

Design and Delivery of a Masterclass in Horticultural Business

Tina Botwright Acuña^a, David Monckton^a, Mark Boersma^b, Alison Bailey^c and Alistair Gracie^a

Corresponding author: Alistair Gracie (Alistair.Gracie@utas.edu.au)

^a University of Tasmania, Tasmanian Institute of Agriculture, Private Bag 54, Hobart TAS 7001, Australia

^b University of Tasmania, Tasmanian Institute of Agriculture, Private Bag 3523, Burnie TAS 7320, Australia

^c Lincoln University, Faculty of Agribusiness and Commerce, PO Box 85084, Lincoln Christchurch 7647, New Zealand

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Abstract

The Masterclass in Horticultural Business is a national program requested by and tailor-made for Australian business managers and entrepreneurs in horticulture. The University of Tasmania has developed the Masterclass in collaboration with the internationally recognised higher education providers Wageningen University and Research (Netherlands) and Lincoln University (New Zealand). The Masterclass builds on our strong links between teaching and research, development and extension in horticulture. The Masterclass, delivered as a new pre-tertiary qualification (Diploma in Horticultural Business) through the University of Tasmania, combines a strong understanding of horticulture production and business practices. The integrative program has a basis in production horticulture with modules including; people and culture, supply chain management, logistics, law, export, business planning and entrepreneurship. First offered in 2017, the program has attracted a range of industry professionals in horticulture. The design of the Masterclass for a national cohort of students necessitated online delivery that is highly-professional, flexible and relevant to people working in the horticultural industry to foster innovative and creative thinking and engagement among students. Module topics and assignments are designed to promote interaction of the participants with their staff (if they are business owners) or employers (if they work for a business owner). In this way the students are applying learnings to their workplace, raising questions and stimulating discussions about agribusiness. The high degree of industry engagement and endorsement as well as international collaboration in the design of the Masterclass is unique. The intention is that this Masterclass develops strong industry linkages and adds to the partners internationally recognised reputation in agricultural and business education. One of the major deliverables from the course is a student produced business plan, which must be delivered to industry and academic examiners. Many students have provided feedback indicating that they intend to put this business plan into action by applying it to new opportunities for their businesses.

Introduction

In 2016-17, the total value of agricultural commodities produced in Australia was \$61 billion, a 9% increase on 2015-16. Of this, horticulture was valued at \$11.2 billion, an 18% increase on 2015-16 (Australian Bureau of Statistics 2018). As a result, agriculture and specifically horticulture is one of the most important growth sectors within the economy (Xia 2018). The Australian Council of Deans of Agriculture (ACDA) and others have noted a skills shortage in agriculture, with annually about four jobs for every graduate (McSweeney & Rayner, 2011; Pratley & Botwright Acuña, 2015). The horticultural workforce has a lower proportion undertaking formal training and education when compared with the broader agricultural sector. Building human resource capacity, business skills and leadership in production and processed horticulture is therefore of fundamental importance to the ongoing success and growth of this industry in Australia (Horticulture Innovation Australia 2015). Agriculture, and horticulture

more specifically, are multidisciplinary. Knowledge and skills in agricultural economics and business management are acknowledged as essential for graduates if they are to provide the support necessary to maintain the competitiveness of Australian agriculture (Ag Institute Australia 2014). Furthermore, advances in the industry are underpinned by business skills and innovation, usually through the strategic and appropriate implementation of new practices (Argabright, McGuire, & King, 2012).

Building human capacity needs to focus on engaging the next generation of horticulturalists and providing opportunities for professional development of the current workforce. Informal professional development often takes the form of field days or other skills-based activities that have a basis in experiential learning, or learning by doing (Kolb, 1984) that is suited to adult learners and builds on their prior experiences. Often these learners lack formal training but have a wealth of life skills and experience, which they can bring to useful application in practically oriented learning programs. However, formal qualifications would assist them develop and expand their knowledge and capability. While there are formal qualifications available in horticulture including vocational training at Diploma and Bachelor level at some Australian universities, there remains a lack of formal training opportunities specifically for horticulture suited to professionals already working in the industry.

To address these issues, a Masterclass in Horticultural Business (hereafter referred to as the ‘Masterclass’) was tailor-made for Australian business managers and entrepreneurs in horticulture. Greater engagement between universities and industry in curriculum design and cooperation between providers have been advocated as essential components of curriculum rejuvenation (Bellotti, 2012; Dunne, 2010). Drawing on industry expertise to deliver content is typical in higher education in agriculture and other disciplines, and is an example of authentic teaching that is situated on campus (Oliver, 2010). Some examples in agriculture include dual sector degrees between TAFE and a university, or transnational education. Such international partnership arrangements are well-described in the literature (Gunn & Mintrom, 2013). There are however few examples of third-party delivery between the Australian tertiary institutions in agriculture.

Here, synergies were achieved that benefit the industry and students through combining the expertise in production horticulture (UTAS) with that of agribusiness (Lincoln) in an AQF5 Diploma in Horticultural Business. The framework for the Masterclass was based on Wageningen University and Research’s Academy for farmer education and training, which was contextualised to the Australian horticultural industry. This required considerable modification due to the comparatively more complex horticultural system in Australia than is found in the Netherlands. The horticultural industry in Australia has a greater range in latitude, terrain and climate plus a combination of extensive and intensive production systems. As a result of this and the need to develop a tailor-made course for Australian circumstances, action research methods (Creswell, 2003), were used to: 1) examine the design and delivery of the Masterclass; 2) evaluate student feedback regarding their goals and their experience of undertaking the Masterclass; 3) determine whether the knowledge and skills they gained were applied in practice; and 4) reflect on the future delivery of the Masterclass and research opportunities.

Methods

The project was undertaken in two phases. Phase 1 focussed on the design and delivery of the Masterclass, where we examined the course philosophy, learning outcomes and modules. We sought feedback by interviewing six academics involved in the Masterclass project regarding

the course design, structure and delivery.

In Phase 2, the Masterclass was delivered for the first time from February through to December, 2017 and the first student cohort ($n = 22$) was invited to participate in entry, mid and exit surveys. These surveys were designed to elicit their reasons for enrolling in the Masterclass and personal reflections on their achievements on completion of the course. Student demographic data, including age, region, educational attainment, size and scope of their horticultural business were also collected. Quantitative and qualitative data was collated, with each student allocated a numeric identifier e.g. ‘S1’ and analysed using mixed methods (Creswell 2003). The UTAS Human Research Ethics Committee approved this research (H16252).

Phase 1: Design and delivery of the Masterclass

The Course Learning Outcomes (CLOs) are provided in Table 1. These have a basis in experiential learning (Kolb, 1984), or learning by doing, which is regarded as a valuable means of ensuring integration of knowledge in agricultural education (Bauerle & Park, 2012; Knobloch, 2003; Roberts, 2006). Each of the eight modules (Table 2) examines a range of current issues in horticultural business that are relevant to business owners and upcoming young entrepreneurs. Module topics and assignments are designed to promote interaction of the participants with their staff (if they are business owners) or employers (if they work for a business owner). Each module was taught in parallel with a co-requisite work-integrated learning module (Practice and Portfolio or P&P) of equivalent credit. In this way, the students applied their learning to their workplace through work-integrated learning (Patrick et al. 2008), raising questions and stimulating discussions about agribusiness. Automatically assessed and graded quizzes with instant feedback provided at the end of each week of lectures test knowledge and application. Three on-line assignments per module test understanding of theory and application. Three face-to-face block sessions situated in different regional locations were followed by tours of farms and businesses that vary in structure and size. Each tour included talks by leading industry speakers and practitioners. The regular input from successful industry entrepreneurs in the form of case studies and farm visits was a deliberate intention of course designers. For example, one academic stated; “*We have put a lot of effort into getting the right people from industry... to help frame the subject content and to deliver some of the material*”. External feedback by an industry-based steering committee on the learning outcomes, content and sequence of the modules was sought during the design process, to ensure it was contemporary and addressed current issues in the horticulture industry.

The design of the Masterclass for a national cohort of participants necessitated online delivery that was highly professional, flexible and relevant to people working in the horticultural industry to foster innovative and creative thinking, and engagement among students. Content consisted of short video clips, interspersed with links to activities and resources. The use of digital technology in learning and teaching, consistent with contemporary norms in society, is one approach that caters to students who prefer or need to have ready access to information rather than through lectures (Prensky, 2001).

In designing the content, an academic stated that they were “*conscious that most people [are] doing this study on top of an existing workload so the [flexible delivery] is really important*.” The academics had relatively little prior experience in designing content for online delivery and stated; “*what we are delivering in this course is completely different to the content we are delivering [now]... which is basically face to face*.” Capacity building and professional

development of the course design team in alternative delivery modes and techniques by engaging with educational technologists were instrumental in producing a quality online experience for students.

Table 1: Course Learning Outcomes (CLOs) for the Diploma in Horticulture Business

On completion of the Masterclass in Horticultural Business participants will be able to:	
1	Identify, analyse and reflect on personal and/or business goals and pathways for career/business development
2	Communicate contemporary knowledge of the principles of horticultural business
3	Apply business and entrepreneurial skills based on relevant theory within contemporary horticultural enterprises
4	Identify and articulate adaptable skills in the context of a dynamic horticultural business operating environment
5	Model the principles of sustainable horticultural business practice through ethical and professional conduct within a collaborative framework
6	Develop a business improvement plan within a local, national and/or international trading environment.

Table 2: Course Structure of the Diploma in Horticulture Business. Each module was taught in parallel with a Practice and Portfolio module.

Two-day face-to-face intensive, Mornington Peninsula, Victoria		
Term	Module	Sub-modules
1	1. Horticultural Management	1.1 Introduction to Horticultural Management 1.2 Risk management
	2. People and Culture	2.1 Organisation of Labour in Horticulture 2.2 Managing Human capital
2	3. Supply Chain Management and Logistics	3.1 Supply Chain Management 3.2 Value Chain Management 3.3 Logistics
	4. Financial Management and Law	4.1 Financial Management 4.2 Legal Issues in Horticulture
Two-day face-to-face intensive, Gatton, Queensland		
3	5. Horticultural Marketing and Communication	5.1 Horticultural Marketing 5.2 Communication
	6. Global Trends and International Business	6.1 Global Trends in Food and Horticulture 6.2 International Business
4	7. Innovation and Entrepreneurship	7.1 Innovation in Horticulture 7.2 Entrepreneurship in Horticulture
	8. Business Development and Strategy and	8.1 Business Model Improvement
Two-day face-to-face intensive, around Hobart, Tasmania		

Phase 2: Student perspectives on the Masterclass

Personal goals of students at the start of the course

In 2017, the Masterclass attracted 22 final enrolments, representing a range of industry professionals in horticulture from across Australia, in the vegetable, nursery and fruit and nut industries, with some operating in several areas along the horticultural supply chain. They included owners or part-owners of a horticulture business (8), senior managers of horticultural businesses (9), horticultural consultants (2), suppliers of inputs for horticultural production (2) and logistics and supply chain management (3). Most participants (77%) were between 25 to 45 years of age. Overall, 60% of students had completed a qualification equal to or higher than a Diploma. Limitations of the study are that it is based on a small number of participants from only the first year of the Masterclass. Hence, there is limited scope to evaluate the impact of recommended changes to the course on student learning outcomes.

In the entry survey, most respondents stated that they wanted to improve their business skills and develop a business and strategic plan, for example, they said; *“[I want to] learn new skills that I can put in place in my business; help improve [our] current business plan; learn about other horticultural businesses and see the strategies they use”* (S12). Some respondents described this in terms of wanting to improve the sustainability of their business; *“...use this knowledge to strengthen the business I help to manage, increasing its adaptability and capacity to respond to new challenges. In other words, being sustainable into the future”* (S14). Other goals stated by students related to networking opportunities, professional development leading to career progression or the development of leadership skills: *“Career progression, improvement of leadership of management skills, get insights from colleagues within the industry, brainstorm, build a good network”*(S2).

Students’ reflections on the Masterclass delivery and content

At the end of the program, all students indicated that the relevant curricula had addressed their expectations. For example: *“I think [the program] provided a good level of overview. Obviously, other areas can be explored in greater detail, but this course provides a good stepping point (S3)”* and *“I believe the course content was interesting and covered all relevant areas of horticulture”* (S6).

Components of the curricula that were reported as more interesting and enjoyable included; preparing business plans, value chains, marketing strategy and finance, to name a few. Typically, these were related back to the participants business, for example:

Supply and value chain management - I enjoyed this section because it made me reflect on where our business is positioned. Marketing strategy – I found this interesting because again it was directly relevant to my business and provided me with potential strategies (S3).

Students stated a range of concerns in relation to the initial delivery of the P&P subjects in the mid-year survey, primarily linked to reflective practice and/or time to complete the activity. The Masterclass coordinators were responsive to these concerns and changed the delivery so that the P&P activity integrated with the course content. Reflective practice is taught and assessed in disciplines such as teaching or nursing (Mann, Gordon, & MacLeod, 2007) and is considered an important learning strategy to promote ongoing professional development. This is less evident in the sciences, but an increasing emphasis on employability and work-integrated

learning in higher education curricula in the UK, Australia and Canada (Patrick et al., 2008) is leading to the adoption of the practice of critical self-reflection in assessment in the discipline, at least in some subjects (Edwards, Perkins, Pearce, & Hong, 2015).

Balancing work, study and family

Several students (40%) reported that they required between five to 10 hours per week to complete the study requirements of the Masterclass. One participant stated that; *“To do the assignments justice, I need more than 10 hours when they are due.”* Indeed, student feedback indicated that fitting the course alongside their business cycle or other commitments was at times challenging, particularly in the peak production period around September to November. *“[The] only problem was a massive spring season coinciding with the end of the course. Not enough hours in the day”* (S4). Another student stated that the lecturers were flexible about deadlines *“I found it difficult to fit the requirements of the course in with my work and family life. It was very helpful that the lecturers were very flexible about deadlines”* (S10).

The difficulties the students expressed in balancing their work, study and family (Allen, 2001) lives is typical of busy professionals who return to study. Unlike other qualifications, the Masterclass is not offered part-time, an approach that may better suit students who need to balance multiple and at times, conflicting roles. The rationale for full-time study is to maintain the students as a cohort to promote their collective professional networks, although the resultant time commitment was perceived by some students as an issue. As noted by one of the students, academics in the Masterclass provide flexibility in assignment due dates although it is unclear to us whether this concession is limited to unanticipated events in the students’ lives or is more liberal. If the latter, there are potential issues around equity and a potential need to reinforce time management skills (Trueman & Hartley, 1996). Providing potential and current students with explicit advice on the time required to undertake the course could mitigate against, but not eliminate these issues.

In contrast, one participant stated after the completion of Module 2 that:

Time to do the coursework isn't actually that demanding. Where I have spent most time is trying to apply what we have learned directly to my business (i.e. gross margin, cash flow planning).

Unlike the previous respondents, this student is integrating their study with their work activities. In doing this, the respondent is ‘closing the loop’ on their learning and putting it into practice. Students’ ability to apply knowledge to problem solving in real-life situations is considered integral to their success as a graduate (McSweeney & Rayner, 2011). This is not to imply that the other respondents, noted above, were not necessarily doing this too. However, a disconnect between work and study could occur should the students perceive the content and assessment as less relevant to their individual circumstances. Rather than providing flexible due dates, allowing students to have options in the topic or type of assessment tasks might contribute to more purposeful engagement by students in their study.

Student learning outcomes

Students were asked mid-year if their personal goals had been met through the course to date. Around half of the respondents to the survey (n=7) stated that they were reflecting on their personal skills and attributes in the workplace, for example: *“I am analysing my management style and business skills”* (S3). Other respondents had similar observations but in the context of the wider horticulture industry, for example *“reviewing my skill set and employability, reflecting on industry and how to improve my job, farm and industry”* (S13). These observations align with CLOs 1, 2 and 3 (Table 1).

At the end of term 3, Module 6: Global Trends and Internationalisation, the concept of critical thinking and problem solving is introduced (Porter, 2008; Porter, 1979). Earlier in the Masterclass, students apply knowledge on agribusiness to their own business and personal situation. However, in this module students develop an export plan and strategy for new markets. Some students challenged its relevance:

...export strategy... was not directly relevant to my business. Some of the legal aspects were the same as well. However, I could see that all the units were relevant to horticultural business (S3).

Critical thinking and problem solving are then applied in the final two modules, one on Innovation and the last on Business Planning. Students are introduced to some of the nation's leading entrepreneurs and can draw learnings from the provided content and activities for application to their own businesses. It is from this point that students will develop the confidence to move to the final assessment task.

In the final assessment, which the Masterclass builds towards, students prepare and present a business plan to the class, academics and leading industry representatives. This high-impact learning experience consolidates the curriculum and is aligned with CLO 6 (Table 1). This task has two major learning outcomes and deliverables namely; a written business plan and secondly an oral presentation demonstrating clear and convincing communication skills. It is assessed using four criteria;

1. delivery of a business plan which is concise and easily understood, with logical and convincing argument
2. application of knowledge learned from participating in the Masterclass, covering most modules and application of this within their business plan
3. communication and delivery of a clear and concise business plan with overheads and other supporting material, and
4. demonstration of leadership skills within the horticulture sector by articulating aspects of vision, inspiration, entrepreneurial skill and innovation.

All respondents (n=13) stated that they intend to or had applied their plan to their own businesses, for example, *"[I] went over whole of business plan and reviewed the document as well as staff roles and future direction"* (S11). Some students were business managers, rather than owners, but likewise stated an intention to act on their learning (McSweeney & Rayner, 2011), for example: *"I am going to present my business plan to the owner of the business and outline my vision for the future"* (S3).

All respondents (n=13) stated that they met their personal goals on completion of the program, and in addition stated that; *"the course definitely helped me to improve my business acumen and management skills"* (S3), and *"[The course] exceeded my expectations. Some of the content I had not even considered in my business prior"* (S8). This is exemplified by the students' success, with the average grade for all modules being a distinction or higher. One student subsequently gained new employment in the horticulture sector, while another won the prestigious Women in Horticulture Award. All respondents indicated that they would recommend that colleagues take the course, for example: *"I would like all my personnel in my organisation to complete the course"* (S9). This raises the question of how graduates of this first Masterclass implement their plan and whether their experience led to any changes in how they approach ongoing professional development, or lifelong learning. Lifelong learning is

defined as learning that is pursued throughout life and allows graduates to make responsible decisions and take appropriate actions to maximise their own learning (Zimmerman, 1986). Lifelong learning crosses sectors, promoting learning beyond traditional schooling and throughout adult life (Delors, 1996). A longitudinal study of the graduates from the Masterclass will be required to address this question.

Conclusion

The objective of the Masterclass is to improve business skills in the horticultural sector. The high degree of industry engagement and endorsement as well as international collaboration in the design of the Masterclass is unique to the agricultural sector in Australia. The relatively small but diverse cohort of participants in the first year offered for the Masterclass was aligned with this objective. Students describing their goals from undertaking the course in terms of improving and applying their business skills and expanding their professional networks.

Students consistently stated the highlight of the Masterclass included the networking opportunities through the face-to-face activities and activities that were directly relevant to their business leading to the review and/or development of new business approaches that have been or are intended to be adopted. This process of adoption started during delivery of the program. By the end, all respondents stated they had achieved their personal goals on completion of the course and would recommend it to their family and colleagues. In future, for example, at one and three years after graduation, participants in the Masterclass and their employers (where applicable) should be contacted for feedback on implementation of strategies in their business.

The Masterclass team of coordinators, lecturers and industry representatives have worked together to develop an authentic program. As to be expected in a new program, some challenges have been identified in relation to delivery and the timeliness of feedback, or the integration of work integrated learning activities, which have largely been addressed during the year. Both the teaching team and participants recognise the challenge of balancing work, family and study commitments and accept that there should be a degree of flexibility for students to meet assessment criteria. In future, some of these considerations should be communicated to prospective cohorts, to inform their decision on whether to participate in the program or not.

Graduates of the Masterclass, all of whom stated that they would recommend the program to their family and colleagues, are admirable advocates for future students. The development of a strong reputation augers well for the expansion of the Masterclass both nationally and potentially internationally. This approach provides evidence for this to be a potential “blue-print” for the development and delivery of new Associate Degrees across Australia.

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