of developing a culturally relevant curriculum for students in the mainland: (a) how is popular culture integrated in the selected school subjects; and (b) what are the challenges to mainland China's incorporation of popular culture into the classroom and the larger school culture? The paper also examines the very different type of challenges that the China state has faced in the attempt to move beyond traditional oppositions between culture and power, tradition and modernity, and the global and the national, by pointing out the vital role imagination plays in popular culture and the construction of its contemporary and future education.

POPULAR CULTURE ARTIFACTS IN CHINA

Mainland China is a multi-ethnic society, comprising 56 different ethnic groups within a population of 1.3 billion, the largest in the world. Ninty-two per cent of the population is of the Han ethnic group. Although many of the ethnic minority groups have their own languages, the official language is Putonghau, which is based on Beijing pronunciation. China's traditional values were contained in the orthodox Confucianism that has been taught by academics and tested in the imperial civil service examinations. In the late imperial, republican period of China, the popular fiction, films, cartoon magazines and spoken dramas (as opposed to traditional Chinese operas) that have flourished in Chinese cities, particularly in Shanghai, were regarded as the new forms of popular, or mass culture (Lee and Nathan, 1985; Link, 1981; Liu, 1997). The Cultural Revolution (1967-1976) was launched by Communist Party Chairman Mao Zedong to secure Maoism in China as the state's dominant ideology. During this period, people were encouraged to criticise cultural institutions, and to question their parents and teachers in ways that had been strictly forbidden in Confucian culture. Mao appealed to students to "smash the four olds" (old ideas, old culture, old customs, and old habits). In response to Mao's address, high school students began forming groups called the Red Guards. Chaos resulted from the Red Guards' wholesale destruction of artworks, books, temples and anything associated with traditional or foreign cultures. With the death of Mao and the end of the Cultural Revolution, Deng Xiaoping stated that liberation of thoughts was required within the party. The goals of Deng's reforms were summed

up by the Four Modernisations of agriculture, industry, national defence, and science and technology. Vast social, economic and cultural transformations have swept over China since 1992 when Deng made his strategic tour to southern China in order to promote deeper economic liberalisation.

China today is being globalised economically, socially, and culturally. Throughout the 1990s, global retailers such as Carrefour, Walmart and Ikea invested massively in China, and Chinese urban residents became "consumers of transnationally branded foodstuffs, pop-music videos and fashion" (Davis, 2005, p. 692). By the end of 2004, more than 50 per cent of the nearly 3,000 state-owned or state-controlled large major enterprises had changed into stock-sharing companies (*People's Daily News*, 13 July 2005). The economy has also been increasingly market-wise, with the rise of imported products from its capitalist neighbouring places of Hong Kong and Taiwan (see Chua, 2001; Hopper, 1994). Cultural exchange and the importation of technology were one of the unquestionable by-products of the mainland's modernisation. Artists in Chinese literary and cultural circles are contributing to this international development and recognition (see Morton and Lewis, 2005, pp. 279-281). Although economically highly interdependent, Taiwan and mainland China are nevertheless antagonistic in the political arena (Chao, 2003). Clearly the phrase "the rise of China" governs the significance or otherwise of China's culture for its neighbours and beyond (Wang, 2004, p. 311). In particular, the so-called 'Korean wave' (or *Han Rue* in Chinese) refers to the popularity of Korean TV dramas, movies, popular music, fashion, food and celebrities in the mainland. The airing of *Dae Jang Geum* (or 'A Jewel in the Palace') has been called the most watched television show in history and in many major Chinese markets. Along with success in drama, Korean singers such as Baby Vox, H.O.T., NRG and An Jae-wuk are gaining popularity among Chinese youth. Recently, a primary school in Shanghai called for student drawings for a painting contest for the 2008 Beijing Olympic Games. Among the nine selected paintings, two imitated the style of Japanese and South Korean cartoons (*Beijing Review*, 27 July 2005). A teacher of a Shanghai secondary school said that it is common to find primary and secondary school students imitating the style of Japanese and South Korean cartoons (*Beijing Review*, 27 July 2005).

As the political transition from the post-Mao to the post-Deng eras has become well underway, the so-called third generation of post-Deng leaders, headed by Jiang Zemin, has gradually shifted its strategies to focus on the ideological and cultural arenas. As market mechanisms were introduced into its economy, basic education of primary and junior secondary schooling in the mainland has experienced phenomenal development in the reform era from the late 1970s. Plans for nine-year compulsory education (Grades 1 to 9) conducted in 1985 are regarded as a commitment to modernisation. In this new China world of rapid, globalising cultural fluidity, popular culture in the school curriculum has become problematised in terms of the ways in which the mainland has been addressed. With particular reference to primary and secondary school education, the purpose of this article is to probe the intersection of popular culture, education, and cultural politics.

POPULAR CULTURE AND KNOWLEDGE IN THE CHINESE SCHOOL CURRICULUM

Unlike during the Mao era, when educational development was wholly administered by the central government, there has since been a compelling tendency to decentralise and diversify education in accordance with the general shift towards a market economy (see Law, Forthcoming; Turner and Acker, 2002). The reform was launched on a trial basis in 2001, when the Ministry of Education issued a circular entitled 'Guidelines for Curriculum Reform of Basic Education'. Now curriculum reform was expected to emphasise the importance of bridging the distance between schools and society, and enabling students to acquire an ability to do practical work while

accumulating the necessary knowledge to be useful to society (*Xinhua News Agency*, 6 October 2005; also see Huang, 2004). The aim of current educational change is also to make education more pleasant, more useful and, above all, to challenge students to think for themselves (see Lu, 2000; *The Economist*, 25 January 2003). Professor Liu Jian, assistant director of the National Centre for School Curriculum and Textbook Development under the Ministry of Education, said that the core of the curriculum reform was an attempt to cultivate "new, advanced cultures and concepts to spread in schools and the society at large …" (*Xinhua News Agency*, 6 October 2005). There should be a more integrated and life-oriented approach to help students solve social and daily life problems.

On this account, a new educational philosophy, innovative curriculum materials and the renewal of educational experience, along with respect for and encouragement of students' independence, their activities and cultural perspectives, suggest a more expansive social sense. In respect to curricular reform in the new century, this section explains the learning areas that integrate popular culture into the school curriculum. These reforms cover the revision of textbook reading materials in the Chinese language and other areas, the subject of music, new textbook materials for sex education, and the inclusion of online learning materials and other software for general education. These revisions and newly published materials are very significant for this paper, because they relate the world in which students live to what they are learning, and bring the culture they know into the classroom.

In China the state, as the sole authority to create and approve textbooks, has a role to play in the curriculum development process because it has significant leverage over publishers with respect to school textbooks. Since 1949, the Chinese Communist Party has reinforced collectivism as the only correct value to be prescribed by school textbooks. Under the new system, however, the China state, or the local government in question, only approves textbooks; while any individual or institute is empowered to produce and distribute textbooks after approval (Huang, 2004). Recent examples have spawned much debate on revisions of textbooks for Chinese language, sex and music education. As argued by Li (2004), Chinese textbooks should not only include "heroes of bygone times", but also contemporary heroes (p. 343). Today, China's citizens should be seen in modern terms, and education should aim to develop a 'modern consciousness', a 'modern moral character', and a 'modern intelligence' (Huang cited in Huang, 2004, p. 104). By early 2005, a newly-updated Chinese language textbook for fifth grade pupils in Shanghai drew controversy by including photographs of Liu Xiang, the Shanghainese men's 110m hurdles champion in the Athens Olympic Games. At the same time, a text titled *Five Heroes of Langyashan* (a story about five soldiers of an army under the leadership of the Chinese Communist Party from 1937 and 1945, who fought bravely during the Sino-Japanese War) was removed from a new edition of a Chinese textbook published in Shanghai. The editors revealed that the removal of the five heroes' story was due to society's increasing need to keep in touch with contemporary China's heroes, such as Liu Xiang or the NBA star Yao Ming, since these would elicit more interest (Feng, 2005; also see *Beijing Review*, 16 May 2005). According to a questionnaire survey conducted by the All-China Women's Federation (ACWF), Chinese secondary school students from six Chinese provinces and the cities of Beijing, Shanghai, Henan, Shanxi, Liaoning and Hunan, aged between 13 and 18 years, rated Liu Xiang to be the fifth most popular hero among 443 boys and 575 girls (*China View*, 27 May 2005). It is argued that young people today can learn about modern heroes from the mass media, and that textbooks should, given contemporary social changes, remove the stories of the five heroes of Langyashan because they are so distant from students' modern life (*Beijing Review*, 16 May 2005).

The martial art fictions in new Chinese school textbooks have also given rise to heated debates in the school curriculum. The two excerpts of the Chinese language that have drawn most debate are excerpts from Wang Dulu's *Crouching Tiger, Hidden Dragon*, which won an Oscar for Best

Foreign Film of 2000, and *The Demi-Gods and the Semi-Devils* (*Tian Long Ba Bu* in Chinese), by Hong Kong martial art novelist Jin Yong. The popular selections appear in two separate lessons of a Chinese textbook for senior middle school students under the category of 'Magical Martial Arts'. The selection was well received among Chinese students. In a Sina.com fast vote, 81.6 per cent of the 18,794 voters expressed their support for the new textbook as part of reading assignments for middle school students (*Xinhua News Agency*, 3 March 2005). Liu Ximing, a research fellow with the Education Science Institute of the Beijing People's University, said that martial-arts stories promote the triumph of good over evil, and thoughtfulness for the poor and weak, both of which are supported in school education (*Xinhua News Agency*, 3 March 2005). Currently, the most controversial change for Chinese scholars is a cartoon version of advocated textbook materials. Twelve well-known Chinese writers' newest creations are intended to be processed into cartoon plays by six domestic cartoon companies, and will cover a wide range of subjects including ancient poems, fairy tales and foreign novels (*Xinhua News Agency*, 13 October 2005).

Because love and sex were not open to public discussion in traditional Chinese culture, students received inadequate sex education. Though the Chinese government maintains an active interest in preventing users from viewing certain web content, both sexually explicit and non-sexually explicit, students still have access to sexual websites. According to an official survey, 80 per cent of Chinese middle school students obtained their sexual knowledge, not from their schools and parents, but from books, magazines, TV programs, and the internet, all of which are likely to be disingenuous (*People's Daily News*, 23 November 2001). In the academic year of September 2004 more than 50 Shanghai secondary schools adopted new Chinese textbooks on love that were based on stories and poems by both ancient and contemporary Chinese and foreign writers (*People's Daily News*, 1 September 2004). These textbooks were intended to provide better understanding of beautiful human feelings, and encouraged students to hold frank discussions about love. The TV series entitled *How Can I Tell You This?*, which was presented by a group of junior high school students in the eastern province of Jiangxi to generate the whole society to look out for children's sexual health, received widespread attention in 2003. In order to improve poor sex education, comprehensive courses have been made available in middle schools in more than ten major Chinese cities, including Chongqing, Guangzhou, Harbin, Shanghai, Wuhna, and Xi'an since 2001. These cities produced their own textbooks on sexual behaviour, ethics, procreation and contraception, anti-drug warnings, and AIDs prevention. A textbook titled *Thoughts for Teenagers* was introduced to high schools in Ningbo, which is in China's eastern Zhejiang province (*China Daily News*, 10 September 2004). Borrowing the idea from South Korea's series of books entitled, *I Want to Know Myself*, which was popular among primary and middle school students, China published its first cartoon book series on puberty and sex education in April 2002. China translated the books and revised some contents to suit the needs of Chinese young people (*Xinhua News Agency*, 26 December 2004). The Ministry of Education has broken the nation's thousand-year-long taboo by adopting popular culture to promote the formal educational discussion of sex.

For a long time popular culture was prohibited in China's school music education for fear of spiritual pollution by Western culture, against which, furthermore, mainland China introduced a strong revolutionary orientation (Ho, 2003; Ho and Law, 2004a, 2004b). The renewal of music practices and materials in school music education has come about because of rapid changes in Chinese society. A love of Western musicals has swept the cities. For example, *Les Miserables* was given 21 performances at the Shanghai Grand Theatre and *The Phantom of the Opera* was given 96 in 2002 and in 2004 respectively (*China Daily News*, 16 December 2004). In response to the popularity of Western musicals, the Shanghai Conservatory of Music and the Shanghai Theatre Academy introduced a new major in musicals in 2002. The inclusion of songs from

popular Western musicals and Taiwanese popular songs is certainly a step towards learning about students' interests. A few songs in English are included in the textbook materials, such as 'Do You Hear the People Sing?' and 'Any Dream Will Do' from the musical *Les Miserables*; 'Hand in Hand', the theme song for the 1988 Olympics in Seoul; 'Power of the Dream', the closing song for the 1996 Atlanta Olympics; and 'A Whole New World' (composed by Alan Menken with words by Tim Rice) (Shanghai Educational Publisher, 2004; Shanghai Music Publisher, 2004; Xiaonian Yitong Chubian She, 2003; also see Ho and Law, 2006). The inclusion of music identified with sport in the textbook materials echoes the educational missions of the 2008 Beijing Olympic Games. Despite political dilemmas between China and Taiwan, mainland textbooks include the song 'Tomorrow Will Be Better' by Taiwan's songwriter Luo Tayu (Shanghai Music Publisher, 2005; Shaonian Ertong Publisher, 2002); and the newly compiled list of 100 patriotic songs for Shanghai secondary schools has sparked controversy because it includes some songs that encourage individualism rather than a traditional collectivist and heroic dedication to society. The most controversial song in this collection is 'Snail' by the popular Taiwanese singer Jay Chow, the lyrics of which encourage young people to pursue their own success in difficult times.

The theory of learning for life invited educators, curriculum planners and teachers to develop new approaches and techniques for teaching. These were designed to liberate students from the heavy pressure of examinations, and to inspire their creativity and self-directed learning through the use of the internet and web-based instruction. According to Article 50 of China's education law, radio and TV stations must design educational programs to promote the ideological, moral, cultural and scientific capacities of students (Ministry of Education, 1995; also see Ministry of Education, 2001). By mid-2002, China had become the second largest user of the internet in the world with 45 million users, compared to just half a million in October 1997 (*BBC News*, September 26, 2002). According to the most recent study that was published in 2005 by the internet Network Information Centre, China had 94 million internet users, nearly half of whom had broadband access. An online education site providing multi-media materials such as movies, music and the 3-D pictures used in the computer-assisted learning (CAL) software is now available for students from primary to senior high schools. The Ministry of Culture and the Ministry of Information Industry jointly recommended a number of so-called 'premium online games' to students for the 2005 summer vacation list (*Xinhua News Agency*, 1 June 2005).

All these recent textbook revisions, newly published materials, and recommended technological resources for introducing popular culture are designed to make education truly meaningful to Chinese youth, and to help them to break free from the limitations of traditional education, and to reconstruct learning experiences with links not only to society, technology, but also to students' lives (Huang, 2004, p. 104). The Ministry of Education has marked down or diminished so-called 'outdated knowledge' in extant teaching materials and encouraged education that goes beyond the cognitive growth of students, and which is related to the understanding of social contexts.

CHALLENGES FOR CHINA'S EDUCATION IN THE TWENTY-FIRST CENTURY

There are concerns about how the formation of cultural identity, popular culture, politics and school education intersect with the multiple relationships and dynamics of power between the China state, teachers, and students. Critical theorists such as Apple (1990, 2002), Segarra and Ricardo (1999) argue that competing pedagogical ideologies are the result of the fact that education is inherently a 'political act'. As noted by Law (2002), despite national leaders' high expectations, the use of law to effect or consolidate educational reform in mainland China is affected by both legal and extra-legal factors such as politics, economics, and social norms and cultures. Modernisation in the school curriculum is being perceived as part of the process of transformation in Chinese political culture from collective communism towards openness to popular culture. Some knowledge among teachers of current popular culture is a step towards

learning about students' interests. However, this move has resulted in three dilemmas for the transmission of cultural values and political or national beliefs in school education: (a) conflict between the co-existence in the curriculum of communist and political education and the individualist tendencies of popular culture; (b) between traditional Chinese values and culture, and the moral challenges to these values in popular culture; and (c) between schools, teacher education and student interactions in response to the presence of popular culture in the classroom.

When Deng Xiaoping opened China to the forces of global capitalism, Chinese society went through unruly changes in its socio-economic, political and cultural realms. Stockman (2000) argued that Chinese society was becoming more complex and differentiated in the course of modernisation; and that indigenous popular-culture products, such as state-sponsored MTV, larger networks, such as China Central Television (CCTV) and Shanghai TV, popular concerts, TV soap operas, and *kung fu* fiction, were allowed and even encouraged to prosper and to compete with Western commercial popular culture. The state has to weaken the tensions and conflicts that arise between increasing mass demand and ideological control in school education. Chinese youth are criticised as having down-played the collective well-being of the official ideology. Survey data on Chinese college students also show that they thought that "the biggest happiness in life" was, in the rank order, "a successful career, a happy family, and good friends, all of which were concerned with individuals"; while "contribution to society" was sixth on the list (Qian, 2003, p.30). The development of a market economy has resulted in students' materialist and individualist value orientation becoming more and more apparent in the mainland. When Beijing teenagers were asked to rate their desired occupations, the order was entrepreneur, scientist, movie or TV star, teacher, soldier and model worker, and most thought money very important (Li, 20002a, 2002b). Whereas college students in the past listened to and appreciated a few famous revolutionary singers for their ideological stance, now they admire Bill Gates or Alan Greenspan for their affluence, while school students adore film and sport stars (*People Daily News,* 28 January, 2003; Ho and Law, 2004a; Li, 2002a and 2002b). Education has run into a direct confrontation with popular culture, as in the case of the famous Chinese actress and singer, Zhao Wei. When the nation discovered that Zhao had worn a mini-dress printed with a war-time Japanese flag bearing the inscription health, peace, happiness and hygiene" for a Chinese state-run *Shizhuang* fashion magazine published in September 2001, millions of Chinese were infuriated (Gries, 2005; Ho and Law, 2004a). The incident reawakened the bitterness that many patriots still feel about Japan's aggression towards their country in the 1930s and 1940s. A critical study of Zhao Wei in the mini-dress has been incorporated into the newly published civic and moral educational textbooks of the Hubei Province that are used as supplementary texts by pre-school, primary, and secondary students nationwide. The controversial incident is set as a negative example of patriotism in a chapter with the heading, 'She is Wong'. This publication revealed problems of internationalisation and the emergence of popular culture, and indicated the re-education of the weak points of the new generation.

Moreover, the state strongly supports the transmission of official popular songs, such as 'The Great Wall Is Long', 'I Belong to China', 'Today is Your Birthday, China', all of which promote the political ideology of unity, nationalism and other official values (Baranovitch, 2003, p. 204). In this sense, the central State only welcomes popular music with revolutionary ideas composed by State supported song writers, while popular songs outside the State's approval are treated as lacking educational values. This is not so much a conflict between popular music and classical music in terms of musical styles but one between state ideology and market-driven popular music (Ho and Law, 2004a). In September 2004, the Ministries of Culture and Education and other government organisations promoted 100 patriotic songs, 100 patriotic films, and 100 patriotic books to young students. In particular, the national anthem, 'March of the Volunteers', is still used to nurture students to serve the people by means of socialism (Lu, 2003).

In spite of such challenges, by and large, Confucianism continues to dominate the content of traditional Chinese education. The theory of a 'harmonious society', an ideal from traditional Chinese culture, is diametrically opposed to the orthodox Marxist-Leninist view of class struggle. Previously, Chinese traditions and morality were underplayed and even denounced, particularly during the cultural revolution. Alarmed by rapid economic development and its embroilment in international affairs, a revival of Confucian values is apparent (Keane, 2005). Since 1989, the Chinese People's Congress has contributed greatly to the rise of the nationalist discourse based on cultural and ethnic identity, by "creating a wide-spread awareness of the myths, history, and linguistic tradition of the community" (Guo, 2004, p. 5). Smith (1986, 1995) explains how and why nations emerge from those ethnic ties and identities that usually form their cultural basis. Social imaginative ideas are described as the "constructed landscapes of collective aspirations ... now mediated through the complex prism of modern media" (Appadurai, 1990, p.2). These ideas, which act as so-called 'meta-narratives' about culture, the people, and their desires, are knowledge and power systems (Foucault, 1970, 1980) that create "imagined communities" (Anderson, 1982) of belonging in the modern world. China promotes traditional Confucian respect for families as units for the production of values, moral disciplines and personal ethics (Wu, 1994; Keane, 2005). Such values can now fill the moral "ideological vacuum" created by the promotion of *laissez-faire* market forces (Law, 1998, p. 581). As noted by Xu (2005), the China state attempts to change "the cohesive force of national cultural affiliation" into a belief in political unity; while the new nationalist ideology is expected to use Confucianism to reinforce modernisation in socialist China (Xu, 2005, p. 146). Now a "Confucian-based" cultural China promotes "ethnicity as cultural and as identity" (Chua, 2001, p.114).

In an information age, it is even more important for the mainland to retain the national treasure of Chinese traditions and virtues. The 1995 revised publication *Outline of Moral Education in Secondary School* widened the content of patriotism to include such topics as Chinese culture, national unity, and revolutionary heroes (Editorial Committee, 1995; Lee and Ho, 2005). Primary and secondary schools in many regions, such as Beijing, Guangdong, Hebei, Shanghai, and Liaoning, introduced traditional Chinese values and norms by means of books such as the new three-word classical text (*Xin Sanzijing*) in 1995 (Kuan and Lau, 2002). In 2001, the People's University in Beijing was the first university on the mainland to erect a giant statue of Confucius. Filial obedience and communal solidarity are chosen as good traditional Chinese virtues in the *Implementation outline on Ethic Building for Citizens*, the newly revised student conduct code, and in textbooks (see Law, Forthcoming; Ministry of Education, 2004; Wang, 2004). In order to encourage the teaching of the cultural heritage and to strengthen cultural memory, many schools in China have included calligraphy in extra-curricular activities (see Li, 2004). Recently an official circular promoted traditional festivals, such as the traditional Spring Festival (or Chinese Lunar New Year), the Dragon-boat Festival and the Mid-Autumn Festival, was issued. The promotion of traditional festivals is intended to cultivate the spirit, affections and feelings of the Chinese nation, and to create solidarity among the people of different ethnicities on the mainland (*People's Daily News,* 25 June 2005).

National music is thought to be the 'mother tongue' of Chinese music culture (Ho and Law, 2004a). No matter where you go, the love of national music does not change, like the phrase in a song, "Even as I wear foreign clothes, I still have a Chinese heart; my ancestors already put a Chinese stamp on my everything" (Jin, 2003, p. 49). Since 2003, the Chinese Government has earmarked 46 million *yuan* (US$5.6 million) for a specific project conducted to preserve important cultural forms (*People's Daily News*, 13 June 2005). This money is mainly for collecting traditional libretti, creating new plays, supporting public performances, promoting the opera institution, and training and rewarding professionals. Many Chinese youth criticise traditional Chinese operas such as Beijing opera, Kunqu opera, and Shanghai opera as being

boring and out-of-fashion. In order to attract a more youthful audience, Chinese artists apply colourful stage designs and present new, younger stars for visually sensational productions of the operas (*People's Daily News*, 21 November 2005). With the help of modern computer and video technology, a national audio and video database for Chinese traditional operas is being set up to preserve traditional Chinese operas. For Chinese students, traditional Kunqu opera will no longer be just described in textbooks, but a part of school culture. In 2005, for instance, the Ministry of Culture asked each of the country's seven professional Kunqu theatres to present each year 20 free public performances at Chinese colleges (*People's Daily News*, 5 January 2005). The sinification of socialism represents the Chinese People's Congress admission of the significance of Chinese traditional cultures, not only to socialism, but also to the modernisation of China (Law, Forthcoming).

To urban students, the internet seems to be a mixed blessing. Nine million people were online in China at the beginning of 2000, and much of what is available on the internet is in "sharp moral contrast to the traditional Confucian system of values" of social harmony and character development (see Bockover, 2003, pp. 159-163). In September 2003, Beijing Haidian District surveyed at random 100 minors in custody, and discovered that 66 per cent were frequent visitors to computer game shops, 30 per cent to internet bars and 61 per cent to porn websites (*People's Daily News*, 28 March 2004). As Xu (1993) commented in *Chinese Youth* (a popular magazine published by the League of Communist Youth), "The market economy is an 'angel', because it transforms the world into a colourful place; it is also a 'devil' because it puts existing values and social order in complete disarray" (Xu, 1993, p. 22) (Wong, 2002). China's youth under 18 years of age account for nearly a quarter of the country's 1.3 billion population, and are set to become the backbone of society; thus it is time to provide good education to promote the healthy growth of youth in the increasingly complex social environment. Understanding how technology, popular culture, and identity are related to learners' eagerness to read, write, listen and communicate is a first step toward developing the sort of technology-rich, interactive writing and reading activities that the so-called 'net-generation' students find motivating and meaningful in the classroom.

One increasingly common idea is to bring popular culture into the educational context. In an attempt to compete with social powers and to create individuals who are prepared to work within these powers, schools have tailored their educational philosophies to the mainstream (Gingell and Brandon, 2000; Noddings, 2005). The more challenging approach is to make changes to the fundamental social dynamics of learning within and without the school environment. If Chinese society want an open-minded, far-sighted and innovative generation, textbooks should be tolerant of diversity and be relieved of the heavy responsibilities of education. Problems that have existed for over a few decades in the school curriculum are expected to be rectified by developing students into citizens with an ardent love for the motherland, social ethics, and a respect for the law. If Liu Xiang, an Olympic champion, becomes a role model, it only shows that the latest edition of Chinese textbooks for school students are in touch with reality, and that the classroom is oriented towards life (*Beijing Review*, 16 May 2005). It is argued that Liu Xiang is a hero of the times and textbooks should be encouraged to represent the best of the people (Feng, 2005). As a result of the government's open economic policy, culture and politics are striving and innovatory, and changes have been brought about, and will continue to bring about, new concepts and practices in education. For example, the main innovations in the contemporary reform of the primary moral education curriculum, including lifelong moral education, are hoped to foster the development of children's morality by using everyday life events as source materials for textbooks (Lu and Gao, 2004).

As argued by Vygotsky (1986), learning is a socially constructed process that students experience in the classroom, and learn when they are able to integrate what they know with new ideas and understandings. Great importance is being given to the professional development of teachers in

accordance with the innovation of nationwide or local curriculum planning, which keeps up with both the common values and attitudes of modern society as well as new scientific and technological advances (Huang, 1995, 2004). However, as highlighted by Li (1999), teacher education in China still responds to the need to speed up the modernisation of the country. Teachers should be interested in building connections between students and spending time in students' cultural worlds (Hunts and Hunts, 2004). For Giroux and Simon (1989), the challenge of using popular culture in classrooms is that it can place teachers at an intellectual and pedagogical crossroads. Teachers may shy away from student popular culture, and feel that they have a moral responsibility for keeping popular culture out of the official school world. However, it is suggested that teachers should be creative in their integration of student popular culture into teaching as a possibility for liberation and to address social issues (see Duncan-Andrade, 2004; Grossberg, 1994; Ozman and Craver, 2003). Teachers need frameworks for reconceptualising popular culture and their school curriculum in ways that both reflect and build on the digital-based experiences that students have already acquired, and consider the role of this digital material and popular texts in the construction of their new learning.

CONCLUSIONS

This paper explores how the Chinese government values the introduction of the popular culture needed for its reform of education within broader social contexts. It will be these changes that have brought about, and will continue to bring, new ideas, beliefs and practices to China's schools. Given the cultural and political developments over the past 20 years, popular culture in China's education is facing many challenges and new opportunities for its students that demand investigation. For many youth, much of their experience within the cultural realm is orchestrated by the mass media. Teachers must constantly search for opportunities to promote and encourage appropriate social interaction for students at all levels of schooling.

This paper considers popular culture as an arena of contestation, noting the contradictory impulses of both attraction and repulsion, as well as the phenomena of differentiation and assimilation in contemporary education in mainland China It suggests some changes in the orientation of the school curriculum that would meet the needs and interests of students. Some of these changes can be found in the revisions made to teaching and learning materials, as well as in the introduction of new materials for learning both traditional subjects, such as language and music, and the non-traditional subject of sex education.

Improving students' ideological and political quality, and fostering the building and extension of the socialist drive are of far-reaching strategic significance in fully implementing the national strategy to achieve China's socialist modernisation. When officials all over the country launched a new wave of campaigns to assimilate popular culture into school education, what remained unchanged was the zeal with which the state always strove to transform popular culture into something, be it political ideology or an integration of socialist and Confucian educational ideals. Three pairs of interactions and confrontations can be seen with respect to: a) the collectivism of communist value education and the individualist tendencies of popular culture; b) traditional Chinese values and culture and the bad influence of popular culture; c) and the interactions between schools, teachers, and students towards popular culture in classroom learning. The interwoven relationship between popular culture, national education, Confucian education and traditional culture is determined by the power exerted by the party state. Although the use of popular culture has become common in school education, patriotic education, Confucianism, and the learning of traditional Chinese culture have all been taken as frameworks for educational developments. However, the inconsistency of values education and cultural education, and the shifting of the goals of education as political policies change is now encouraged. Confucius, for example, was honoured for thousands of years, then banned during the Cultural Revolution, and is

now reinstated. According to Goodman (2001), the party state still longs to be a powerful publisher and producer of culture, and the "mechanics of the relationships between politics and cultures" are considered to be continual as well as changeable (p. 247). From a macro perspective, national curricular policies, which are representative of the interests of the party state, play a decisive role in determining the degree to which international trends are reflected, and who or what will take the leading role in the future of the People's Republic of China remains to be seen.

REFERENCES

Anderson, B. (1982) *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (second ed.). London: Verso.

Appadurai, A. (1990) Disjuncture and difference in the global cultural economy. *Public Culture*, 2 (2), 1-24.

Apple, M. (1990) *Ideology and Curriculum*. New York: Routledge.

Apple, M. (2002) Interrupting the right: on doing critical educational work in conservative times. *Symploke*, 10 (1-2), 133-152.

Ashcraft, C. (2003) Adolescent ambiguities in American Pie – Popular culture as a resource for sex education. *Youth and Society*, 35 (1), 37-70.

Baranovitch, N. (2003) *China's New Voices: Popular Music, Ethnicity, Gender, and Politics, 1978-1997*. Berkeley and Los Angeles, CA: University of California Press.

BBC News (2002, September 26) Who's online is China? [Online] http://newswww.bbc.net.uk/2/hi/business/2269161.stm [2005, November 1].

Beijing Review (2005, July 27) Shall the Chinese worry about Japanese and South Korean pop culture?, 48(27). [Online] http://www.bjreview.com.cn/En-2005/05-27-e/zm-1.htm [2005, November 5].

Beijing Review (2005, May 16) What is the 'write' stuff for Chinese textbooks? 48(16). [Online] http://www.bjreview.com.cn/En-2005/05-16-e/forum.htm [2005, November 12].

Bloustien, G. (1998) 'It's a different mirror cos it talks to you': Teenage girls, video cameras and identity. In S. Howard (ed) *Wired Up: Young People and the Electronic Media*. London: UCL.

Bockover, M. I. (2003) Confucian values and the internet: A potential conflict. *Journal of Chinese Philosophy*, 30 (2), 159-175.

Bourdieu, P. (1977) *Outline of A Theory of Practice*. Cambridge: Cambridge University Press.

Bourdieu, P. (1984) *Distinction: A Social Critique of the Judgement of Taste*. Cambridge, MA: Harvard University Press.

Bourdieu, P. (1986) The forms of capital. In J.G. Richardson (ed) *Handbook of Theory and Research for the Sociology of Education*. New York: Greenwood Press.

Brignall, T.W. and Van Valey, T. (2005) The impact of internet communications on social interaction. *Sociological Spectrum*, 25 (3), 335-348.

Buckingham, D. (1998) *Teaching Popular Culture: Beyond Radical Pedagogy*. London: UCL Press.

Callahan, M. and Bronwen, E.L. (2004) At the crossroads of expertise: The risky business of teaching popular culture. *English Journal*, 93 (3), 52-57.

Chao, C.M. (2003) Will economic integration between mainland China and Taiwan lead to a congenial political culture? A*sian Survey*, 43 (2), 280-304.

China Daily News (2004, September 10) Taboos smashed on China's sex education. [Online] http://www.chinadaily.com.cn/english/doc/2004-09/10/content_373355.htm [2005, November 3].

China Daily News (2004, December 16) A case of 'Phantom' fever. [Online] http://www.chinadaily.com.cn/english/doc/2004-12/16/content_400637.htm [2005, November 3].

China Internet Network Information Centre (2005) 15th statistical survey report on the internet development in China. [Online] http://www.cnnic.net.cn/download/2005/2005012701.pdf [2005, 28 October].

China View (2005, May 27) Chairman Mao, Lix Xiang on top ten heroes list. [Online] http://news.xinhuanet.com/english/2005-05/27/content_3016616.htm [2005, October 28].

Chua, B.H. (2001) Pop culture China. *Singapore Journal of Tropical Geography*, 22 (2), 113-121.

Couldry, N. (2005) The individual point of view: Learning from Bourdieu's the weight of the world. *Cultural Studies, Critical Methodologies*, 5 (3), 354-372.

Davis, D. (2005) Urban consumer culture. *The China Quarterly*, 183, 692-709.

Duncan-Andrade, J.M.R. (2004) Your best friend or your worst enemy: youth popular culture, pedagogy, and curriculum in urban classrooms. *The Review of Education*, 26, 313-337.

Dyson, A.H. (1993) *Social Worlds of Children Learning to Write in An Urban Primary School*. New York: Teachers College Press.

Dyson, A.H. (1997) *Writing Superheroes: Contemporary Childhood, Popular Culture, and Classroom Literacy*. New York: Teachers College Press.

Editorial Committee of the New Three-Word Classical Text. (Eds) (1995) *Xin Sanzijing* (The new three-word classical Text). Guangdong: Guangdong Educational Press.

Fain, Jr., T.A. (2004) American popular culture should we integrate it into American education? *Education*, 124 (4), 590-594.

Feng, J.H. (2005) Hero is as hero does. Beijing Review, 17 May. [Online] http://www.bjreview.com.cn/En-2005/05-17-e/china-1.htm [2005, November 11].

Foucault, M. (1970)(1969-French version) *The Archaeology of Knowledge and the Discourse on Language* (A. M. Sheridan Smith trans.). New York: Pantheon books.

Foucault, M. (1980) P*ower/knowledge: Selected Interviews and Other Writings, 1972-1977* (edited by C. Gordon). New York: Pantheon Books.

Gingell, J. and Brandon, E.P. (2000) Popular culture. *Journal of Philosophy of Education*, 34 (3), 461-485.

Giroux, H. and Simon, R. (1989) *Popular Culture: Schooling and Everyday Lif*e. New York: Bergin and Garvey.

Goodman, D.S.G. (2001) Contending the popular: Party-state and culture. *Positions*, 9 (1), 245-252.

Gries, P.H. (2005) China's "new thinking" on Japan. *China Quarterly*, 184, 831-850.

Grossberg, L. (1994) Bringin' it all back home - pedagogy and cultural studies. In H. Giroux, and P. McLaren (ed) *Between Borders: Pedagogy and the Politics of Cultural Studies*. New York and London: Routledge.

Grugeon, E. (2005) Listening to learning outside the classroom: Student teachers study playground literacies. *Literacy*, 39 (1), 3-9.

Guo, Y.J. (2004) *Cultural Nationalism in Contemporary China: The Search for National Identity under Reform*. London: RoutledgeCurzon.

Ho, W.C. (2003) The sociology of China music education: Westernization and social transformations, 1895-1949. *History of Education*, 32 (3), 289-301.

Ho, W.C. and Law, W.W. (2004a) Values, music and education in China. *Music Education Research*, 6 (2), 149-167.

Ho, W.C. and Law, W.W. (2004b) Education and society in Japan and the People's Republic of China: Comparative perspectives on national identity and national symbols. *Political Crossroads*, 10-11, 63-79.

Ho, W.C. and Law, W.W. (2006) Students' music experiences, society and culture: Music education in Shanghai, China. *Music Education Research*.

Hopper, B. (1994) From Mao to Madonna: sources on contemporary Chinese culture. *Southeast Asian Journal of Social Science*, 22 (1), 161-169.

Huang, F.Q. (1995) On the role of teachers as curriculum developers. *Theory and Practice of Education*, 15 (1), 1-4.

Huang, F.Q. (2004) Curriculum reform in contemporary China: Seven goals and six strategies. *Journal of Curriculum Studies*, 36 (1), 101 – 115.

Hunt, T.J. and Hunt, B. (2004) Popular culture: Building connections with our students. *English Journal*, 93 (3), 80-83.

Jenkins, H. (1988) "Going Bbnkers!" Children, play and Pee-wee. *Camera Obscura*, 17, 169-193.

Jin, Y.W. (2003) *Chuzhong Yinyue Xin Kecheng Jiaoxuefa* (Early Secondary School New Music Curriculum Teaching Methods). Beijing, Higher Education Publisher.

Keane, M. (2005) Television drama in China: Remaking the market. *Media International Australia Incorporating Culture and Policy*, 115, 82-93.

Kuan H.C. and Lau, S,K. (2002) Traditional orientations and political participation in three Chinese societies, *Journal of Contemporary China*, 11 (31), 297-318.

Law, W.W. (1998) Education in the People's Republic of China Since 1978: Emergency of new actors and intensification of conflicts. In J. Y. S. Cheng (ed) *China in the Post-Deng Era*. Hong Kong, The Chinese University Press.

Law, W.W. (2002) Legislation, education reform and social transformation: The People's Republic of China's experience. *International Journal of Educational Development*, 22 (6), 579-602.

Law, W.W. (Forthcoming) Citizenship, citizenship education, and the state in China in a global age. *Cambridge Journal of Education*.

Lee, W.O. and Ho, C.H. (2005) Ideopolitical shifts and changes in moral education policy in China. *Journal of Moral Education*, 34 (4), 413-431.

Lee, L. and Nathan, A. (1985) The beginning of mass culture: Journalism and fiction in the late Ch'ing and beyond. In D. Johnson et al.(Eds) *Popular Culture in Late Imperial China*. Berkeley and Los Angeles: University of California Press.

Li, D. (2004) Popular culture in the making of anti-imperialist and nationalist sentiments in Sichuan. *Modern China*, 30 (4), 470-505.

Li, J.H. (2002a, September 28) The changing attitudes and values in the new China. [Online] http://www.china.org.cn/english/2002/Sep/44589.htm [2005, October 6].

Li, J.H. (2002b, September 29) The changing attitudes and values in the new China: no more rice iron bowl. [Online] http://www.china.org.cn/english/2002/Sep/44656.htm [2005, October 6].

Li, D. (1999) Modernization and teacher education in China. *Teaching and Teacher Education*, 15, 179-192.

Link, P. (1981) *Mandarin Ducks and Butterflies: Popular Fiction in Early Twentieth-century Chinese Cities*. Berkeley and Los Angeles: University of California Press.

Liu, K. (1997) Popular culture and the culture of the masses in contemporary China. *Boundary*, 24 (3), 99-122.

Lu, Y.Z. (2000). Lightening students' workload. *China Today*, 49 (6), 16-21.

Lu, J. and Gao, D.S. (2004) New direction in the moral education curriculum in Chinese primary schools. *Journal of Moral Education*, 33 (4), 495-510.

Lu, N. (2003) Zuguo nihao (Hello, my nation). In K. J. Zhang (Ed) *Yinyue Xin Kecheng Ketang Jiaoxue Anli* (Case Studies of Classroom Practices under the New Music Curriculum) Guangzhou: Guangdong Higher Education Publishing.

McCarthy, C., Giardina, M.D., Harewood, S.J., and Park, J.K. (2003) Contesting culture: Identity and curriculum dilemmas in the age of globalization, postcolonialism, and multiplicity. *Harvard Educational Review*, 73 (3), 449-465.

Ministry of Education (1995) *Education Law of the People's Republic of China* (Adopted at the third session of the eighth National People's Congress on March 18, 1995, promulgated by

Order No.45 of the President of the People's Republic of China on March 18, 1995 and effective as of September 1, 1995). [Online] http://www.moe.edu.cn/english/laws_e.htm [2005, October 3].

Ministry of Education (2001) *Yinyue Kecheung Biaozhun* (Standard of Music Curriculum) Beijing: Normal University Publishing.

Ministry of Education (2004) *Zhongxiao Xuesheng Shouze Xiaoxuesheng Richang Xingwei Guifan Xiuding Zhongxuesheng Richang Xingwei Guifan Xiuding* (Regulations for primary students and secondary students, Revised regulations on primary students' daily behaviours, and revised regulations on secondary students' daily behaviours). *Remini Jiaoyu* (People's Education), 483, 6-7.

Morton, W.S. and Lewis, C.M. (2005) *China: Its History and Culture* (4th ed.). New York: McGraw-Hill.

Newkirk, T. (2002) *Misreading Masculinity: Boys, Literacy, and Popular Culture.* Portsmouth, NH: Heinemann.

Nicola, R. (2001) The Harry Potter phenomenon – part 2. *Journal of Adolescent and Adult Literacy*, 44 (8), 746-754.

Noddings, N. (2005) Identifying and responding to needs in education. *Cambridge Journal of Education*, 35 (20), 147-159.

Ozman, H. and Craver, S. (2003) *Philosophical Foundations of Education* (7th ed.). Upper Saddle River, NJ: Pearson Education.

People's Daily News (2001, November 23) Liberal sex education makes Chinese children more open. [Online] http://english.people.com.cn/200111/23/eng20011123_85167.shtml [2005, October 9].

People's Daily News (2003, January 28) From model soldier Lei Feng to Bill Gates: China's new idols. [Online] http://english.people.com.cn/200301/28/eng20030128_110881.shtml [2005, November 3].

People's Daily News (2004, September 1) Shanghai adds love classics to middle school textbooks. Online: http://english.people.com.cn/200409/01/eng20040901_155487.html [2005, December 3].

People's Daily News (2004, March 28) China focuses on youth in fast changing society. Online: http://english.people.com.cn/200403/28/eng20040328_138719.shtml [2005, November 3)

People's Daily News (2005, June 13) Future brightens for cultural heritage. [Online] http://english.people.com.cn/200506/13/eng20050613_189893.html [2005, October 23].

People's Daily News (2005, January 5) China's traditional Kunqu opera gets popular in colleges. [Online] http://english.people.com.cn/200501/05/eng20050105_169708.html [2005, October 23].

People's Daily News (2005, June 25) China to revive traditional festivals to boost traditional culture. [Online] http://english.people.com.cn/200506/25/eng20050625_192259.html [2005, October 23].

People's Daily News (2005, July 13) China has socialist market economy in place. [Online] http://english.people.com.cn/200507/13/eng20050713_195876.html [2005, November 3].

People's Daily News (2005, November 21) Modernized Chinese traditional opera closer to Chinese youth. [Online]
http://english.people.com.cn/200511/21/eng20051121_222916.html [2005, November 23].

Qian, J. (2003) The secularization of modern Chinese youth. *Chinese Education and Youth*, 35 (6), 24-32.

Rose, C. (2003) How to teach biology using the movie science of cloning people, resurrecting the dead, and combining files and humans. *Public Understanding of Science*, 12 (3), 289-296.

Rowling, J.K. (2000) *Harry Potter and the Goblet of Fire.* New York: Scholastic.

Rowling, J.K. (2003) *Harry Potter and the Order of the Phoenix.* New York: Scholastic.

Rowling, J.K. (2005) *Harry Potter and the Half-blood Prince*. London: Bloomsbury.

Segarra, J.A. and Dobles, R. R. (eds) (1999) *Learning as A Political Act: Struggles for Learning and Learning from Struggles*. Cambridge, MA: Harvard Educational Review.

Shaonian Ertong Publisher (2002) *Yinyue* (Music) (Grade 7, second term). Shanghai: Shaonian Ertong Publisher.

Shanghai Educational Publisher (2004) *Yishu – Yinyue* (Arts: Music) (Grade 9, Vol. 2). Shanghai: Shanghai Educational Publisher.

Shanghai Music Publisher (2004) *Yishu* (Arts) (Grade 11, Vol. 1). Shanghai: Shanghai Music Publisher.

Shanghai Music Publisher (2005) *Yishi* (Arts) (Grade 12, second term). Shanghai: Shanghai Music Publisher.

Smith, A.D. (1986) *The Ethnic Origins of Nations*. Oxford: Blackwell Press.

Smith, A. D. (1995) *Nations and Nationalism in a Global Era*. Cambridge: Polity Press.

Stockman, N. (2000) *Understanding Chinese Society*. Cambridge: Polity Press.

Suárez-Orozco, M.M. and Qin-Hilliard, D.B. (eds) (2004) *Globalization: Culture and Education in the New Millennium*. Berkeley, CA: University of California Press.

The Economist (2003, January 23) Asia: Roll over, Confucius; China. 366(8308), 61.

Turner, Y. and Acker, A. (2002) *Education in the New China: Shaping Ideas at Work*. Burlington, VT: Ashgate.

Valenzuela, A. (1999). *Subtractive Schooling: U.S. Mexican Youth and the Politics of Caring*. New York: SUNY Press.

Vygotsky, L.S. (1986) *Thought and Language* (Ed. and trans. A. Kozulin). Cambridge: MIT Press.

Wang, F.Y. (2004) Confucian thinking in traditional moral education: key ideas and fundamental features. J*ournal of Moral Education*, 33 (4), 429-447.

Webb, J., Schirato, T., and Danaher, G. (2002) *Understanding Bourdieu*. London: Sage.

Willett, R. (2005) Baddies' in the classroom: media education and narrative writing. *Literacy*, 39 (3), 142-148.

Wong, L. (2002) Individualisation of social rights in China. In S. Sargeson (Ed) *Collective Goods, Collective Futures in Asia*. London: Routledge.

Wu, D.B. (1994) Introduction: cultural tradition and popular culture. In D.B. Wu and P.D. Murphy (Eds) H*andbook of Chinese Popular Culture*. London: Greenwood Press.

Xiaonian Yitong Chubian She (2003) *Yinyue* (Music) (Grade 7, Vol. 2.). Shanghai: Xiaonian Yitong Chubian She.

Xinhua New Agency (2001, November 23) Sex education now available in China's schools. [Online] http://www.china.org.cn/english/2001/Nov/22595.htm [2005, November 7].

Xinhua News Agency (2004, December 26) China starts to introduce more puberty sex knowledge books. [Online] http://english.people.com.cn/200412/26/eng20041226_168681.html [2005, November 7].

Xinhua News Agency (2005, 3 March) Popular fiction in textbook sparks debate. [Online] http://www.china.org.cn/english/2005/Mar/121664.htm [2005, November 7].

Xinhua News Agency (2005, 1 June) Lists of recommended children's books released. [Online] http://english.people.com.cn/200506/01/eng20050601_187839.html [2005, October 3].

Xinhua News Agency (2005, 6 October) China accelerates curriculum reform of elementary education. [Online] http://english.people.com.cn/200510/06/eng20051006_212654.html [2005, October 3].

Xinhua News Agency (2005, 13 October) Chinese youngsters to enjoy cartoon plays based on textbooks. [Online] http://english.people.com.cn/200510/13/eng20051013_214088.html [2005, October 3].

Xinhua News Agency (2005, 6 October) China accelerates curriculum reform of elementary education.   [Online]   http://english.people.com.cn/200510/06/eng20051006_212654.html [2005, October 23].

Xu, W. X.(1993, August) Shichang jingji jiang shi zhongguo shehui quanmian gengxin (The market economy will completely renew Chinese society, *Chinese Youth* (Zhongguo qingnian, 22.

Xu, B. (2005) Chinese populist nationalism: intellectual politics and moral dilemma. In D.F. Tao and Y.P. Jin (eds) *Cultural Studies in China*. London: Marshall Cavendish Academic.

Xu, S.H. (2002) Teachers' full knowledge of students' popular culture and the integration of aspects of that culture in literacy instruction. *Education*, 122 (4), 721-730.

❖IEJ

Sources and manifestations of stress in female kindergarten teachers

Eva Tsai
Hong Kong Baptist University, Department of Physical Education *evatsai@hkbu.edu.hk*

Lena Fung
Hong Kong Baptist University, Department of Physical Education *lenaf@hkbu.edu.hk*

Lina Chow
Hong Kong Institute of Education, Department of Physical Education and Sport Science
pychow@ied.edu.hk

The study of teacher stress is not a new area of research. However, most of the published research studies have been strongly oriented towards primary and secondary school teachers. Given that the teaching environment of kindergarten differs greatly from primary and secondary schools, this study sets out to examine the sources and manifestations of stress of Hong Kong female kindergarten teachers. Results suggest that Time Management and Work-related stressors are more common sources of stress whereas feelings of Fatigue and Emotional related symptoms are more common manifestations of stress.

Stress sources, stress manifestations, female teachers, kindergarten teachers, Hong Kong

INTRODUCTION

Within the general area of occupational stress, teaching has been identified as one of the most stressful occupations in many countries (Cooper, Sloan, and Williams, 1988). Teaching related stress, commonly termed 'teacher stress', is defined as a teacher's experience of "unpleasant, negative emotions, such as anger, anxiety, tension, frustration, or depression, resulting from some aspect of their work as a teacher" (Kyriacou, 2001, p. 38). Like other forms of occupational stress, it can have serious implications for the healthy functioning of the individual as well as for the organisation in which the individual serves. At a personal level, teaching related stress can affect a teacher's health, well-being, and performance (Larchick and Chance, 2004). From an organisational perspective, it translates to unproductive employee behaviours such as alienation, apathy, and absenteeism (Gugliemi and Tatrow, 1998). Hence, even after nearly three decades of research effort, the study of teacher stress, particularly its sources and manifestations, continues to attract widespread interest and attention.

Sources of teacher stress are varied (Dewe, 1986). Some of the more common sources include the need to make adaptations to sudden curriculum changes and feeling of disempowerment (Brown, Ralph and Brember, 2002; Moriarty et al., 2001). Apart from school curriculum changes, a change in school structure is also a stressor. Such change causes erosion of collegial relationship (Troman, 2000) and harbours feeling of inequity and uncertainty (Taris et al., 2004). Other often reported stress catalysts include role overload, namely the need for teachers to cope with a number of competing roles within their job (Pithers and Soden, 1998), excessive over-time work (Cooper and Kelly, 1993), and management problems associated with student misbehaviour and large class sizes (Gordon, 2002). In a study with preschool teachers, Kelly and Berthelsen (1995) pointed out

that stress sources in their sample were similar to primary school teachers in many aspects. However, they argued that preschool teachers have additional stressors such as having to deal with parents who treat the school as a child-minding service and having to perform more non-teaching tasks, such as mothering a sick child or cleaning up after them.

Just as sources of stress can vary between individuals, responses to stressful experiences also differ. Whereas some individuals may primarily experience physical symptoms such as ulcers and chest pains, others may experience psychological and emotional disturbances such as depression and apathy. Findings from early studies on health related problems associated with teacher stress indicated that the negative effects of stress could range from minor physical symptoms such as mouth sores to more serious psychopathological symptoms like depression and suicidal ideations (Kyriacou and Pratt, 1985; Litt and Turk, 1985). Pervez and Hanif (2003) in their study with Pakistani female teachers concluded that stress manifestations could be physical, psychological, or emotional in nature. On comparing stress manifestations between teachers of private and government schools, they found that the former had significantly more complaints with cardiovascular and gastronomical problems than those working in government schools.

To date, a large reserve of evidence on sources, manifestations, and consequences of teacher stress is available. As a result of this, we are now more knowledgeable in this area than 20 years ago. However, the information collected was mostly from primary and secondary school teachers. Specialist samples, such as teachers in special schools, head teachers, and university teachers, were included only recently. Evidence from kindergarten teachers is minimal. Therefore, the main purpose of this study is to investigate sources and manifestations of teaching related stress among female kindergarten teachers in Hong Kong. A study with this sample is particularly warranted for several reasons. First, in line with the proposition that stress is a transaction between individuals and their environment (Cox, 1978), it is unwise to generalise feelings from primary and secondary teachers to kindergarten teachers when the settings in which teaching transpires are so different. The kindergarten environment is rather informal when compared to primary or secondary school settings and the role of the kindergarten teachers extends beyond mere teaching. They have to perform tasks such as nursing and mothering the students on top of regular behavioural management and instructional duties. Second, the professional reward system of kindergarten teachers, monetary reward and status recognition, to name a few, are also different from those of primary and secondary teachers. This discrepancy in teacher reward system might predispose kindergarten teachers to respond differently to similar stressors exposed to primary or secondary school teachers. Van Der Linde (2000) argued that higher remuneration and better benefits were important attractions that kept teachers from quitting their jobs. Third, as previous teacher stress research is strongly oriented towards primary and secondary school teachers, kindergarten teachers can be considered a specialist sample with hardly any documented data. Fourth, given that the challenge of school reform, which is a major stressor for primary and secondary teachers, has begun to trickle into the kindergarten system, an early assessment and understanding of kindergarten teachers' stress level are essential from the perspective of the prevention of burnout.

METHOD

Sample

One hundred and thirteen female kindergarten teachers were recruited for the study through invitations distributed at in-service workshops provided by the Hong Kong Institute of Education or through heads of schools consenting to take part. Only female teachers were included in the study because over 98 per cent of kindergarten teachers in Hong Kong are females thus making the sourcing of male participants very difficult. The teaching experience of the sample ranged between 1 and 24 years with the mean being 12.1 years. The period of direct teaching time the

teachers reported was 4.1 hours. However, they also reported that they spent on average 9.20 hours at the school. These extra hours included arriving at school prior to actual teaching or staying behind after the students had gone so as to clear accumulated paper work or to prepare for class.

Instrument

Sources and manifestations of teacher stress were assessed with the Teacher Stress Inventory (TSI) developed by Fimian and Fastenu (1990). The TSI is a self-reporting questionnaire and contains 49 experiences. The general framing question guiding the respondents to respond to items on sources of stress were: "How much do you feel stressed by the following?" and for the items referring to manifestations of stress, the framing question was: "How often do you experience the following?" To complete the questionnaire, teachers were asked to circle the number that best reflected their response to each item. "Not at all" (for the stress source responses) and "Never" (for the manifestation responses) were scored as 1 point. The scoring for the responses of "An extreme lot" and (for the stress source responses) and "Always" (for the manifestation responses) were 5 points.

The TSI instrument clusters 20 experiences into five types of stress sources and 29 experiences into five types of stress manifestations. The stress sources are: Time Management related Stressor, Work related Stressor, Professional related Stressor, Discipline and Motivation related Stressor, and Professional Investment related Stressor. Sample experiences for each type of stress source are as follows: "Having to do more than one thing at a time", "Finding that the school day pace is too fast", "Needing more status and respect", "Having to deal with inadequate or poorly defined discipline policies", and "Lacking opportunities for improvement". The five types of stress manifestations are: Emotional, Fatigue, Cardiovascular, Gastronomical, and Behavioral. Sample experiences for each type of stress manifestations are as follows: "Feeling depressed", "Sleeping more than usual", "Feelings of increased blood pressure", "Stomach cramps", and "Using alcohol". The reliability coefficients of the TSI experience clusters were reported to range from 0.75 to 0.88, and for the total scale, the coefficient was 0.93 (Fimian and Fastenu, 1990).

The way in which the inventory is scored allows for interpretation in at least two ways. First, by summing the ratings provided to all 20 experiences representing stress sources, an individual stress level can be identified. Second, as the level of stress source can differ within individuals, the relative contribution of each source to total stress can also be assessed. Similar intra-individual comparisons can be made with stress manifestations. Understanding the more common stress manifestations exhibited by individuals is particularly important because timely treatment of chronic stress symptoms before they turn acute is important for a person's overall health.

As the participants of the study used predominantly Chinese as their first language, the TSI was translated for this study into Chinese through the method of back-translation. The translated version was then further evaluated for accuracy by two expert social psychologists. When both experts concurred that no amendments were necessary, the questionnaire was put to use for data collection.

Data Analysis

In order to understand the sources of teacher stress and the manifestations of such stress, a hypothetical model was developed for testing. The statistical approach employed was structural equation modelling (SEM) and LISREL 8.5 was used for assessing the fit of the data to the model. In building the model, the five types of stress sources were treated as observed variables to the latent variable of Teacher Stress and the five types of stress manifestations were treated as the observed variables of the latent variable Stress Symptoms. Finally a directional path from Teacher

Stress to Stress Symptoms was inserted to assess the causal relationship between Teacher Stress and Stress Symptoms.

The indices of fit selected as reference for evaluating the adequacy of the model were the Chi-square statistics, Bentler-Bonett Non-Normed Fit Index (NNFI), Comparative Fit Index (CFI), and Goodness-of-fit Index (GFI). These indices were provided by the LISREL 8.5 and commonly selected for assessing a model's goodness-of-fit. There was also a general agreement that an index greater than 0.90 and close to 0.95 should be an indicator of an adequately fitted model (Hu and Bentler, 1999).

RESULTS

The correlation matrix of various observed variables related to the model, their means and their standard deviations are presented in Table 1.

Table 1. Correlation coefficients, means and standard deviations of variables in the model

	Time Management	Work-related Stressors	Professional Distress	Discipline & Motivation	Professional Investment	Mean	SD
Emotional	.59*	.55*	.60*	.48*	.69*	3.15	1.09
Fatigue	.67*	.50*	.40*	.33*	.41*	2.92	.90
Cardiovascular	.46*	.35*	.33*	.24	.24	.94	.90
Gastronomical	.41*	.36*	.22	.26	.35*	1.98	.94
Behavior	.28	.21	.19	.05	.09	1.87	.65
Mean	3.42	3.60	3.26	3.01	3.18		
SD	.68	.77	.74	.75	.81		

* $p < 0.001$; N=113 teachers.

When the data were fitted to the hypothetical model, the obtained goodness-of-fit indices were as follows; Chi-square = 50.5, d.f. = 30, $p > 0.001$; NNFI = 0.94, CFI = 0.96, and GFI = 0.92. These indices suggested that the model was tenable. The model and the standardised path coefficients are presented in Figure 1.
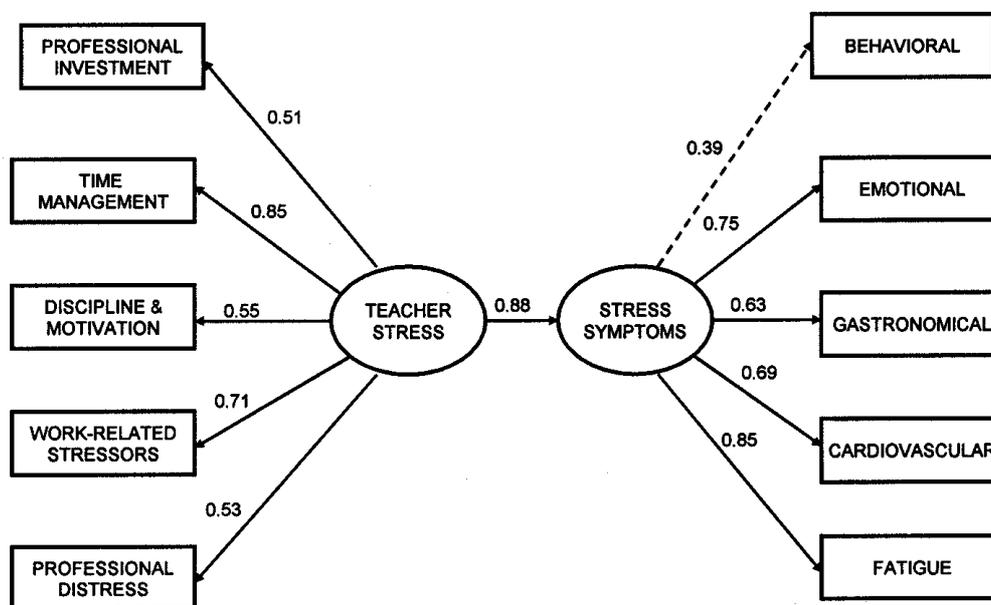

Figure 1. Model with standardised path coefficients between observed and latent variables where significant path coefficient are p<0.05

When the corresponding t-values of the path coefficients were examined, they suggested that all paths, except for that between the observed variable Behavioural and the latent variable Stress Symptoms (r = 0.39), were significantly different from zero. On comparing the size of the standardised coefficients between different types of stress sources, the source of Time Management surfaced as the strongest indicator of Teacher Stress (r = 0.85, t = 10.27, p < 0.05) followed by Work-related Stressors (r = 0.71, t = 8.13, p < 0.05). Similarly, Fatigue was the most common form of stress manifestation experienced by the teachers (r = 0.85, t = 3.98, p < 0.05) followed by emotional manifestation (r = 0.75, t = 3.88, p < 0.05). The coefficient of the directional path between Teacher Stress and Stress Symptoms was also significant (r = 0.88, t = 3.87, p < 0.05). This suggested that Teacher Stress was a significant contributor to Stress Symptoms.

DISCUSSION

The main purpose of the study is to identify the sources and manifestations of stress among female kindergarten teachers in Hong Kong. The findings show that Work-related Stressors (r = 0.71) and Time Management (r = 0.85) are the more salient sources of stress contributing to the overall teaching stress experienced by the sample. This finding is contrary to the evidence provided by Pervez and Hanif (2003) in their study on studied secondary and primary school teachers. In their study, Time Management was rated the least likely source of stress and Work-related Stressors was the second least likely source of stress. In addition, the mean rating of Work-related Stressors and Time Management provided by the Hong Kong kindergarten teachers were 3.60 and 3.41 respectively. It is probably not surprising in the Hong Kong setting that these are considerably higher than the mean ratings provided by Pakistani secondary school (Work-related Stressors = 2.32, Time Management = 2.80) and primary school (Work-related Stressors = 1.34, Time Management = 1.85) teachers. Moreover, when compared to teachers working with students in Indian reservations, the ratings given to Work-related Stressors and Time Management by the Hong Kong kindergarten teachers are also considerably higher. The mean score provided by teachers working in Indian reservations for Work-related Stressors and Time Management were 2.66 and 2.62 respectively (Vance, Miller, Humphreys, and Reynolds, 1989). It is of interest to note that the ratings of these two sources provided by the Hong Kong kindergarten teachers are higher than any stress source ratings provided by teachers working in the Indian reservations. In this study, Work-related Stressors include feelings of having too little time to prepare, having too much work, pace of school day being too fast, class size too big, personal priorities being shortchanged, and having too much administrative paperwork, whereas Time Management includes feelings such as having to do more than one thing at a time, being rushed in speech, and not having enough time to get things done. As stress can reduce a teacher's motivation and ultimately affects the operation of the school and teaching (Brownell, 1997), perhaps kindergarten principals can assist teachers in managing their stress by providing them with better resource support and principals can also search for means to curtail administrative procedures so as to allow teachers to work at a pace that they find more manageable.

Fatigue and Emotional stress are the more common stress manifestations reported by Hong Kong kindergarten teachers. Whereas Emotional stress manifestations include feelings of insecurity, feelings of vulnerability, depressions and anxiety, Fatigue includes symptoms such as physical exhaustion and physical weakness. Teachers harboring such feelings can either become withdrawn or aggressive towards students and peers. When feelings of emotional stress and fatigue are left to persist, the individual may develop more serious pathological symptoms that lead to self-destructive behaviours such as suicide. As tolerance of stress varies across individuals, sensitivity to mood changes among fellow workers is important. With early detection, appropriate counter-measures can be applied to alleviate the condition.

Principles are also in a position to assist teachers to manage stressors by fostering collegial relationship. Within the literature on teacher burnout, the inverse relationship between burnout and supportive school environment and collegiality is well documented (eg. Dworkin, Haney, and Telschow, 1990; Dworkin, Saha, and Hill, 2003). However, collegiality in schools occurs only if it is valued and positive actions taken to overcome the obstacles to its development. Teschke (1996) suggested that principals could play a pivotal role in developing collegiality if they could explicitly state expectations for cooperation among teachers, model collegiality themselves by joining with teachers to work on improving school conditions, and reward collegiality by granting release time, recognition, and other resources.

Apart from relying on help from colleagues, teachers should also learn to manage their own stress. Strategies such as taking direct actions to solve problems and using relaxation techniques would also be useful (Kyriacou, 2001). In addition, the practice of controlling negative and emotional rumination would also be useful alternatives (Roger and Hudson, 1995).

In conclusion, it must be pointed out that although this study is successful in identifying some of the more common stress sources and stress manifestations of female kindergarten teachers, the sample from which the data are obtained is rather small and caution must be exercised in making strong generalisations. Therefore, it is suggested that additional research, perhaps incorporating qualitative approaches to identify stress sources and physiological techniques to obtain measurement of stress levels, needs to be conducted so that teachers' stressors and stress symptoms can be better understood.

ACKNOWLEDGEMENT

REFERENCES

Brown, M., Ralph, S. and Brember, I. (2002). Changed-linked work-related stress in British teachers. *Research in Education, 67*, 1-12.

Brownell, M. (1997). Coping with stress in the special education classroom. *Teaching Exceptional Children, 30*, 6.

Cooper, C.L. and Kelly, M. (1993). Occupational stress in head teachers: A national UK study. *British Journal of Educational Psychology, 63*, 130-143.

Cooler, C.L., Sloan, S. and Williams, S. (1988). *Occupational Stress Indicator.* Slough, UK: NFER-Nelson.

Cox, T. (1978). *Stress.* London: Macmillian.

Dewe, P.J. (1986). An investigation into the causes and consequences of teacher stress. *Journal of Educational Studies, 21*, 145-157.

Dworkin, A.G., Haney, C.a. and Telschow, R. (1990). Stress and illness behavior among urban school teachers. *Education Administration Quarterly, 26*, 59-71.

Dworkin, A.G., Saha, L.J. and Hill, A.N. (2003). Teacher burnout and perceptions of a democratic school environment. *International Education Journal, 4*, 108-120.

Fimian, M.J. and Festenu, P.S. (1990). The validity and reliability of the teacher stress inventory: A re-analysis of aggregate data. *Journal of Occupational Behavior, 11*, 151-157.

Gordon, D.G. (2002). Discipline in the music classroom: One component contributing to teacher stress. *Music Education Research, 4*, 157-165.

Guglielmi, S.R. and Tatrow, K. (1998). Occupational stress, burnout, and health in teachers: A methodological and theoretical analysis. *Review of Educational Research, 68*, 61-91.

Hu, L and Bentler, P. (1999). Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1-55.

Kelly, A.L. and Berthelsen, D.C. (1995). Preschool teachers' experiences of stress. *Teaching and Teacher Education,* 11, 345-357.

Kyriacou, C. and Pratt, J. (1985). Teacher stress and psychoneurotic symptoms. *British Journal of Educational Psychology,* 55, 61-64.

Kyriacou, C. (2001). Teacher stress: Directions for suture research. *Educational Review,* 53, 27-35.

Larchick, R. and Chance, E. (2004). Teacher performance and personal life stressors: Implications for urban life school administrators. *National Forum of Teacher Education Journal,* 14E, 19-30.

Moriarty, V., Edmonds, S., Blatchford, P. and Martin, C. (2001). Teaching young children: perceived satisfaction and stress. *Educational Research,* 43, 33-46.

Pervez, S. and Hanif, R. (2003). Levels and sources of work stress among women school teachers. *Parkistan Journal of Psychological Research,* 18, 97-108.

Pithers, R.T. and Soden, R. (1998). Scottish and Australian teacher stress and strain: A comparative study. *British Journal of Educational Psychology,* 68, 269-279.

Roger, D. and Hudson, C. (1995). The role of emotion control and emotional rumination in stress management training. *International Journal of Stress Management,* 2, 119-132.

Taris, T.W., Van Horn, J.E., Schau, W.B. and Schreurs, P.J.G. (2004). Inequity, burnout and psychological withdrawal among teachers: A dynamic exchange model. *Anxiety, Stress, and Coping,* 17, 103-122.

❖IEJ

Relationship between entry qualifications and performance in graduate education

Maizam Alias
Centre for Graduate Studies, Tun Hussein Onn University College of Technology,
Johor Darul Takzim, Malaysia *maizam@kuittho.edu.my*

Ahmad Faizal Mohd Zain
Centre for Graduate Studies, Tun Hussein Onn University College of Technology,
Johor Darul Takzim, Malaysia

It is generally accepted that the undergraduate cumulative point average (UCPA) is associated with graduate performance of the same discipline. Less known, however, is how good the UCPA at predicting graduate performance in a different discipline. This paper discusses a study on the relationship between UCPA, undergraduate program of study, and graduate performance – operationalised as graduate CPA (GCPA) – in a Master in Technical and Vocational Education program (MTVE). Data were gathered on UCPA, their undergraduate program of study, gender and previous university of 612 MTVE students using their application forms and academic records. The large number of programs of study was reduced to five groups of disciplines namely, Civil Engineering, Electrical Engineering, Mechanical Engineering, Business and Management, and Others. Descriptive statistics and linear regression were used to analyse the data. The results showed that both undergraduate program of study and UCPA are predictors of GCPA and the extent to which UCPA contributes towards GCPA varies across programs of study.

Graduate studies, undergraduate performance, teacher training, technical education, correlation

INTRODUCTION

One quality indicator of undergraduate students that has been consistently used for entry selection into graduate programs is the undergraduate Cumulative Grade Point Average (CPA) which in this paper refers to the average of credit points obtained at the end of a program study as opposed to the Grade Point Average, which refers to the credit points obtained for a specific semester of study. The CPA has also been generally accepted as the indicator of graduating quality graduate education. The question is how good really is the undergraduate CPA (UCPA) at predicting graduate CPA (GCPA)?

This paper discusses the findings of a preliminary study on one of the graduate programs in the University (i.e., the Master in Technical and Vocational Education (MTVE) program). The study came into being as a result of a mixture of professional curiosity and the need to review the current entry requirements into the university graduate programs. It was felt that the findings may be relevant to policy decision-making in the University as well as other universities that offer similar kind of programs.

MTVE program

The MTVE program is a program for training teaching staff in post-secondary technical institutions under the Malaysian Ministry of Higher Education, namely, polytechnics and community colleges. It is a pre-service teacher training program. As such, the students who are enrolled into this program are fresh graduates who have had no formal professional training in teaching although a limited few (less than 1% going by their application form records) may have had some teaching experience as part-time teachers. This university is one of two universities that provide trained technical teachers for technical institutions under the Ministry of Higher Education. The program is a special one as it is only offered to those under the sponsorships of the Ministry of Higher Education.

The MTVE program is a 3-semester program, designed with two major components, a professional training component and an academic component, which is atypical of master of education programs in Malaysia. Typical master of education programs are without the professional training component as these programs are normally offered to in-service teachers. To fulfil the professional training component requirement, students undergo two teaching practicums for a specified duration, which are implemented during the semester break. Teaching practicum is given a pass or a fail grade and the grade obtained does not count towards GCPA. Similar to other master's programs, MTVE students are also required to do a master's project spread out over a period of two semesters in addition to other education courses (such as, measurement and evaluation, psychology, statistics in education and pedagogy). As a consequence, the MTVE program is quite a demanding one when compared to other master of education programs.

Another unique aspect of the MTVE program is its students, whose undergraduate qualifications vary from Engineering to Hospitality. The varied disciplines reflect the human resource needs of the technical institutions that these graduates are supposed to serve.

Admission policy

Admission into the MTVE program is undertaken through a two-phase process. The first phase is conducted by the Ministry of Higher Education prior to the first degree of the candidates. The second phase is by the university based solely on the UCPA. Current University policy states that a minimum UCPA of 2.5 from an accredited university is the necessary requirement for entry into its master's program including the MTVE program. Under rare circumstances, considerations for admission with lower UCPA are given where applicants have had several years of experience in the related field. The single entry criterion was found to be adequate initially as the number of places offered by the University was sufficient to meet the demand of the Ministry of Higher Education. However, recently the number of candidates that the University received has increased beyond what can be easily accommodated by the University. Furthermore, certain trends in the incoming candidates that may impact success in graduate education were also observed. For example, casual observations indicated that candidates of certain disciplines tend to come from a certain university, and certain disciplines tend to have candidates of higher UCPA compared to other disciplines. As the university is a major producer of trained technical teachers for post secondary technical institutions, it is of utmost importance that the university produce not only the right quantity but also the right quality of the human resource needs of the country, which can be achieved through the appropriate choice and training of candidates. Therefore, there is the need to review the current entry requirement to ensure a fairer selection procedure and a more balanced mix of graduate students in the MTVE program.

PREDICTOR VARIABLES FOR GRADUATE SUCCESS

The literature provides a wide array of studies that attempts to identify the one best predictor variable for success in graduate studies. Variables studied include Graduate Record Examination

(GRE) scores, Graduate Management Aptitude Test (GMAT), class of undergraduate degree (first/second-upper), academic ability as rated by academic advisors, as well as scores on non-cognitive measures. The indicators for graduate performance also vary from one study to another, which may include first year grades, mid-program grades, subjects' grades at advanced levels and GCPA.

The results on GRE studies appear to vary from one discipline to another. Within the same discipline, the correlation also varies from one subject to another. For example, House and Johnson (2002) found that the correlation coefficients between GRE scores and subject grades in advanced psychology range from 0.24 – 0.58. Studies on GMAT show that the correlation between GMAT scores and mid-program grades is about 0.48 (Graduate Management Admission council (GMAC), 2005). A validity range of 0.30 to 0.40 is generally considered good for standardised admissions tests, making the GMAT an outstanding predictor.

Correlations between class of undergraduate and graduate performance is also weak as shown by Lane et al., (2003) who did a study on hospitality students and found that the correlation between class of undergraduate degree and GCPA is about $r=0.24$, $p<0.01$. They also found that students with first class honours down to upper second class do consistently well in graduate studies while those below vary in their performance. Their study covers all the classes of the undergraduate degree, from the third class to first class degree.

Kuncel, Hezlett, and Ones (2001) and Braunstein (2002) found similar strength of relationships (i.e., a correlation of 0.3 between UCPA and GCPA). Kuncel, Hezlett, and Ones (2001) uses the first year GCPA rather than the graduating CPA. Using a different undergraduate performance indicator, Wardlow, (1989) who did a study on success in Agricultural education for international students studying in the USA found that the correlation between undergraduate academic ability as rated by academic advisors and GCPA to be 0.38. However, Micceri (2002) did not find support for the relationship between UCPA and graduate success when "graduate" and "do not graduate" is used as the operationalisation for graduate success. Absence of association between UCPA and CGPA is also supported by Truitt (2002) whose study was on MBA.

Overall, the literature shows that the relationship between entry qualifications and graduate performance has not been consistent depending on the specific indicators used for success in graduate education as well as varying across graduate program of study. In cases where statistically significant correlations are found, the correlations between undergraduate performance and graduate performance are weak (i.e., between 0.24-0.38 with standardised admission test giving the highest correlations to graduate performance). The purpose of the current study therefore, was to determine to what extent graduating UCPA contributes towards success in the MTVE program, operationalised as graduating GCPA. Also of interest was to determine if the contribution of UCPA towards GCPA varies across undergraduate program of study.

METHODS

Sources of data were students' application forms and academic records from the June 2001 intake to the June 2003 intake. These records furnished complete data on UCPA, undergraduate program of study, previous university attended and GCPA. A limited number of records provided additional information on previous experience and co-curricular activities. However, these data were too limited to be useful and therefore were not included in any of the analyses. Descriptive statistics were used to analyse data on demography and multiple regressions were used to determine the contribution of two factors of interest, namely, UCPA and undergraduate program of study on GCPA.

Due to the large number of undergraduate programs of study found, they were regrouped into five categories of disciplines based on their contents (judged qualitatively by the authors), namely Civil Engineering, Electrical Engineering, Mechanical Engineering, Business and Management, Building and Planning, and Others. The "Others" category is created to incorporate other undergraduate programs that cannot be grouped with any of the four categories. Programs identified as "Others" include Textile Design, Town Planning and Geoinformatics. Six hundred and twelve complete records of students from the Master in Technical and Vocational Education program were analysed.

RESULTS

Description of sample

Of the 612 students, 214 (35%) and 398 (65%) are males and females respectively. Females make the larger proportion of every cohort (Male:Female [M:F] ~30:70) except in cohort five where male students constitute a larger proportion (M=56% and F=44%). The larger proportion of males in this particular cohort is due to a larger proportion of males obtaining scholarships from the Ministry of Higher Education. Table 1 shows the distribution of students according to gender and cohort.

Table 1. Distribution of students according to gender and cohort

Cohort		June 2001	Nov. 2001	June 2002	Nov. 2002	June 2003	Total
Gender	M	40	36	53	21	64	204
	F	112	81	101	54	50	398
Students (N)		152	117	154	75	114	612

The distribution of students according to program of study varies as follows: Electrical Engineering (25.5%), Civil Engineering (23.0%), Business and Management (29.6%), Mechanical Engineering (14.4%), and Others (7.5%). The specific undergraduate programs that feed into each cohort is determined by the Ministry of Higher Education based on projected needs of the recipient technical institutions. The top five universities that feed into the program are the Tun Hussein Onn University College of Technology (47.2%), the University of Utara Malaysia (19.8%), the University of Technology Malaysia, (11.4%), and the MARA University of Technology (9.6%). The percentage of students that did not finish their studies within the minimum three semesters duration is given in Table 2. Data on these students are excluded from our analyses.

Table 2. Percentage of students who fail to complete within three semesters

Cohort	June 2001	Nov. 2001	June 2002	Nov. 2002
Percentage who failed to complete within three semester	2%	14%	2%	5%

The higher percentage of incompletion rate in the second cohort is mainly due to students failing to complete their master's projects on time. The effect of the higher incompletion rate on the overall study is uncertain. However, a localised effect is suggested as seen by the absence of association between UCPA and GCPA for the second cohort, which is inconsistent with the correlation coefficients of the other cohorts (Table 3).

Table 4 shows the descriptive statistics for UCPA and GCPA for each cohort. The UCPA diminishes over time and the mean difference between cohort 1 and cohort 5 is statistically significant, $t=4.765$, $p<0.001$ (two-tailed, $n_1=152$, $n_5=114$, $df=264$). However, the lowest mean ($\bar{x}=2.66$) is still above the minimum UCPA stipulated by the university which is a UCPA of 2.5. The reason for the diminishing UCPA was mainly due to selected students taking up employment instead of enrolling into the program.

Table 3. Correlations coefficients between UCPA and CGPA according to cohort

Cohort	June 2001	Nov. 2001	June 2002	Nov. 2002	June 2003
Correlation between UCPA and GCPA	r=0.31*	r=0.03	r=0.40*	r=0.39*	r=0.44*
n	152	117	154	75	114

*Statistically significant, p<0.01 (two tailed)

Table 4. Descriptive statistics for UCPA and GCPA according to cohort

	UCPA		GCPA	
Cohort	$\bar{x}$	s	$\bar{x}$	s
June 2001	2.85	0.31	3.56	0.12
Nov. 2001	2.83	0.29	3.60	0.11
June 2002	2.79	0.32	3.46	0.14
Nov. 2002	2.72	0.27	3.54	0.11
June 2003	2.66	0.32	3.44	0.14

Relationship between UCPA, graduate program of study, and GCPA

Regression analysis was used to determine the extent to which UCPA and graduate program of study contributes towards GCPA. Prior university was not included as the undergraduate program of study was closely associated with university attended. There were no outliers according to Cook's D and the studentised deleted residual. Descriptive statistic for UCPA and GCPA for n = 612 gives an r=0.353 which is statistically significant at alpha =0.05 (two-tailed). Linear regression for UCPA and GCPA shows that UCPA is a predictor of GCPA, $F(1,610) = 86.85$, $MSE = 0.018$, $p<0.001$, $Adj. R^2$=0.123.

Multiple regressions were used to determine if program of study contributes towards GCPA. To facilitate the analysis, the five categories of program of study were first transformed into four dummy variables F1 (Civil Engineering), F2 (Electrical Engineering), F3 (Mechanical Engineering), and F4 (Others), with Business and Management chosen as the reference variable because it has the largest number of cases. Multiple regressions show that program of study as a group was a predicator of GCPA when controlling for UCPA, $F(5,606) = 21.83$, $MSE = 0.018$, $p<0.001$, $Adj. R^2$=0.146 (with $F_{change} = 5.003$, $R^2_{change} = 0.028$, p for F_{change}= 0.001). UCPA was also found to be a predictor for GCPA when controlling for program of study, $t = 8.25$, $p<0.001$.

To determine if UCPA and program of study interact in their prediction of GCPA, an interaction term "F*UCPA" was introduced by multiplying field of study and UCPA. Program of study was found to interact with UCPA when predicting GCPA, $F (9,602) =14.628$, $MSE = 0.018$, $p<0.0001$, $Adj. R^2$=0.167 (R^2_{change}=0.027, F_{change}=4.919, p for $F_{change} = 0.001$). The descriptive statistics are shown in Table 5. An alpha of 0.05 was used for each test unless otherwise stated and the regression model is shown in Table 6. As a consequence of the interaction result, regression models predicting graduate CPA using UCPA were reported for each program of study (Table 7). UCPA was found to be a significant predictor of GCPA for Civil Engineering, Electrical Engineering, Mechanical Engineering, and Business and Management, but not for programs grouped under the 'Others' category.

DISCUSSION

The purpose of this study was to determine the extent to which UCPA and undergraduate program of study contribute towards GCPA in a master in an MTVE program. The first objective was to determine how much UCPA on its own contributes towards GCPA. Bivariate correlations indicate that the relationship between UCPA and GCPA for the MTVE program is weak but statistically significant ($r = 0.353$, $p<0.01$). The positive correlation indicates that as UCPA increases, GCPA also tends to increase. The correlation found in this study is consistent with the those found in

similar studies such by Kuncel et al., (2001); Braunstein (2002); Lane et al., (2003), Wardlow, (1989) and GMAC, (2005) keeping in mind that these studies did not necessarily use UCPA or GCPA as the operationalisations of undergraduate and graduate performance. In fact none of these studies use graduating UCPA and graduating GCPA for their bivariate correlation analysis. Therefore, the finding in the present study is important because it provides empirical evidence for the relationship between UCPA at graduation – the most often used criterion for graduate admission – and CGPA at graduation. However, it is also important to note here that the variance in GCPA at graduation accounted for by UCPA is only 12.3 per cent leaving a large amount of variance still unexplained.

Table 5. Descriptive statistics for all variables

Program of study	Variable	$\bar{x}$	s	r
Civil Engineering (N=141)	UCPA	2.72	0.27	.418*
	GCPA	3.48	0.14	
Electrical Engineering (N=156)	UCPA	2.64	0.29	.198*
	GCPA	3.52	0.14	
Mechanical engineering (N=88)	UCPA	2.67	0.36	.535*
	GCPA	3.48	0.16	
Business and Management (N=181)	UCPA	2.92	0.25	.315*
	GCPA	3.56	0.12	
Others (N=46)	UCPA	3.04	0.34	-.104
	GCPA	3.54	0.14	

*Statistically significant, p<0.05

Table 6. Regression model for predicting graduate CPA

Predictor	B	SE(B)	β
Constant	3.098	0.115	
UCPA	0.159	0.039	0.347
F1	-0.222	0.161	-0.645
F2	0.161	0.150	0.485
F3	-0.264	0.157	-0.639
F4	0.583	0.225	1.061
F1*UCPA	0.063	0.057	0.499
F2*UCPA	-0.061	0.054	-0.487
F3*UCPA	0.081	0.056	0.531
F4*UCPA	-0.205	0.075	-1.142

p<0.05; $F(9,602)$, MSE=14.626, p=0.000, $Adj.R^2$ =0.17, for the Regression Model. F1=1 if Civil Engineering, 0 if otherwise. F2=1 if Electrical Engineering, 0 if otherwise, F3=1 if Mechanical Engineering, 0 if otherwise and F4=1 if Others, 0 if otherwise

A second objective of the study was to determine the extent to which program of study as a whole contributes towards GCPA. The result of multiple regression shows that program of study contributes 2.8 per cent towards GCPA in addition to the 12.3 per cent contributed by UCPA. Although the percentage change in contribution is small, it is statistically significant (p=0.001), strongly suggesting that program of study is also a predictor of success for the MTVE program, and therefore needs to be considered together with UCPA in students admission.

The third objective of the study was to determine whether undergraduate program of study has a moderating effect on UCPA when predicting GCPA. Multiple regression result shows that UCPA and program of study interact in the prediction of GCPA and is statistically significant (p for F_{change} <0.001) with the interactive term accounting for a further 2.7 per cent of the variance in GCPA making the total variance in GCPA accounted for by the full model to be 16.7 per cent.

Table 7. Regression models for predicting GCPA by program of study

Predictor		B	SE(B)	β
Civil Engineering [1]	Constant	2.875	0.112	
	UCPA	.222**	0.041	0.418
Electrical Engineering [2]	Constant	3.259	0.105	
	UCPA	.098*	0.039	0.198
Mechanical Engineering [3]	Constant	2.834	0.110	
	UCPA	.241**	0.041	0.535
Business and Management [4]	Constant	3.098	0.105	
	UCPA	.159**	0.036	0.315
Others [5]	Constant	3.33	0.394	
	UCPA	0.054	0.131	0.123

*Statistically significant at Alpha=0.05; **Statistically significant Alpha =0.001; [1]$F_{(1,139)} = 29.46$, $MSE = 0.017$, $p < 0.001$, $Adj. R^2 = 0.169$; [2]$F_{(1,154)} = 6.28$, $MSE = 0.02$, $p = 0.013$, $Adj. R^2 = 0.033$; [3]$F_{(1,86)} = 34.47$, $MSE = 0.019$, $p < 0.001$, $Adj. R^2 = 0.278$; [4]$F_{(1,179)} = 19.72$, $MSE = 0.015$, $p < 0.001$, $Adj. R^2 = 0.094$; [5]$F_{(1,44)} = 0.486$, $MSE = 0.019$, $p = 0.490$, $Adj. R^2 = -0.012$

The statistically significant R^2_{change} upon introduction of the interaction term into the model calls for a separate model for each undergraduate program of study. The descriptive statistics given in Table 5 show that UCPA has the strongest correlation with GCPA for Mechanical Engineering category ($r=0.535$, $p<0.01$, $n=88$) and the weakest for the "Others" category ($r=0.16$, $p>0.05$, $n=46$). As a reminder, the Others category is made up of all undergraduate program of study that cannot be grouped with the other four categories. The absence of correlation between UCPA and GCPA is supported by Truitt (2002) who did a study on 158 MBA students. This means, for some disciplines, UCPA is not associated with GCPA and therefore should not be used as a criterion for students' selection.

Based on the individual regression model, a candidate from the Mechanical Engineering is expected to experience the highest increase in graduate CPA – an increase of 0.241 for each unit of change in UCPA with everything else being constant. The full model for Mechanical Engineering accounts for 27.8 per cent of the variance in GCPA. An increase of 0.222 in GCPA is expected for a candidate from the Civil Engineering discipline, 0.159 for Business and Management and 0.098 for a candidate from the Electrical Engineering discipline with everything else being constant. It is, however, not possible to predict GCPA from UCPA for candidates from the Others category.

As a result of this study, the University is better informed on the interaction between undergraduate program of study and UCPA and therefore can take appropriate steps in the selection of candidates for the MTVE program. Based on this study, two students from different discipline are not expected to perform similarly at graduation. Knowing what predicts is also good from the perspective of training needs, because the University can now pay more attention to the group of students that appear to need it and take the appropriate steps to help them.

Overall, the findings from this study are potentially useful in the prediction of success in the MTVE program. However, as mentioned above, GCPA in the MTVE program does not include students' grades from their teaching practicum – an indicator of graduate professional competence in teaching, which is one of the expected outcomes of a teacher education program. Therefore, a more encompassing operationalisation for the concept of success in graduate education may be necessary.

CONCLUSIONS

The purpose of the current study was to determine the extent to which UCPA and undergraduate program of study contribute towards success in MTVE program. The data appear to support the following conclusions: (a) students who come in with high UCPA tend to graduate with high

GCPA, (b) undergraduate program of study is associated with success in graduate education, (c) the extent to which GCPA can be predicted from UCPA depends on the undergraduate program of study. In others words, UCPA of some undergraduate program of study are better predictors than others.

Regarding students' admission, the findings from this study strongly suggest that UCPA should no longer be used as the sole criterion for admission into the MTVE program or programs where the undergraduate discipline of study is different from the graduate discipline. In cases where a choice has to be made between two applicants, rejection or acceptance of a candidate should not be made without prior consideration of other factors such as their undergraduate program of study. Since the variance in GCPA accounted for by UCPA varies to a maximum of 28 per cent – depending on the undergraduate program of study – a large amount of variance in still left unexplained, which means other factors need to be considered for a better prediction model of GCPA.

This study is based on data from a coursework program and therefore the relationship may not be true for the research program. The operationalisation of graduate success in the current study also excludes professional competence. Therefore, future research could include grades on professional competence – where relevant – in the operationalisation of success in graduate education.

ACKNOWLEDGEMENT

REFERENCE

Braunstein, A.W. (2002). Factors determining success in a graduate business program. *College Student Journal,* Sept 2002.

Graduate Management Admission Council® (2005) Fact Sheet: GMAT® Validity. [Online] http://www.gmac.com/gmac/NewsCenter/Resources/FactSheetGMATValidity.htm. [April 15, 2005].

House J.D. and Johnson J.J. (2002). Predictive validity of the graduate record examination advanced psychology test for grade performance in graduate psychology courses - Statistical Data Included. *College Student Journal*, March 2002.

Kuncel, N.R., Hezlett, S.A. and Ones, D.S. (2001). A comprehensive meta-analysis of the predictive validity of the graduate record examinations implications for graduate student selection and performance. *Psychological Bulletin* 127 (1), 162-181.

Lane, J., Lane, A and Cockerton, T. (2003). Prediction of postgraduate performance from self-efficacy, class of first degree and cognitive ability test scores. *Journal of Hospitality, Leisure, Sport and Tourism Education*, 2(1), 113-118.

Micceri, T. (2002). An extensive exploratory study of graduate students and their retention at a major public metropolitan university. *Paper Presented at the AIR Forum 2002.* Toronto, Canada, June 2-6.

Truitt, T. C. (2002) Validity of selection criteria in predicting MBA success. *CBFA Conference 2002,* Anderson University. [Online] http://www.cbfa.org/papers/2002livefaith/Truitt.doc [April 11, 2006].

Wardlow, G. (1989). International students of agriculture in U.S. institutions: Precursors to academic success. *Journal of Agriculture Education*, Spring, 17-22.

Private schooling industry in North East India: A trend analysis of Nagaland State

Biswambhara Mishra
Department of Economics, North Eastern Hill University, Meghalaya, India
bmishra_nehu@hotmail.com

P. Srinivasa Suresh
Department of Economics, North Eastern Hill University, Meghalaya, India
sureshps03@yahoo.co.in

K. Rio
Department of Economics, North Eastern Hill University, Meghalaya, India

The present study is an attempt to examine the intricacies of the growth of Private School industry in the North-Eastern Indian State of Nagaland. The study was carried out in Kohima, the capital city of Nagaland State. Data were obtained from field studies as well as from published reports of the Government. The main objective of the study was to ascertain the trends and structure of growth of private school industry. The empirical analysis was carried out by fitting the data to quadratic, cubic, logistic, and the Preece-Baines Curves. The findings revealed that over the years, the trend and structure of growth of private schools has remained positively correlated with the capacity of absorption, quality of the product and their performance and reputation. The results corroborate our hypothesis that the private school industry has emerged not only to take the advantages of the deficiencies of the market economy, but also as a profit making industry.

Nagaland, private schooling, quadratic trend, Preece-Baines curve, India

INTRODUCTION

In a developing society where the question of equity remains elusive, the private school industry emerges not only to take the advantages of the deficiencies of the market economy, but also as a profit making industry. The system of private enterprises imparting school education to students may well be called an 'industry'. This is because 'industry' is often associated with manufacturing and, further, providing for school education has been the prime concern of the state, mainly with the widely acclaimed objectives concerning welfare and promotion of human capital for fostering development. In the changing social and economic environment, the overtone of welfare and development that surrounds schooling is often carried over to private schooling enterprise as well. The reasons for this shift might have been either due to gradual withdrawal of the government in providing the service or due to the changing societal needs and societal value judgments.

Those who know the private schools closely would almost unanimously agree on considering them as an enterprise, like any other enterprise which makes a profit. These schools employ teachers at a very low salary (often about one third of the salary drawn by a teacher in the schools run by the government), charge substantial amount as admission and tuition fees, often provide for residential facilities to enhance profitability, and yet, in many instances, remain unmindful to

provide enough facilities for students. On scrutiny, one may have only a mixed type of feelings about the academic standard of these schools. However, in general, private schools strive hard to impress their clients and exhibit remarkable salesmanship to attract them, whereas the schools in the government sector have no incentives or urge to do so. It is common knowledge that most parents develop a liking to a particular educational institution that is doing well. Matters like HSLC results, quality of education, surroundings, extra-curricular activities and most of all, the devotion of teachers towards the students count. Since many of these qualities are available in some private schools, the parents prefer these brands (branded schools), though all private schools do not behave uniformly.

In consistency with the above arguments, the present paper seeks to portray education as an industry, because it produces the manpower of different skills and efficiency for the production process of the economy. Unlike, the products of other industries that are valued for their usefulness in the production of final consumption, the product of education is valued for its productivity – in production process. This is precisely the reason we consider schools as "teaching firms". In this context, the question that arises is, what are the motivating factors on the part of the entrepreneurs to start private schools. The present paper attempts to find an answer to the question raised above.

OBJECTIVES OF THE STUDY

By taking the school as an object of industry, an attempt is made in this paper to examine the trends of growth of private school industry and to throw some light on the factors that have remained the driving force in its development over the years. The main objectives of this study are:

1. to study the structure and trends in growth of the private schooling industry, and

2. to ascertain the factors which have helped in the tremendous growth of private school industry over the years in Kohima.

DATA AND METHODOLOGY

The present study, which is empirical in nature, is primarily based on the data collected from the field. For comparative purposes, data from secondary sources are used, mainly published reports (like Statistical Handbook of Nagaland, a Report published by Nagaland Board of School Education, and Census Reports of Nagaland). We have chosen Kohima, the State Capital of Nagaland as our study area.

There are 34 high schools in Kohima of which 31 are run by the private management. Additionally, there are 8 Middle/Primary schools. A schedule was designed by the principal investigator and he met the Principals/Head Masters of the schools, and collected information on various aspects enlisted in the schedule. While data could be collected from 30 private schools (28 private high schools and two private Middle/Primary schools), three of the private high schools refused to be involved in the study. For the purpose of comparison, data were also collected from the high schools run by the government.

The data pertain to the following aspects of the school: (1) Year of establishment, (2) Type of management, (3) Location, (4) Distance from main and approach road, (5) Medium of instruction, (6) Standard, (7) No. of periods taught/day, (8) Class strength, (9) Co-ed Status, (10) Residential and allied facilities, (11) Class-wise sex-wise enrolment, (12) Non-Naga enrolment, (12) Economic background of students, (13) Fees structure, (14) Particulars of teaching and non-teaching staff, and their Salary structure, (15) Physical assets of the school including Library, (16) Facilities for physical education and extra-curricular activities, (17) Sources of income and items

of expenditure, (18) Academic performance, and (19) Problems and prospects perceived by the Principal of the school.

Based on the data collected, the study proceeds to work out the trends in growth of private schools in Kohima and tries to throw some light on the salient features of these private schools. Appropriate statistical methods including graphical/diagrammatical presentations are used to analyse the data and draw relevant conclusions.

PRIVATE SCHOOLING IN KOHIMA: AN OVERVIEW

Being the state capital, most of the administrative establishments are concentrated in Kohima, thereby giving rise to a situation where a large number of people are engaged in the tertiary sector (service). With a total population of about 78.5 thousand (provisional figure, Census 2001, District Census Handbook, Kohima District), the Kohima town occupies an area of 23 sq. kms. The present density of population in the town works out to be about 30 persons per hectare (about 3000 person per sq.km.), which is lower than the national standard (45.75 persons per hectare).

Along with the concentration of the service sector, Kohima has witnessed the concentration of the school education centres in recent years, with 34 high schools and 8 middle/primary schools. Among the high schools, 31 are run by private organisations and only three are fully managed by the Government of Nagaland. The largest among the high schools run by the government has an enrollment of 845 students. In total, government high schools cater to the schooling needs of a little over 1.5 thousand students in Kohima. However, private high schools (31 in number) cater to the schooling needs of over 25 thousand students. These figures correspond to the year 2000. In 1963, there were only 2 proceeding high schools. The tremendous growth of population in the town from 34.3 thousand in 1981 to 51.4 thousand in 1991, and further to about 76 thousand in 2000, has resulted in an excessive pressure on the existing schooling infrastructure and the inability of the government to cope with the rising pressure, which has encouraged the growth of private schools in the town.

The Salient Features of Private Schools in Kohima

There are 12 (36%) schools in which students are mostly from a modest economic background. The remaining 18 schools (64%) enrol students largely from a better off economic background. Almost three-quarters of the total number of schools are within half a kilometre from the main road. Except for one, a girls' school, all the schools are co-educational. The percentage of the girls (in the total students) in the schools is within a range of 40 to 50 while the percentage of the boys lies in the range 50 to 60. Of the 30 schools, six schools have no non-Naga enrolment. Eleven schools have non-Naga students up to 5 per cent. Thirteen schools have non-Naga enrolments of 10 to 20 per cent. Except for six schools, all schools have a provision for Hindi as the second language. Eleven schools offer *Tenyidie*, a local (Naga) language, as the second language. In most of the schools the percentage of female teachers exceeds the percentage of male teachers. Larger schools, in general, have higher student to classroom and student to teacher ratios.

Growth of Private Schools in Kohima

The first private school in Kohima was established in 1958. This number increased to five in 1968 and 12 in 1980. Since 1981, the growth rate of private schools accelerated and by the year 1993 the number of private schools in the town increased to 30. Before the 1980s the dominant motive for starting a private school was perhaps different from that during and after the 1980s. In the later period, schools have been started due to economic motives and run accordingly. This change in motive of starting and running the private schools has its impact on the motive and management of the older schools as well. In due course, the entire system of private schooling grew up into an

industry. Table1 presents the details on the number of private schools, their year of establishment, and the enrolment in 2000.

Table1. Growth of private schools in Kohima, Nagaland

Year	No. of Schools	No. of Students in the Year 2000 (Cumulative)		Year	No. of Schools	No. of Students in the Year 2000 (Cumulative)	
		Total	%			Total	%
1958	1	2145	8.91	1981	13	14400	59.87
1959	2	3679	15.29	1983	15	16219	67.44
1964	3	5217	21.69	1984	16	16741	69.61
1967	4	5712	23.75	1985	18	17390	72.31
1968	5	7345	30.54	1986	19	17625	73.28
1969	6	8662	36.01	1987	21	18939	78.75
1972	8	10947	45.51	1988	24	20672	85.95
1974	10	13631	56.68	1990	25	21725	90.33
1977	11	13754	57.19	1991	27	22820	94.88
1980	12	14153	58.85	1993	30	24049	100.00

Source: Basic Statistics of Nagaland State, 2002

The older schools are better established and enrol (relatively) larger number of students. The oldest six private schools that make up 20 per cent of the total number of private schools in the town, enrol 36 per cent of the total number of students in the private schools, while the newest six schools enrol only 14 per cent of the student population (in the private schools).

Growth in the Size (Number of students enrolled) of the Private Schools

Over the years, the number of private schools increased and their size also increased. Depending on the capacity of absorption and many other factors, including their performance and reputation, the number of students in these schools increased over time.

Table 2 presents the size of enrolment in the private schools of Kohima during 1996-2000. It may be observed that different schools exhibit different rates of growth. Four schools show a decline in enrolment. On the other hand, eight schools have experienced a sizeable increase (greater than 50 students per year). Figure 1 depicts the growth of enrolment in schools in Kohima.

Figure 1 compares the indices of growth of private versus government schools in Kohima. At the base year 1996, the index values for both types of schools are zero. However, in the terminal year 2000, the index of government schools has shown a decline but the index of private schools has shown an upward trend. Thus, while the number of schools in the government sector either remained constant or declined, the number of schools in the private sector experienced 40 per cent growth.

Relationship between Age of a School and its Enrolment Size

It has been observed that private schools started in 1958 and the rate of entry (establishment of a new private school) accelerated during and after 1980s. Today, there are private schools that are over 40 years old while others have been established more recently. It is pertinent to enquire if the age of a school matters in determining the size of its enrolment. There are a few points in favour of such an enquiry. First, over the years schools earn a reputation, partly due to the accomplishment of their students in the School Board Examinations and partly due to their internal management. They earn a reputation due to the teaching staff that they employ and retain. Secondly, schools face problems of resource generation, resource management and capacity utilisation. In the long run, schools can expand their capacity and teaching force. They may find better ways to serve their students as well as strengthen their position in the industry. Nevertheless, economies and diseconomies of scale are operative on the schools. Every school has a catchment area and a catchment population. By introducing school buses to transport students to

and from home, catchment area may be expanded. But transportation has its cost in terms of money as well as time. All these considerations suggest that any school cannot possibly grow in size beyond some limit.

Table 2. Growth in the number of students in private schools in Kohima (1996-2000)

Sl No.	Year of Establishment	Total No. of Students in the School 1996-2000					Growth	
		1996	1997	1998	1999	2000	Student per year	Annual Rate
1	1959	1355	1436	1608	1616	1534	44.75	3.3
2	1972	1480	1492	1503	1506	1536	14	0.94
3	1991	NA	365	409	513	645	93.33	25.57
4	1981	275	238	252	248	247	-7	-2.55
5	1968	NA	1686	1644	1697	1633	-17.67	-1.05
6	1972	450	500	550	636	749	74.75	16.61
7	1977	NA	148	125	104	123	-8.34	-5.64
8	1980	458	449	380	344	399	-14.75	-3.23
9	1969	1304	1298	1294	1342	1317	3.25	0.24
10	1993	125	140	153	160	202	19.25	15.4
11	1983	480	470	560	600	649	42.25	8.8
12	1987	610	610	624	601	642	8	1.31
13	1988	514	524	603	714	729	53.75	10.45
14	1985	251	268	272	270	369	29.5	11.75
15	1983	985	1002	1085	1102	1170	46.25	4.69
16	1990	394	613	772	988	1053	164.75	41.81
17	1993	62	78	96	112	162	25	40.32
18	1988	199	230	268	300	350	37.75	18.96
19	1993	516	597	657	786	865	87.25	16.9
20	1958	1985	1962	2056	2087	2145	40	2.01
21	1986	234	241	225	229	235	0.25	0.1
22	1987	512	541	600	650	672	40	7.81
23	1967	350	360	320	365	495	36.25	10.35
24	1974	1750	1780	1900	1930	2030	70	4
25	1964	1510	1522	1520	1525	1538	7	0.46
26	1974	640	645	650	650	654	3.5	0.54
27	1988	389	470	509	538	654	66.25	17.03
28	1991	115	145	200	270	450	83.75	72.82
29	1985	173	188	210	216	280	26.75	15.46
30	1984	500	521	510	506	522	5.5	1.1
Total		* 19800	20519	21555	22605	24049	* 1062	* 5.36

Note: Where the figures for 1996 are not available (NA), the figures for 1997 have been used. * = Estimated
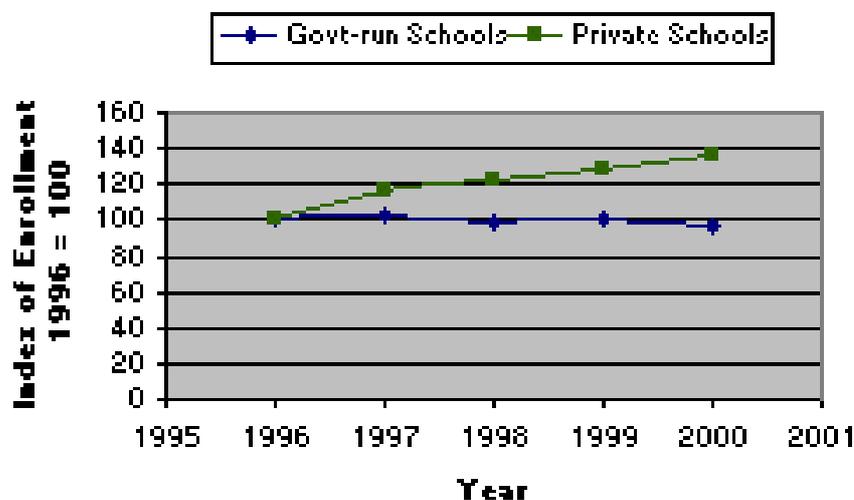

Figure 1. Growth of enrolment in the schools in Kohima

EMPIRICAL ANALYSIS

The empirical analysis for the available data constitutes two components. First, in order to ascertain the trends in growth of private schools in Kohima, trend analysis was carried out by fitting the data for both quadratic and cubic curves. Second, by using the similar method, the relationship between the age of a school and its enrolment size was examined.

In the trend analysis, the number of schools was taken as the dependent variable and time was considered as the explanatory variable. The following model was used to estimate the quadratic trend.

$$N = a_0 + a_1 T + a_2 T^2$$

For the cubic trend, the following model was used

$$N = a_0 + a_1 T + a_2 T^2 + a_3 T^3$$

where N = Number of schools, and T = time period.

A comprehensive presentation of trends in growth of (the number of) private schools in Kohima was made by a quadratic or cubic curve described in the following section.

Quadratic Trend

The estimated trend equation is as follows:

$$N = 1.9396 + 0.0146 T + 0.0207 T^2$$

where $R^2 = 0.998$ and F = 574.10 for n = 20. The quadratic trend is depicted in Figure 2, which shows the actual and estimated values of N against T.
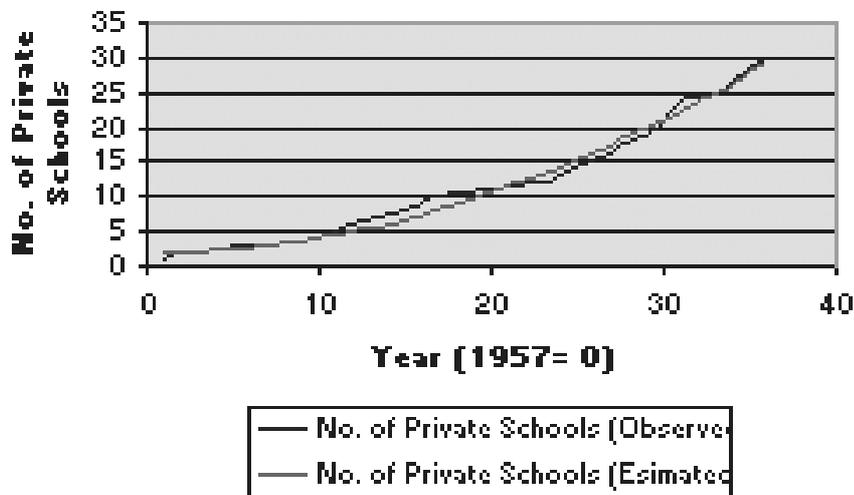
**Figure 2. Quadratic trends in growth of private schools in Kohima**

Cubic Trend

Alternatively, one may present the growth of the number of private schools by a cubic curve. The estimated cubic equation is given by:

$$N = 0.5780 + 0.4860T - 0.0113 a_2 T^2 + .0006 T^3$$

where $R^2 = 0.998$ and F = 574.10 for n = 20. The coefficients of the curve are given in Table 3 and are depicted in Figure 3. The coefficient associated with T^2 is statistically insignificant, which shows that the cubic curve is a better fit than the quadratic curve.

Table 3. Cubic trends in growth of Private Schools

| Model: No. of Schools =	n =20	Coefficient	Std. Err.	Beta	t value	Sig.
f(*,*,*);	(Constant)	0.578	0.772		0.749	0.465
For 1957 : T = 0	T	0.486	0.174	0.595	2.788	0.013
R^2 = 0.992	T^2	-1.136E-02	0.011	-0.535	-1.045	0.312
F = 463.75	T^3	5.818E-04	0.000	0.965	2.999	0.008
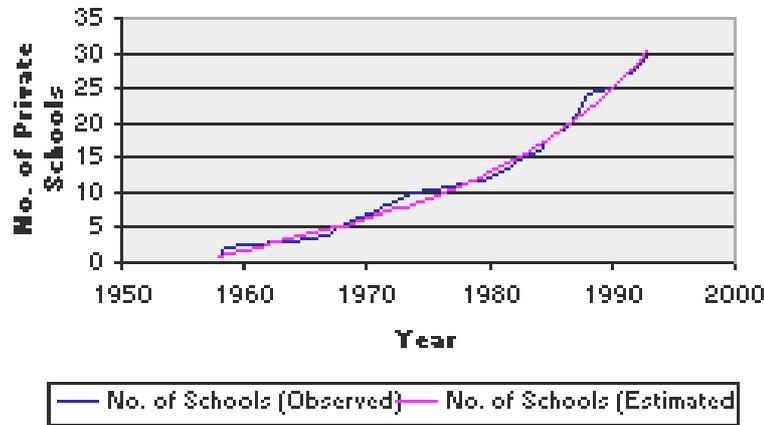
Figure 3. Cubic trends in growth of private Schools

The statistical relationship between the age of a school and its enrolment size is given in Table 4. Size as a function of age of the school is depicted in Figure 4.

Table 4. Statistical relationship between age of the a school and its enrolment size

Curve Type	b_0	b_1	b_2	R^2	F	Signif	df.	K
Quadratic	579.972	-18.67	1.203	0.496	13.31	0.000	27	-
Growth	5.6085	0.0418	-	0.319	13.10	0.001	28	-
Logistic	0.0051	0.9132	-	0.418	20.07	0.000	28	2200
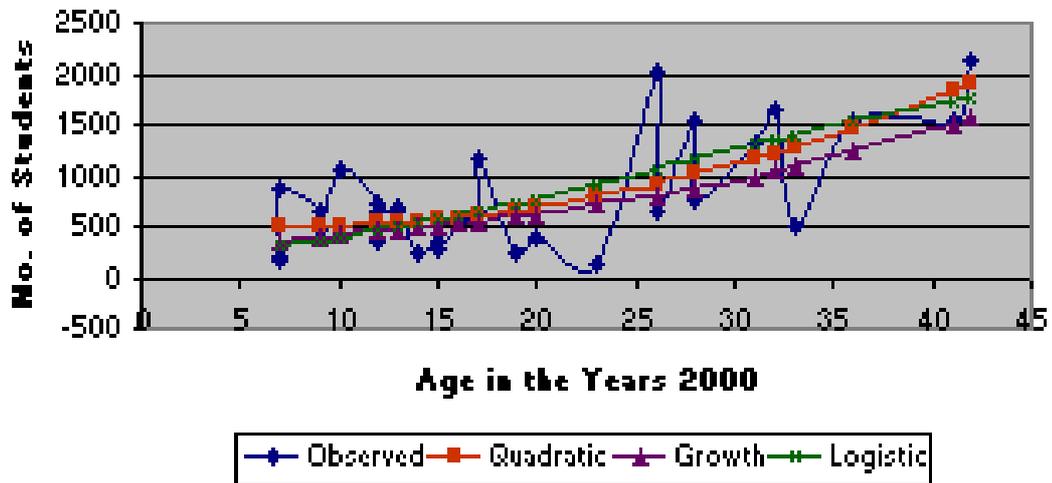
F(t): No. of students (on Roll); Age = t (= 2000–Year of Establishment)

Figure 4. Size (No. of students) as a function of age of school

The relationship between the age of a school and its enrolment size may be investigated by the method of curve fitting. Here, the intention is to ascertain whether the older schools are larger from enrolment point of or not. First, it was thought imperative to choose three types of curves to fit the data: (a) the Quadratic Curve, (b) the Growth Curve, and (c) the Logistic Curve.

The equations of the three said curves are given below:

Quadratic : $F(t) = b_0 + b_1 t + b_2 t^2$; where $t = 1, 2, \ldots, n$

Growth : $\text{Log}_e\{F(t)\} = b_0 + b_1 t$; where $t = 1, 2, \ldots, n$

Logistic : $\text{Log}_e[\{F(t)\}^{-1} - (K)^{-1}] = \text{Log}_e\{b_0 + \text{Log}_e(b_1) t\}$;

where $t = 1, 2, \ldots, n$ and $0 < \text{Max}\{F(t)\} < K$. Here K is the upper bound of $F(t)$. Fitting of the Logistic curve requires that K is set by the analyst. The present analysis uses K = 2200, because no school has enrolment greater than 2200. So this is taken as the upper limit.

The relationship between the age of a school and its enrolment size may also be investigated by fitting the Preece-Baines Curve and also the modified Preece-Baines Curve. Unlike the logistic curve, the Preece-Baines Curve not only sets the upper limit of size, it looks into the details of how and when growth is accelerated and decelerated. The equations of the two said curves are given below.

Preece-Baines Curve: $F(t) = h_1 - (h_1-h_0) / [0.5 \exp\{s_0 (t-\phi)\} + 0.5 \exp\{s_1 (t-\phi)\}]$

Modified Preece-Baines Curve: $F(t) = h_1 - (h_1-h_0) / [k_0 \exp\{s_0 (t-\phi)\} + (1-k_0) \exp\{s_1 (t-\phi)\}]$

The difference between the (normal) Preece-Baines and the modified Preece-Baines equations is that while in the former k_0 is assumed to be equal to 0.5, in the latter it is estimated. The modified Preece-Baines equation is more flexible than the (normal) Preece-Baines equation.

The Preece-Baines curve is popular in Physical Anthropology where the (mean) height of persons (in the age-group 3 to 18 or 20) is regressed on age. Persons reach their maximum height at the age of maturity and different communities (anthropological types) have different maturity heights. The study seeks to draw a conclusion from Preece-Baines regarding the maturity size (enrolment) of private schools that have attained the 't' years of age, which may be a good age for maturity. The estimated parameters of the normal and modified Preece-Bains curves are reported in Tables 5 and 6 respectively.

Table 5. Estimated parameters of (normal) Preece-Baines Curve

Parameter $R^2 = 0.499$	Estimate N = 30	Asymptotic Std. Err.	Confidence Interval (95%)	
			Lower	Upper
h_0	913.39	3134.74	-5542.73	7369.50
h_1	2471.58	4907.31	-7635.22	12578.38
s_0	-0.02	0.12	-0.27	0.23
s_1	0.09	0.45	-0.84	1.01
ϕ	25.88	60.30	-98.31	150.07

Starting points: h_0=1200, h_1=1400, s_0=0.04, s_1=0.4, ϕ=17; Method of estimation: Non-linear Regression using Sequential Quadratic Programming (unconstrained).

Table 6. Estimated parameters of Modified Preece-Baines Curve

Parameter $R^2 = 0.513$	Estimate N = 30	Asymptotic Std. Err.	Confidence Interval (95%)	
			Lower	Upper
h_0	1328.45	1327035703.40	-2745181179.00	2745183835.70
h_1	1368.35	180.22	995.54	1741.17
s_0	0.00	0.03	-0.06	0.06
s_1	6.30	941758.45	-1948169.49	1948182.09
ϕ	25.93	5541322.28	-11463072.57	11463124.43
k_0	0.05	1565902.00	-3239315.04	3239315.14

Starting points: h_0=130, h_1=170, s_0=0.2, s_1=0.8, ϕ=18, k_0=0.5, Constraint : All parameters => 0.
Method of estimation: Non-linear Regression using Sequential Quadratic Programming.

A comparative analysis of the results of the above two curves shows that, the modified Preece-Baines Curve gives a better fit to the data, judged in terms of the R^2. It is found that the normal Preece-Bains curve estimates the largest (enrolment) size at 2471 and the critical age (ϕ) at about 26 years. However, the modified Preece-Bains curve suggests that 1368 is the maturity size with a critical age of 26 years. The intricate relationship between the age of the school and the enrolment size as envisaged by fitting the Preece-Bains, Quadratic and other curves are given in Table 7. These are depicted in Figure 5.

Table 7. Relationship between age of the school and the size (No. of students): growth curves

Year of Establishment	Age of School in Year 2K	Total No. of Students	Predicted/Estimated Number of Students by Curve Fitting				
			Preece-Baines		Quadratic	Growth	Logistic K = 2200
			Normal	Modified			
1959	41	1534	1784.47	1368.36	1836.77	1512.18	1729.04
1972	28	1536	1032.63	1368.36	1000.38	878.51	1165.72
1991	9	645	528.97	520.90	509.39	397.22	367.61
1981	19	247	622.43	520.90	659.53	603.20	730.99
1968	32	1633	1274.89	1368.36	1214.42	1038.29	1360.60
1972	28	749	1032.63	1368.36	1000.38	878.51	1165.72
1977	23	123	770.76	520.90	786.96	712.90	917.68
1980	20	399	653.47	520.90	687.78	628.93	775.98
1969	31	1317	1213.36	1368.36	1157.30	995.80	1312.96
1993	7	202	549.13	520.90	508.23	365.38	315.29
1983	17	649	572.88	520.90	610.26	554.85	645.16
1987	13	642	522.54	520.90	540.57	469.46	492.61
1988	12	729	519.33	520.90	529.17	450.25	458.76
1985	15	369	539.87	520.90	570.60	510.37	565.53
1983	17	1170	572.88	520.90	610.26	554.85	645.16
1990	10	1053	522.77	520.90	513.58	414.16	396.27
1993	7	162	549.13	520.90	508.23	365.38	315.29
1988	12	350	519.33	520.90	529.17	450.25	458.76
1993	7	865	549.13	520.90	508.23	365.38	315.29
1958	42	2145	1831.63	1368.36	1917.95	1576.69	1761.80
1986	14	235	529.32	520.90	554.39	489.49	528.21
1987	13	672	522.54	520.90	540.57	469.46	492.61
1967	33	495	1336.35	1368.36	1273.95	1082.58	1407.22
1974	26	2030	919.87	1341.97	907.79	808.09	1065.88
1964	36	1538	1516.36	1368.36	1466.96	1227.12	1539.56
1974	26	654	919.87	1341.97	907.79	808.09	1065.88
1988	12	654	519.33	520.90	529.17	450.25	458.76
1991	9	450	528.97	520.90	509.39	397.22	367.61
1985	15	280	539.87	520.90	570.60	510.37	565.53
1984	16	522	554.35	520.90	589.23	532.15	604.53

The analysis carried out in the preceding sections throws up some interesting results. The growth rate of private schools in Kohima (1958-200) is described by a quadratic trend. In 1958 there was only one private school. The number increased to 12 in 1980, 25 in 1990, 30 in 1993 and 31 today. The median size school enrols about 800 students. The largest school enrols over 2000 students while the smallest schools enrol a little over 100 students. In 18 schools students are mostly from a better economic background while in the rest (12 out of 30) of the schools, students are mostly from a modest economic background. Against this, three government-run schools serve low income group students only.
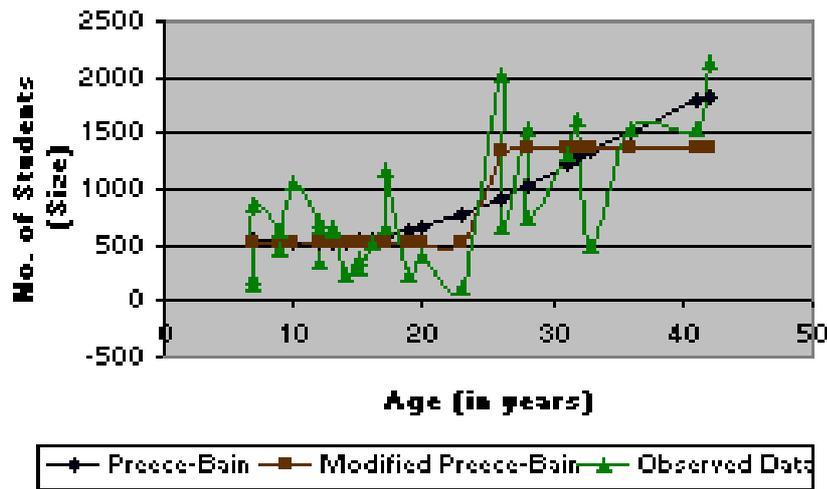
Figure 5. Preece-Bain and Modified Preece-Bain Curves

A comparison of the results of all the alternative models reveals that while the growth curve is least fitting to data, the quadratic curve turns out to be a better fit. This is indicated by the R^2 values. Further, better fit of quadratic curve indicates that the upper limit of 2200 may not be real and it may be crossed in suitable circumstances. Further, it may be stated that the Preece-Baines Curve (normal) is much like the quadratic curve, but Preece-Baines Curve (modified) indicates that schools become optimal at 1300 enrolment and 26 years of age or so. The results obtained reveal that of all the models estimated, the Preece-Baines Curve (modified) gives better fit to the data, while the Preece-Baines Curve (normal) is the second best.

CONCLUSIONS

The analysis carried out reveals that private schooling industry is growing at an ever-accelerating pace in response to the demand of the people of Kohima for school education. The explanatory power of the quadratic trend curve is slightly better than the cubic trend curve. This trend indicates that growth of enrolment in the school is proportional to the pupils' strength of the schools. The coefficients associated with time indicate that the growth rate of enrolment is greater than the growth rate of population in the town. This also indicates that the private schools are attracting more students than their natural share vis-a-vis the government-run schools. The resultant trend observed has become more pronounced in the last two decades or so. It has also been observed that older schools have attracted more pupils, partly because of their rapport with the parents and partly due to credibility in the market regarding the quality of education they impart. On the other hand, newly established schools, though numerous, are smaller in size in general.

BIBLIOGRAPHY

Arrow, K. J. (1951,1963) *Social Choice and Individual Values*. Yale University Press, New Haven.

Basch, D. L. (1997) Private experience in the early 1990s: The impact of rapidly increasing college- funded grants. *Research in Higher Education*, 38 (3), 271-296.

Basch, D. L. (1999) Changes in the endowment spending of private colleges in the early 1990's,.*Journal of Higher Education*, 70 (3), 278.

Bates, L. J. and Santerre, R. E. (2000) A Time Series Analysis of Private College Closures and Mergers. *Review of Industrial Organisation*, 17 (3), 267-276.

Berger, M. C. and Kostal, T. (2002) Financial Resources, Regulation and Enrolment in US Public Higher Education. *Economics of Education Review*, 21 (2), 101-110.

Birdsall, N. (1996) Public Spending on Higher Education in Developing Countries: Too much or too little? *Economics of Education Review,* 15 (4), 407-419.

Brint, S. (2002) Data on Higher Education in the United States – Are the Existing Resources Adequate? *American Behavioural Scientist*, 45(10), 1493-1522.

Burkhalter, B. B. (1996) How Can institutions of Higher Education Achieve Quality within the New Economy, *Total Quality Management*, 7 (2),153-160.

Chandrasekaran, P. (1997). *Educational Planning and Management*. Sterling Publishers: New Delhi.

Channa, S. M. (1992) *Nagaland: A Contemporary Ethnography*. Cosmo Publication: New Delhi.

Currie, J. and Vidovich, L. (2000) Privatisation and competition policies for Australian universities. *International Journal of Educational Development*, 20 (2), 135-151.

Director of Census Operations (2001) *Census of India- 2001: Provisional Population Totals (Paper – 2 of 2001)*. Directorate of Census Operations, Govt. of Nagaland, Kohima, Nagaland.

Dow, G. M. (1966) *Parent, Pupil and Schoo:. Victoria's Education System*. Cassel: Australia.

Duggan, S. J. (1997) The Role of International organisation in the financing of higher education in Combodia. *Higher Education*, 34 (1), 1-22.

Eisemon, T. (1992) Private initiatives in higher education in Kenya. *Higher Education,* 24(2), 157-175.

Floud, J. H. and Anderson, C. A. (1961) *Education, Economy and Society*. The Free Press: New York.

Garrett, R (2001) The coming challenge: Private competition in English higher education. *Minerva,* 39 (1), 99-114.

Gayle, V., Berridges, D. and Davies, R. (2002) Young people's entry into higher education: Quantifying influential factors. *Oxford Review of Education*.

Genck, H. F. (1983) *Improving School Performance*. Praeger Publishers: New York.

Hauspie, R. C., Wachholder, A., Baron, G., Cantraine, F., Susanne, C. and Graffar, M. (1980) A comparative study of the fit of four different functions to longitudinal data of growth of height of Belgian girls. *Annals of Human Biology.* 7 (4), 347-358.

Hyslop-Margison, E J (2000) The market economy discourse on education: Interpretation, impact, and resistance. *Alberta Journal of Educational Research*, 46 (3), 203-213.

Kempner, K. and Taylor, C. (1998) An alternative assessment to higher education outcomes: Differentiating by institutional type. *Higher Education*, 36 (3), 301-321.

Leftwich, R. H. and Sharp, A. M. (1984) *Economics of Social Issues*. Business Publications: Texas.

Lehming R. and Kane M. (1981) *Improving Schools: Using What We Know*. Sage: London.

Lengrand, P. (1975) *An Introduction to Lifelong Education* Croom Helm. London

Mirrlees, J A (1975) *The Theory of Moral Hazard and Unobservable Behaviour – Part I*. Mimeo, Nuffield College: Oxford.

Morey, A. (2001) The growth of for-profit higher education – Implications for teacher education. *Journal of Teacher Education*, 52 (4), 300-311.

Morishima, M. (1976) *The Economic Theory of Modern Society.* Cambridge University Press: London.

North Eastern Council (1995/2000) *Basic Statistics of North Eastern Region 1995/2000.* NEC, Ministry of Home Affairs: India, Shillong.

Perlman, R. (1973) *The Economics of Education*. Mcgraw Hill Book Company: New Delhi.

Perna, L. W. (2002) Financing higher education at selective private institutions: Implications for college access and choice. *Review of Higher Education*, 25 (2), 225.

Preece, M. A. and Baines, M. J. (1978) A new family of mathematical models describing the human growth curve. *Annals of Human Biology*, 5, 1-24.

Strydom, A. H. K. and Fourie, M. (1999) Higher education research in South Africa: Achievements, conditions and new challenges. *Higher Education*, 38 (2),155-167.

Teichler, U. (1996) Comparative higher education: Potentials and limits. *Higher Education*, 32 (4), 431-465.

Tilak, B.G.J. (1989) *Female schooling in East Asia: A Review of Growth, Problems, and Possible Determinants*. Washington: D.C.: PHREE Background Paper Series 8598, World Bank.

Ved, P. (1993) *School Education in Rural India*. Mittal Publication: New Delhi.

❖IEJ