The International Education Journal: Comparative Perspectives Vol. 23, No 1, 2024
http://iejcomparative.org

The significance of flexible learning spaces and student-centred pedagogies in school settings: A comparative case study

Lamia Büsra Yesil

Consulate General of Turkey Education Department in Munich, Germany:
lamiabusra.yesil@meb.gov.tr

Ipek Saralar-Aras
Ministry of National Education, Ankara, Türkiye:
ipek.saralararas@meb.gov.tr

This paper reports the findings of a case study that examined the importance of flexible learning spaces and student-centred pedagogies for facilitating effective teaching and learning in schools. By exploring the arrangement of learning spaces at the school level, the study compared a case school in Germany with the Future Classroom Lab Model. Data collection involved observations, photographs and video recordings, which were analysed through content analysis. The article demonstrates the alignment of pedagogies with seating arrangements and physical learning spaces by defining the pedagogy employed in a specific course and providing sample course activities. This paper offers suggestions for redesigning and implementing active learning classrooms, emphasising the need to increase flexible learning spaces in schools to enable student engagement with content through student-centred pedagogies. The case study findings underscore the significance of conducting assessments on classroom redesign initiatives.

Keywords*: Active learning; classroom redesign; comparative study; learning environment; pedagogical approaches; physical learning spaces; school settings*

INTRODUCTION

The dichotomy between teacher-centred and learner-centred approaches has been the subject of considerable debate in education research. Traditional teaching, also known as conventional teaching, represents a form of instruction where teachers and students engage in face-to-face interactions within the classroom setting (Altun, 2012). Students are assigned specific seats in such classrooms, and the teacher, rather than the students, determines the classroom arrangement. In teacher-centred education, the teacher assumes a central role, employing techniques such as lectures, facilitated discussions, quizzes and demonstrations (Shulman, 1986). By utilising these methods, the teacher aims to capture students' attention and stimulate their interest in the subject matter. In this conventional educational approach, students are expected to remain seated throughout the lesson while the teacher delivers content, leads discussions, and focuses on the mastery of material from textbooks and notes. The teacher's objective is to transmit a predetermined set of information to students, who are then assessed based on their ability to replicate or transmit this knowledge back to the instructor or an evaluating body (Li, 2016).

However, the limitations of traditional education have become increasingly evident, as it often restricts opportunities for innovative thinking and fails to address individual differences among students. Although traditional education may be effective in specific contexts, it is essential to

acknowledge its shortcomings and strive for progress (Li, 2016). One of the main drawbacks of teacher-centred instruction is its emphasis on the teacher as the sole source of information, the authority on reality and the ultimate judge of student learning. In this perspective, the teacher's responsibility primarily revolves around imparting a specific body of knowledge to students in a predetermined order, with the goal of maximising academic achievement. For instance, when a teacher delivers a lecture on the properties of a specific class of polygons, such as triangles, it exemplifies teacher-centred instruction.

In recent years, the traditional classroom environment has witnessed transformations in many areas, with the integration of information and communication technology (ICT) and multimedia tools. This shift has prompted a re-evaluation of teaching practices, with teachers transitioning from being mere knowledge disseminators to facilitators of learning (Horne-Martin, 2002). They assume the role of guides, encouraging students to actively seek additional information, addressing misconceptions, and providing opportunities for critical thinking and perspective-sharing (Bell, 1993). This learner-based approach focuses on the unique backgrounds, abilities, attitudes and beliefs that students bring to the classroom. It acknowledges the significance of diagnostic teaching, which involves uncovering students' thoughts on a given topic and creating an environment that allows them to refine and readjust their ideas (Bell, 1993). Notably, the effectiveness of educational communication is strongly influenced by the context in which it occurs, including the timing and physical environment (Bautz, 2018). Thus, teaching and learning in schools are deeply intertwined with the space and time in which they take place (Crook & Mitchell, 2012).

Nevertheless, it is important to acknowledge that the learner-centred approach is not a universally applicable solution nor the sole method in all educational contexts. Schweisfurtha (2013) challenges the notion of perceiving learner-centred education (LCE) as an absolute and singular model, arguing that its benefits described in existing narratives may not be accessible to most learners in developing nations. Implementing LCE through policy reform presents considerable challenges, indicating that some aspects of instructional practices may be emphasised differently based on cultural settings (Schweisfurtha, 2013).

Classrooms or learning spaces are catalysts for creative practices and significant positive changes within the education system (European Schoolnet, 2021). In the contemporary changing classroom, students are encouraged to make decisions about their learning process, such as determining the time they allocate to daily tasks based on curriculum objectives. The physical arrangement of the classroom plays a crucial role in supporting these student-centred approaches. Instead of being confined to their desks for the entire day, students have the freedom to move around, change seats, collaborate with peers and engage in effective communication (European Schoolnet, 2021). Educators can enhance student learning outcomes and facilitate greater student engagement by reimagining the classroom as a space incorporating technology, pedagogy and adaptable learning environments (Mishra & Koehler, 2006; Saralar-Aras, 2022).

At the heart of a learner-centred curriculum lies the concept of student engagement. Educators can foster a deeper understanding and retention of knowledge by actively involving students in learning and providing opportunities for exploration, critical thinking and collaboration (National Research Council, 2000). The learner-centred approach recognizes that students bring their own unique experiences, perspectives and prior knowledge to the classroom. As a result, teaching should be responsive to individual differences and offer personalised pathways for learning. This approach not only empowers students to take ownership of their education but

also promotes the development of crucial 21st-century skills, such as critical thinking, problem-solving and effective communication (Partnership for 21st Century Skills, 2004, as cited in Guo & Woulfin, 2016).

The study reported in this paper centres on the Future Classroom Lab (FCL) (Belgian model) and its implementation within a German school setting, particularly at a Case School in Bayern. Observations were conducted within the context of a Turkish language and culture course, establishing a multifaceted backdrop that significantly enriched and complicated the research analysis. The study explored each approach's underlying philosophies, instructional practices, and outcomes. The study aimed to compare and contrast the teacher-centred education approach prevalent in an FCL Class (a specific educational context) with the learner-centred education approach adopted in a class in Germany. By examining these two distinct educational paradigms, the study sought to gain insights into their strengths, limitations and implications for student learning and academic achievement.

In summary, the shift from traditional, teacher-centred education to learner-centred approaches reflects a growing recognition of the importance of individualised learning, student engagement and technology integration in the classroom. As the study delves deeper into the comparison between an FCL Class and a class in Germany, it sheds light on the evolving landscape of education and the potential for transformative educational practices that prioritise the needs and aspirations of learners.

LITERATURE REVIEW

This section reviews the literature on active learning and the relationship between classroom design and student engagement. It begins by defining active learning and highlighting its significance in equipping students with essential skills employers seek (Fitzsimon, 2014). Active learning is any method involving students actively participating in tasks and reflecting on their actions (Bonwell & Eison, 1991). Various instructional techniques are suggested to encourage active learning, including small group discussions, peer questioning, cooperative learning, problem-based learning, simulations, journal writing and case-study teaching (Barkley, 2010; Prince, 2004). Active learning transforms students from passive recipients to active participants, enhancing their focus, communication skills, motivation for critical thinking, creativity and overall course achievement (Habib, 2017).

The literature highlights the connection between classroom design and student engagement, with active learning approaches consistently shown to result in higher engagement and improved learning outcomes compared to more passive, teacher-centred approaches (Freeman et al., 2014; Hake, 1997; Michael, 2006; Prince, 2004). Classroom design is a significant factor that can impede or facilitate engagement, emphasising the need to explore the association between classroom design and student engagement (Barkley, 2010).

Studies investigating the relationship between classroom design and student engagement have yielded valuable insights. Monahan (2000; 2002) introduces the concept of 'built pedagogy', which describes classroom design as a physical representation of educational theories, philosophies, and values. Cortose (2005) highlights the impact of classroom design factors such as natural light, acoustics and comfortable seating on student engagement and academic performance. Grimes and Warschauer (2008) examine the positive effects of well-designed classrooms equipped with laptops on student motivation and active participation. Barret et al. (2015) find that well-designed classrooms with appropriate lighting, temperature control and flexible furniture arrangements positively influence student engagement. Lieberman (2016)

focuses on the relationship between the physical school environment and student engagement in physical activity, emphasising the importance of incorporating spaces for movement. Rands and Topf (2017) highlight the role of classroom design in fostering interaction, community and stronger personal connections between students and instructors, enhancing student engagement.

The reviewed articles provide compelling evidence of the significant influence that classroom design has on student engagement within educational settings. Effective classroom design, incorporating factors such as lighting, temperature regulation, adaptable furniture layouts, technology integration and provision of spaces for movement, has consistently been shown to enhance student engagement and promote positive learning outcomes. Educators and school administrators should consider these findings when developing plans and designing classroom environments to establish settings that encourage active participation and optimise student engagement.

To further explore innovative approaches to classroom design, the FCL in Brussels is introduced as a reconfigurable teaching and learning space developed by European Schoolnet (EUN) (European Schoolnet, 2016). FCL represents a model or approach to classroom design that emphasises flexible learning spaces, innovative use of technology, and learner-centred pedagogies. It comprises six learning spaces: investigate, create, present, interact, exchange, and develop (European SchoolNet, 2016; Law et al., 2017) (refer to Figure 1). These spaces are designed to support different activity types, encourage collaboration, foster creativity, promote communication, facilitate teamwork, enhance global citizenship, and empower self-directed learning.

Figure 1: Six learning spaces (EUN, 2016)

The investigate space serves as a research environment that fosters critical thinking and problem-solving skills through research, project-based learning and inquiry-based learning. By incorporating flexible furniture and relevant technological tools, this space promotes

experiential learning and hands-on exploration. It provides students access to diverse resources, including books, computers and online databases, encouraging them to delve into and investigate topics of interest. The physical arrangement of this space facilitates individual and collaborative work, enabling students to collaborate, exchange ideas and critically analyse information. Consequently, the investigate space nurtures curiosity, problem-solving abilities and independent thinking.

The create space functions as a production environment that supports and encourages creativity. It enables students to engage in realistic knowledge-generation activities that have practical applications in the real world. Within this space, students participate in tasks involving output production, analysis, teamwork and evaluation. Equipped with tools, materials and technology, the create space empowers students to design, prototype and construct their ideas. This environment fosters innovation, experimentation and the development of practical skills, leading to a deeper comprehension of concepts through active engagement.

The present space serves as a platform for communication and interaction among learners during the learning process. Its design facilitates effective communication and feedback exchange. Students utilize this space to share their work, present their ideas and receive feedback from their peers. Equipped with presentation tools, such as screens, projectors and audio equipment, the present space enables students to deliver their work effectively and develop effective public speaking skills. This environment cultivates confidence, oral communication abilities and the capacity to articulate and defend one's ideas. Additionally, it supports online broadcasting and sharing.

The interact space is designed to promote active participation and interaction between teachers and students in a traditional classroom setting. This space emphasises the synergistic effects of employing active learning pedagogies and technologies that encourage diverse forms of participation. Instead of the traditional model of teachers selecting students to answer questions, the interact space encourages all students to contribute their own unique responses to the subject matter. Technology offers a range of options to ensure that each student's voice is heard. Collaboration and teamwork are emphasised in the interact space, which is designed to facilitate group discussions, debates and problem-solving activities. This space's flexible seating arrangements and interactive technologies support student collaboration, communication and negotiation skills. Ultimately, the interact space promotes social interaction, cooperation and the development of interpersonal skills necessary for effective teamwork.

The exchange space is a collaborative environment to enhance teamwork, game-based learning, brainstorming and collaboration. It can be utilised for both face-to-face and online interactions, either synchronously or asynchronously. This space encourages idea sharing and collaboration, facilitated by suitable furniture and classroom layout. ICT is pivotal in enabling a wide range of communication and collaboration activities (Davidsen & Georgsen, 2010). The exchange space is dedicated to fostering cultural diversity, promoting global citizenship and facilitating the exchange of ideas. It provides opportunities for virtual or physical connections with students from different regions or countries, encouraging collaborative projects and discussions. The exchange space broadens students' perspectives, fosters inclusivity and develops skills necessary for global citizenship.

The develop space serves as an informal learning and self-reflection environment where students can work independently at their own pace using personalised learning tools, learning diaries and portfolios. This space encourages students to develop their metacognitive skills and adopt strategies for lifelong learning. It offers access to personalised resources such as online courses, tutorials and learning platforms, allowing students to pursue their interests and develop

skills according to their individual preferences and timelines. The develop space promotes autonomy, self-regulation and the cultivation of habits for lifelong learning, thereby preparing students for continuous learning in the digital age (Darling-Hammond et al., 2019).

By incorporating these learning spaces into educational settings, educators can facilitate active learning experiences and create environments that cater to the diverse needs of students. These spaces are designed to foster critical thinking, problem-solving, creativity, communication, collaboration, and self-directed learning skills. They provide students with opportunities to engage actively in their learning process and develop essential competencies required in the 21st century.

The relationship between the FCL and active learning strategies lies in the fact that the design principles of FCL align with and enhance the implementation of active learning approaches. The flexible learning spaces within the FCL allow for versatile seating arrangements and mobility features. FCL is characterised by its adaptable furniture and spatial configurations, allowing educators to rearrange seating and learning spaces to suit various instructional needs. This adaptability fosters a dynamic learning environment, promoting collaboration, engagement and personalised learning experiences. Additionally, mobility features such as lightweight, easily movable furniture enhance the FCL's capacity to support different teaching styles and activities, contributing to its effectiveness in modern educational settings. The practical implications of FCL design extend to its adaptability within the educational context, enabling educators to create versatile and learner-centred environments. This adaptability not only enhances student engagement and collaboration but also supports a variety of teaching methodologies, ultimately fostering more effective and dynamic learning experiences (Saralar-Aras, 2021).

Schools in Germany and comparison with FCL

Over 30 years ago, Spindler and Spindler (1987) conducted a study highlighting German classrooms' distinct characteristics. They described German classrooms as enclosed spaces with well-defined boundaries and systems. These classrooms focused on control, correction and homework delivery, and teachers aimed to minimise interruptions between tasks and efficiently utilise lesson time. However, in recent years, there has been a shift in German schools towards supporting student learning and providing a broader framework for achieving educational objectives. Classrooms have been redesigned to accommodate this mission and offer students different pathways to reach their goals.

In many German classrooms, desks are arranged in rows facing the blackboard, with enough space for two students to sit side-by-side (Refer to Figures 2 and 3). This traditional classroom layout, which has remained essentially unchanged for over 200 years, follows a geometric pattern that ensures every student can see the instructor and the blackboard. This layout reflects Lakoff and Johnson's (1999) metaphor that 'understanding is seeing', which suggests that visual perception plays a vital role in comprehension. It emphasises the importance of students visually observing the instructor, reading text or viewing visual aids to acquire knowledge and understanding.

However, contrasting with the 'understanding is seeing' perspective, another concept, known as 'understanding is doing', aligns more closely with the FCL concept. This perspective emphasises active engagement and hands-on experiences in the learning process. It recognises that learning is not solely dependent on passive observation but also involves active participation, problem-solving, and practical application of knowledge.

While both ‘understanding is seeing’ and ‘understanding is doing’ hold validity in different educational contexts, the traditional classroom design has historically prioritised visual and auditory learning modes, often undervaluing active engagement and experiential learning. The shift towards ‘understanding is doing’ calls for classroom spaces to facilitate active learning strategies, including flexible learning environments that allow for movement, collaboration, hands-on activities and technology integration. Such spaces promote student agency, critical thinking, problem-solving and the application of knowledge in practical contexts, ultimately enhancing overall engagement and deepening understanding.

Figure 2: A typical traditional classroom in Germany

The seating arrangement in a typical German classroom is designed to enable easy student interaction. The desks are light enough to rotate easily, and there are tables with wheels. This design allows students to see visual presentations and fosters mobility during independent work periods or when obtaining new materials. These materials are usually stored in the teacher's desk or cupboards, and students can access them independently or seek assistance from the teacher.

A teacher's desk is typically in front or slightly to the side of the blackboard (Refer to Figure 4). Using desks for two pupils allows activities to be performed in pairs, promoting collaboration. The seating arrangement in a regular German classroom can also be adapted for different activities, similar to the flexibility emphasised in the FCL. For example, the seating arrangement can fragment the class into small study groups, creating an ideal environment for various well-known small-group active learning methods.

While traditional German classrooms have historically focused on visual access and control, there is a growing recognition of the importance of active learning and experiential engagement. This shift in perspective calls for classroom designs that support active learning strategies and provide flexible environments conducive to collaboration, movement and practical application

of knowledge. The FCL concept aligns with these principles by emphasising learner-centred pedagogies, innovative use of technology and adaptable learning spaces.

Figure 3: Materials in a typical German classroom

Figure 4: A typical traditional classroom in Germany

A case school in Bayern

Bayern, located in the south-east of Germany, is an officially recognised federal state. With a land area of 70,550.19 sq km, it is the largest state in Germany, covering approximately one-

fifth of the country's total land area (Nations, 2008). Bayern has its own school system that aims to provide an individual educational path for every student (Die Grundschule in Bayern, 2011). The primary school observed in this study is a government-run institution that promotes the German language and fosters a love for reading (Leseförderung-Freude am Leben Wecken, 2022). The school uses open spaces to facilitate student learning to support these goals.

In Bayern, parents are recognised by the teachers who actively participated in research studies as having shared responsibility for the upbringing and education of their children (e.g., Niesel & Griebel, 2007). The school values parental input and incorporates their ideas in decision-making processes. The school aims to honour each student's talents and abilities through scientific, musical and sporting activities and projects. An atmosphere of comfort, mutual appreciation, respect and open communication is fostered among parents, teachers and students involved in the school. Teaching, learning, celebrating and living together are enjoyable experiences within this flexible school environment. The engagement of staff, students and other users of school buildings is considered essential for successful environmental changes that influence behaviour, well-being and achievement (Higgins et al., 2005). Figure 5 illustrates an area within the school that promotes freedom for students to learn at their own pace and supports the development of lifelong learning skills, resembling the 'develop' space in the FCL model.

Figure 5: Book exchange shelf on the third floor as a reading school profile component

The corridors in the school are designed as an extension of the classroom, providing spaces for collaborative learning that align with student-centred pedagogies suitable for a modern knowledge society. These corridors serve as exchange spaces where parents, teachers and students engage in teamwork, material exchange and peer observation. The school community values the achievements of everyone involved in school life, including academic accomplishments, extracurricular achievements and any form of success or progress made by students or teachers. This recognition of achievements fosters a positive and supportive environment, promoting motivation, self-esteem and a sense of belonging. Consequently, it contributes to a culture of collaboration, respect and continuous growth.

As noted by Higgins et al. (2005), teachers' attitudes and behaviour significantly influence how space is utilised within the school; teachers in the observed school employed various methods, new media and differentiated instructional approaches during lessons. The school's educational policy focuses on developing students' independent work skills, media literacy and knowledge

acquisition through diverse methods, new media and differentiated instructional offerings. For example, Figure 6 showcases a computer studio within the school that facilitates the development of e-safety skills and integrates technology with pedagogy.

Figure 6: A computer studio

Various activities take place in the computer studio. One such activity involved a mathematics topic, specifically multiplication. The interdisciplinary study aimed to connect mathematics with language courses. While the class was reading a book featuring a character studying mathematics, the students themselves engaged in mathematics activities. They participated in a digital multiplication game created using the LearningApps web tool. Figure 7 is a screenshot of a tool depicting students practising multiplication tables. The command in the figure states: 'We are learning the multiplication table with Pippi Longstocking'. The exercise involved matching mathematical operations (e.g., 4 x 5) with their results (20).

Overall, the observed primary school in Bayern exemplifies the implementation of innovative educational practices. It leverages open spaces, incorporates parental involvement, fosters a supportive school culture, utilises modern technology and promotes interdisciplinary learning. The school embraces student-centred pedagogies and emphasises the development of essential skills for lifelong learning.

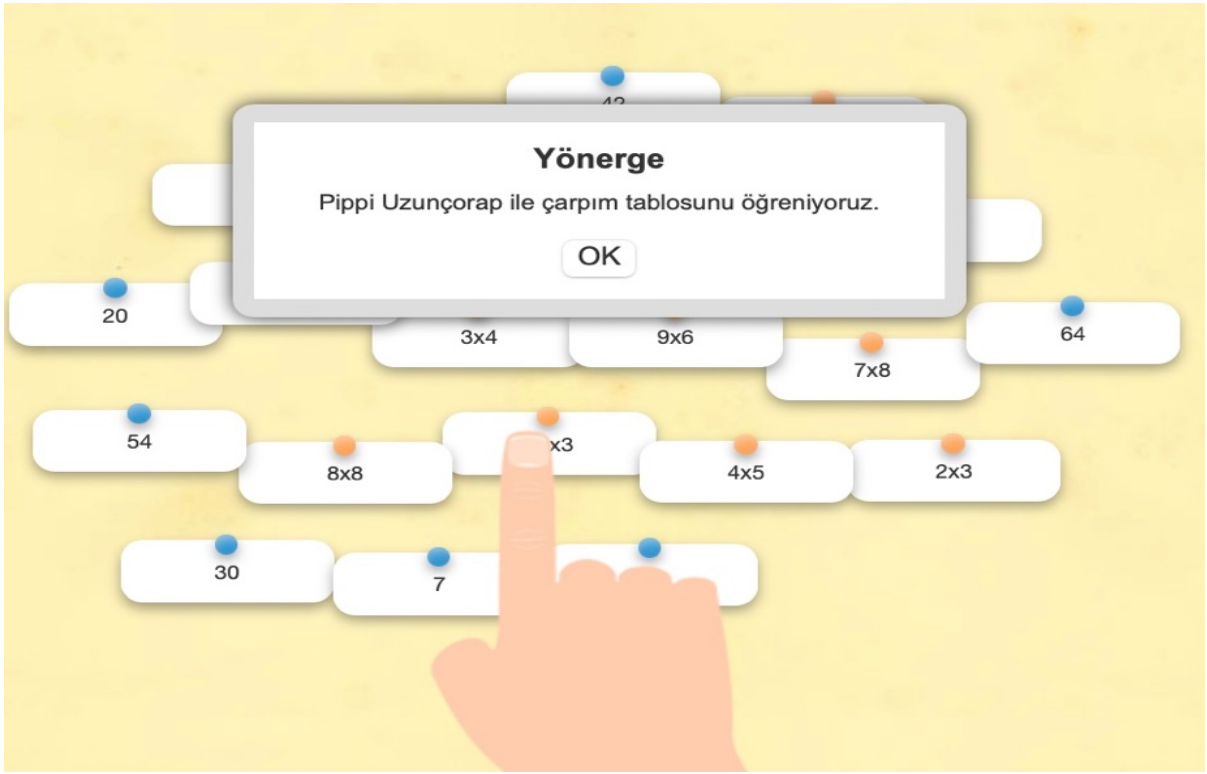


Figure 7: Digital multiplication exercises

METHODS

The study reported on in this paper employed a comparative case study research method (Yin, 2014) to examine a primary school in Germany that represented a blend of traditional and future educational concepts. The school was compared and contrasted with the learning lab model of the FCL, focusing on the physical layout of the school building, learning spaces and related pedagogical practices. Interpretive observations were conducted to explore students' utilisation of school spaces and their impact on course participation. The activities within the school emphasised learner-centred and inquiry-based approaches, technology-enhanced learning, student autonomy and interdisciplinary learning.

Data for the study were generated through a series of observations conducted in primary classes. The participants were students who voluntarily enrolled in the Turkish language and Turkish culture (TTC) course. The TTC course served as an example curriculum and catered to students of varying ages (ranging from 6 to 14 years) and language proficiency levels. The total number of students involved in the study was 63, with 27 males and 36 females. To accommodate the diverse student population, a balanced use of various teaching approaches and techniques, such as cooperative learning, group work, individualized instruction and interest- and level-based grouping, was employed to encourage active student participation. The learning spaces within the school were utilised to facilitate active learning, as observed in this study.

Additionally, teachers implemented peer and group evaluation strategies to assess individual and group behaviours, considering the varying age groups. Self-assessment practices were also incorporated to enable students to reflect on and recognise their competencies. The lessons conducted within the TTC course had a duration of 90 minutes.

The design of the TTC course curriculum considered the needs of Turkish children, teachers, and parents residing abroad. To ensure that the curriculum objectives aligned with the 'real'

needs, in-depth interviews were conducted with eight Turkish children, their parents and Turkish language and Turkish culture teachers residing in Switzerland, France and Germany. These interviews served as an initial step in the curriculum development process. The data collected from the interviews were used to develop a scale, which was then implemented on-site. The findings from the interviews and the scale aided in identifying the curriculum objectives and determining the themes that should be addressed to achieve these objectives (Ministry of National Education [MoNE], 2018). The program was not prepared by the case school. The curriculum was created by the Turkish Ministry of National Education, while the school only offered physical space.

FINDINGS

The findings of this study highlight the transformative impact of a holistic learning environment, as exemplified by the FCL, on student empowerment, pedagogical integration, and the integration of innovative technologies. The implementation of dedicated learning spaces, such as the Investigate, Create, Present, Interact, Exchange, and Develop spaces, facilitated diverse learning activities and promoted student agency for self-directed learning. Through integrating pedagogies like inquiry-based and project-based learning, along with the use of technologies such as augmented reality and artificial intelligence, students actively participated in collaborative activities both within and beyond the physical boundaries of the classroom. The provision of presentation spaces, including traditional classrooms, corridors, and school gardens, enabled students to showcase their work and develop essential presentation and socio-communicative skills. Furthermore, integrating technology in language learning enhanced language proficiency, ICT practices, communication experiences and collaboration. The Create space fostered students' creativity, critical thinking and problem-solving skills, while the Collaboration and Exchange spaces facilitated global connections and intercultural communication. Overall, the holistic learning environment and associated learning spaces promoted student engagement, motivation, and the acquisition of 21st-century skills necessary for success in the digital age.

Empowering learners through a holistic learning environment

The holistic learning environment implemented in the FCL empowered learners by equipping them with the necessary tools and resources for communication and construction. For instance, students were provided with state-of-the-art technology, such as interactive whiteboards, tablets and multimedia content libraries, that facilitated seamless communication and collaborative activities. The learning design prioritised sharing and collaboration, fostering student agency for self-directed learning. For example, students were encouraged to work on cross-disciplinary projects where they had to collaborate, conduct research and present their findings, promoting critical thinking and problem-solving skills.

The dedicated spaces provided within the FCL facilitated various types of learning activities, including inquiry-based learning, project-based learning, collaboration, communication, cultural exchange and self-directed learning. For example, students had access to dedicated inquiry zones equipped with research materials and tools to explore their interests. Additionally, project-based learning was encouraged, with students working on real-world projects like designing sustainable solutions for local environmental issues. Collaboration and communication were actively encouraged through spaces designed for group work and discussions, such as breakout rooms and presentation areas.

Moreover, cultural exchange was fostered through virtual connections with classrooms worldwide, enabling students to interact with peers from different backgrounds and enhancing their global awareness. As the various examples exemplify, this comprehensive approach to learning spaces significantly enhanced student engagement, motivation and the acquisition of essential 21st-century skills, such as communication, critical thinking, creativity and cultural competency.

Integration of pedagogies and innovative technologies

The language courses at the case school incorporated diverse pedagogical approaches, such as inquiry, scenario-based, and project-based learning, along with integrating innovative technologies like augmented reality and artificial intelligence. The implementation of collaborative activities, both online and onsite, encouraged active student participation and positioned them as legitimate contributors within and beyond the classroom (Ratcliffe & Millar, 2009).

For instance, Figure 8 illustrates a collaborative small group activity where students worked together to create a virtual trip using scenario-based learning. Interactive scenarios facilitated active learning strategies, allowing students to engage in research, presentation creation, information exchange, and decision-making. Students were free to use any available object and space to contribute to the final product, which involved producing a stop-motion video recorded with a green screen.

Figure 8: Small group work

Presentation spaces: Classroom, corridor and school garden

Students at the case school had access to dedicated spaces for presentations, including the traditional classroom, a presentation area in the corridor and the school garden. The corridor space demonstrated versatility, capable of being transformed into a conference hall as needed. Additionally, the school garden featured a theatre-like space that could be utilised for presentations and performance shows (Figure 9). Technological devices further facilitated interactive presentations. Students had the flexibility to choose any physical area they desired for their presentations, enabling the development of presentation and socio-communicative skills, and engaging a wider, authentic audience through the class project blog (Yeşil, 2020; MoNE, 2021).

For instance, when students actively engaged with dedicated presentation spaces during their math lessons to showcase their financial budgeting projects, the presentations served as practical applications of their mathematical skills. They allowed students to effectively demonstrate their understanding of financial concepts and budget planning. Such experiences underscore the adaptability of the learning environment and its positive impact on students' comprehensive development.

Figure 9: Different *present spaces* shown in the classroom, corridor, and the school garden

Furthermore, in the context of a TTC course at the Case School in Bayern, students enthusiastically participated in presentations demonstrating their grasp of Turkish culture. These presentations promoted cultural awareness and encouraged students to express themselves creatively and engage in cross-cultural dialogues. This experiential learning approach illustrates how the FCL model can effectively support various educational objectives while fostering SCL.

Integration of technology in language learning

In line with the TTC course objectives, students utilised digital devices such as mobile phones and tablets to create talking avatar videos to present their favourite activities and discuss their families (Figure 10). Technology was seamlessly integrated into activities to enhance the learning process and the resulting products. Students utilised free Web 2.0 tools, recorded their voices and shared their creations, thereby fostering language skills, ICT practices, communication experiences, collaboration, teamwork, creativity and imagination (Wagner, 2009).

Figure 10: Avatar creation

Create space: Building dream houses

Another notable project in the TTC course involved students working in teams to design and create their dream houses. This inquiry-based learning activity encouraged students to identify and research issues and questions relevant to their projects. Through drawing, utilising the Cospaces Edu platform, singing and expressing their desires, students developed their knowledge, spatial intelligence, musical intelligence, and intrapersonal intelligence (Gardner & Hatch, 1989). The project aimed to foster different types of intelligence and improve 21st-century skills such as creativity, critical thinking and problem-solving (Saralar-Aras, 2021) (Figure 11).

Figure 11: House project in Cospaces Edu as an example of the Create space

Collaboration and exchange space: Global connections

Collaboration extended beyond the physical boundaries of the classroom, providing students with opportunities for global interactions. They engaged in video conferences with classrooms in different countries, exchanging ideas, playing digital games and developing socio-communicative skills (Figure 12). A multidisciplinary approach was adopted by combining reading activities with other disciplines, allowing students to connect their learning to sociocultural and contextual situations. This approach promoted concepts such as different languages, equality, cooperation, intercultural communication, common life, sharing, respect, harmony and reconciliation (MoNE, 2021).

For instance, students collaborated to explore daily life rules during a short-term project with Greece. Online meetings were conducted via Skype to foster communication and brainstorm about game and classroom rules. Students collectively created digital posters and used codable educational robots to implement and follow their rules. This interdisciplinary activity integrated core subjects, robotics and coding, thereby promoting problem-solving, critical thinking and collaboration (Figure 13). Interdisciplinary activities were encouraged, aligning with the principles observed in the Investigate space within the Future Classroom Lab.

Overall, implementing the FCL and its associated learning spaces resulted in significant learner benefits. The holistic learning environment, integration of pedagogies, innovative technologies and collaborative opportunities contributed to developing 21st-century skills, such as critical thinking, problem-solving, creativity, communication, and collaboration. Students actively engaged in their learning, taking ownership of their education and acquiring the competencies necessary for success in the digital age.

Figure 12: Videoconferences as an example of the Exchange space

Figure 13: Investigate space example in FCL

DISCUSSION

The design of learning spaces is influenced by various factors, including learning theories, educational objectives, student needs and teaching and learning activities (EUN, 2021). By creating flexible learning environments that move away from traditional classrooms, students and teachers experience a shift in their teaching and learning experiences, characterised by increased interactions and collaboration (Deed & Lesko, 2015). In the 21st century, teaching and learning extend beyond the physical confines of school buildings, thanks to the development of the internet and new technologies. Virtual spaces offer unique opportunities for interactive and immersive learning experiences (Merchant, 2013), allowing students to engage in new ways of learning and express their ideas through multimedia creation.

Incorporating technology into the learning process enables students to become active contributors to their learning environment, fostering higher-level critical thinking skills in an active learning setting (Yeşil, 2020). With the aid of well-selected digital tools, students have the agency to shape their learning experiences, accessing information anytime and anywhere

and learning at their own pace. This diminishes individual differences among students and promotes personalised learning (Yeşil, 2020).

The primary value lies in creating a supportive learning environment that promotes multidisciplinary, collaborative and interactive learning (Oblinger, 2006). Instead of simply presenting information from textbooks, teachers play a role in facilitating student agency and inquiry-based learning. They design activities that empower students and involve them actively in the learning process. Teachers become designers of opportunities for student coaching, inspiring new creations and fostering student participation and collaboration. Students are actively engaged in decision-making and collaboration, contributing to the outcomes of their learning activities.

Through project-based assessments and evaluations conducted in the classroom, it is evident that students internalise new vocabulary, develop teamwork skills and exhibit metacognitive abilities. Different learning spaces cater to different types of intelligences, addressing interpersonal and intrapersonal aspects. Students engage in self and peer evaluations, fostering their inclusion in the learning process. Furthermore, designated periods and structures for student participation enhance their identification with the school and develop their understanding of democratic principles. The feedback received from students about specific activities within projects demonstrates their enjoyment and engagement in diverse learning experiences

Learning is a process that occurs through activity, and students construct knowledge through their actions and interactions (Goodyear et al., 2021). The FCL offers various learning spaces that encourage specific activities aligned with different learning objectives. The different spaces, such as the Investigate space, Create space, Present space, Interact space, Exchange space, and Develop space, cater to diverse activity types and promote active, meaningful and purposeful learning experiences for students.

The case school's adaptable and open layout, along with the mobility of furniture, facilitates intellectual and social interactions among students and teachers. The increased movement and social interactions create a sense of community and enhance engagement. Participants noted the formation of connections and knowledge sharing within this interactive environment.

Encouraging student-centred activities in flexible learning spaces positively impacts students' emotional, cognitive and behavioural engagement (Kariippanon et al., 2018). Students participating in such activities demonstrate increased emotional engagement because they exhibit higher interest, enjoyment and motivation levels. Their cognitive engagement improves through enhanced critical thinking skills, deeper understanding of concepts and improved problem-solving abilities. Students' behavioural engagement increases, characterised by active participation, collaboration and self-directed learning behaviours. The positive feedback from students regarding project-based activities indicates their high level of satisfaction and willingness to participate in similar activities in the future.

In conclusion, the design of learning spaces is crucial in promoting student engagement, collaboration and active learning. Students can become co-creators of their learning experiences by integrating technology and providing flexible environments. The different learning spaces in the FCL cater to diverse learning objectives and foster specific types of activities. The adaptable and open layout of the case school promotes social interactions and community building. Encouraging student-centred activities in flexible spaces enhances emotional, cognitive and behavioural engagement. The findings highlight the importance of creating

supportive learning environments that empower students and foster their active participation in the learning process.

CONCLUSION

The findings of this study emphasise the importance of flexible learning spaces for promoting active student engagement and learning. The FCL model, with its various spaces for investigation, creation, presentation, interaction, exchange and development, guides educators in facilitating active learning experiences. The design of learning spaces and the integration of technology play a significant role in supporting educational goals, content delivery and teaching processes. Teachers can personalise the learning process and encourage active student participation by adopting innovative teaching practices and incorporating pedagogical approaches, such as cooperative learning, game-based learning, and interactive practices. Interdisciplinary activities and collaborative opportunities enable students to express themselves and engage in collaborative learning.

Moreover, the study's findings underscore the significance of flexible learning spaces, as the Case School in Bayern exemplified, for fostering active student engagement and facilitating meaningful learning experiences. The successful implementation of the Future Classroom Lab model at this institution is a compelling illustration of how adaptable learning environments can positively impact education, offering valuable insights for educators and policymakers seeking to enhance student-centred pedagogies.

However, it is important to acknowledge the limitations of this study because it focused on a single institution and a limited number of students. Other researchers may need to consider different contexts and larger sample sizes for further research. Nevertheless, the findings of this study contribute to the understanding that the design of learning spaces and pedagogical practices are interconnected and mutually influential. Students' engagement in defining and solving design problems in schools is crucial for creating flexible and adaptable learning environments that meet learners' evolving needs and curriculum demands.

The comparison between traditional classrooms and the FCL model reveals significant differences in terms of furniture arrangement, integration of technology, emphasis on collaboration and personalised learning approaches. Traditional classrooms tend to have fixed furniture and limited technology use, while the FCL model prioritises flexibility, technology integration and collaborative learning experiences. The case school demonstrates the possibilities of modifying the learning environment according to students' needs and striking a balance between traditional and innovative approaches. Furthermore, the study reveals a dynamic continuum between flexible and fixed learning environments, as the Case School in Bayern exemplified. This nuanced perspective challenges binary thinking and underscores the importance of balancing students' evolving needs while respecting traditional pedagogical foundations. The Case School is a valuable illustration of how educational spaces can evolve along this continuum, demonstrating the possibilities of adapting learning environments to maximise innovation and pedagogical continuity.

The connection between learning spaces and pedagogies is crucial for enhancing the quality of education. The physical attributes of the learning environment can influence students' motivation, engagement, social-emotional development, cognitive skills, and academic achievement. A well-designed learning environment supports and enhances students' learning experiences and outcomes. The case school exemplifies how efficiently using spaces can positively impact student learning. However, it is essential to remember that the learning

environment goes beyond physical attributes. Regardless of the setting, whether under a tree or in a high-tech classroom, the focus should be creating opportunities for meaningful interactions, collaboration, critical thinking and social-emotional development. The learning environment should be adaptable, inclusive and supportive of diverse forms of interaction, fostering a sense of community and mutual respect among learners. Ultimately, the goal is to create a conducive learning environment that prioritises active engagement and student-centred learning from the beginning to the end of the learning process.

REFERENCES

Altun, M. (2012). The process of teaching and learning mathematics. In *Teaching mathematics.* Alfa Aktuel

Barkley, E. (2010). *Student engagement techniques: A handbook for college faculty*. Jossey-Bass.

Barrett, P., Treves, A., Shmis, T., Ambasz, D., & Ustinova, M. (2019). *The impact of school infrastructure on learning: A synthesis of the evidence*. International Development in Focus. World Bank. https://www.researchgate.net/publication/329450539_The_Impact_of_School_Infrastructure_on_Learning_A_Synthesis_of_the_Evidence

Bautz, T. (2018). Verstehen ohne Verständigung [Understanding without communication]. In *Lernen mit mobilen Endgeräten und das Verstummen der Interaktion [Learning with mobile devices and the silencing of interaction]*. Beltz Juventa.

Bell, A. (1993). Some experiments in diagnostic teaching, *Educational studies in mathematics, 24*(1), 11–137. https://doi.org/10.1007/BF01273297

Bonwell, C., & Eison, J. (1991). ASHE-ERIC Higher education Report (Vol. 1). *Active learning: Creat ing excitement in the classroom*. The George Washington University, School of Education and Human Development.

Cortese, C. G. (2005). The critical role of the built environment in improving student outcomes. *New Directions for Student Services, 107*(1), 59-73.

Crook, C. & Mitchell, G. (2012). Ambience in social learning: Student engagement with new designs for learning spaces, *Cambridge Journal of Education, 42*(2), 121–139. https://doi.org/10.1080/0305764X.2012.676627

Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2019). *Effective teacher professional development*. Learning Policy Institute. https://doi.org/10.54300/122.311

Davidsen, J., & Georgsen M. (2010). ICT as a tool for collaboration in the classroom: Challenges and lessons learned. *Designs for Learning*, *3*(1–2), 54–69. https://doi.org/10.16993/dfl.29

Deed, C. & Lesko, T. (2015) 'Unwalling' the classroom: Teacher reaction and adaptation, *Learning Environments Research*, *18,* 217–231. https://doi.org/10.1007/s10984-015-9181-6

Die Grundschule in Bayern. (2011). *Grundshule.* https://www.km.bayern.de/eltern/schularten/grundschule.html

Gardner, H., & Hatch, T. (1989). Educational implications of the theory of multiple intelligences. *Educational Researcher*, *18*(8), 4–10. https://doi.org/10.3102/0013189X01800800

European Schoolnet. (2016). Learning spaces. https://fcl.eun.org/learning-zones

European Schoolnet. (2021). Methodological framework for innovative classroom training. https://fcl.eun.org/documents/10180/6011835/English/59362b55-152e-436a-b417-b4f7fd06be18

Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H. & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *PNAS, 111*(23), 8410–8415. https://doi.org/10.1073/pnas.1319030111

Fitzsimon, M. (2014). Engaging students' learning through active learning. *Irish Journal of Academic Practice*, *3*(1), 9–18.

Goodyear, P., Carvalho, L., & Yeoman, P. (2021). Activity-centred analysis and design (ACAD): Core purposes, distinctive qualities and current developments. *Educational Technology Research and Development, 69*(2), 445–464. https://doi.org/10.1007/s11423-020-09926-7

Grimes, P., & Warschauer, M. (2008). Learning with laptops: A multi-method case study. *Journal of Educational Computing Research, 38*(3), 305–332.

Guo, J., & Woulfin, S. (2016). Twenty-first century creativity: An investigation of how the partnership for 21st century instructional framework reflects the principles of creativity, *Roeper Review, (38)*3, 153–161. https://doi.org/10.1080/02783193.2016.1183741

Habib, R. B. (2017). Students teaching students: An action research project incorporating active learning at language classroom. *Journal of Education and Human Development*, *6*(2), 182–199.

Hake, R. R. (1997). Interactive engagement versus traditional methods: A six-thousand-student survey of mechanics test data for introductory physics courses. *American Journal of Physics*, *66*(1), 64–74.

Higgins, S., Hall, E., Wall, K., Woolner, P., & McCaughey, C. (2005). *TheiImpact of school environments: A literature review*. The Centre for Learning and Teaching-School Education, Communication and Language Science. University of Newcastle. London: Design Council. https://www.researchgate.net/publication/232607630_The_Impact_of_School_Environments_A_Literature_Review

Horne-Martin, S. C. (2002). The classroom environment and its effects on the practice of teachers. *Journal of Environmental Psychology, 22*(1), 139–156. https://doi.org/10.1006/jevp.2001.0239

Kariippanon, K. E., Cliff, D. P., Lancaster, S. L., Okely, A. D., & Parrish, A. M. (2018). Perceived interplay between flexible learning spaces and teaching, learning and student wellbeing. *Learning Environments Research, 21*(3), 301–320. https://doi.org/10.1007/s10984-017-9254-9

Lakoff, G., & Johnson, M. (1999). *Philosophy in the flesh: The embodied mind and its challenge to western thought.* Basic Books.

Law, N., Li, L., Herrera, L.F., Chan, A., Pong, T. (2017). *A pattern language based learning design studio for an analytics informed inter-professional design community*. IxDA, 33, 92–112. http://www.mifav.uniroma2.it/inevent/events/idea2010/doc/33_5.pdf

Leseförderung – Freude am Lesen wecken! [Promoting reading – arousing the joy of reading]. (2022). https://www.lesefoerderung.de/

Li, Y. W. (2016). Transforming conventional teaching classroom to learner-centred teaching classroom using multimedia-mediated learning module. *International Journal of Information and Education Technology*, *6*(2), 105–112. https://doi.org/10.7763/IJIET.2016.V6.667

Lieberman, D. A. (2016). Designing the school environment to facilitate children's physical activity. *Canadian Journal of Public Health*, *107*(Suppl. 1), eS9-eS14.

Merchant, G. (2013). *Virtual literacies: Interactive spaces for children and young people*. New Routledge. https://doi.org/10.4324/9780203096468

Michael, J. (2006). Where is the evidence that active learning works? *Advances in Physiological Education, 30*, 159–167. https://doi.org/10.1152/advan.00053.2006

Ministry of National Education [MoNE]. (2018). *Turkish language and Turkish culture course Curriculum.* MoNE: Ankara. http://abdigm.meb.gov.tr/meb_iys_dosyalar/2018_11/30092340_TTKD_YYretim_ProgramY-Yngilizce.docx

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A new framework for teacher knowledge. *Teachers College Record, 108*(6), 1017–1054. https://doi.org/10.1111/j.1467-9620.2006.00684.x

Monahan, T. (2000). Built pedagogies and technological practices: Designing for participatory learning. In T. Cherkasky, J. Greenbaum, P. Mambrey, & J.K. Pors (Eds.), *Proceedings of the participatory design conference,* (pp. 2–3). CPSR Publications. http://torinmonahan.com/papers/pdc2000.pdf

Monahan, T. (2002). Flexible space and built pedagogy: Emerging IT embodiments. *Inventio, 4*(1), 1–19.

National Research Council. (2000). *Inquiry and the national science education standards: A guide for teaching and learning*. National Academies Press.

Niesel, R., & Griebel, W. (2007). Enhancing the competence of transition systems through co-construction. In *Informing transitions in the early years*, (pp. 21–32). Open University Press.

Oblinger, D. (2006). *Learning spaces*. Louisville, CO Educause. https://www.educause.edu/ir/library/pdf/pub7102.Pdf

Nations. (2008). *Germany: Bayern.* https://www.nationsonline.org/oneworld/Germany/bayern.htm

Prince, M. (2004). Does active learning work? A review of the research. *Journal of Engineering Education, 93,* 223–232. https://doi.org/10.1002/j.2168-9830.2004.tb00809.x

Rands, M. L., & Gansemer-Topf, A. M. (2017). The room itself is active: How classroom design impacts student engagement. *Journal of Learning Spaces, 6*(1), 9–16. 21586195.

Ratcliffe, M., & Millar, R. (2009). Teaching for understanding of science in context: Evidence from the pilot trials of the Twenty First Century Science courses, *Journal of Research in Science Teaching, 46*(1), 945–959. https://doi.org/10.1002/tea.20340

Saralar-Aras, İ. (2022). RETA model for mathematics teaching: From the United Kingdom to Turkey. In Kartal, O., Popovic, G., & Morrissey, S. (Eds.), *Global perspectives and practices for reform-based mathematics reaching,* (pp. 42–78). IGI Global.

Saralar-Aras, İ. (2021). Esnek Öğrenme Alanlarında Aktif Öğrenme [Active Learning in Flexible Learning Zones]. In S. H. Eral & İ. Saralar-Aras (Eds.), *Kuramdan Uygulamaya Geleceğin Sınıfını Tasarlama [Designing Future Classrooms from Theory to Practice]* (pp.32–38). Milli Eğitim Bakanlığı Yenilik ve Eğitim Teknolojileri Genel Müdürlüğü, Ankara.

Schweisfurtha, M. (2013). Learner-centred education in international perspective. *Journal of International and Comparative Education, 2(1)*, 1–8. https://jice.um.edu.my/article/view/2553/769

Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher, 15*(2), 4–14. https://www.jstor.org/stable/1175860?origin=JSTOR-pdf

Spindler, G., & Spindler, L. (1987). Cultural dialogue and schooling in Schoenhausen and Roseville: A comparative analysis. *Anthropology & Education Quarterly*, *18*(1), 3–16. https://www.jstor.org/stable/3216336

Wagner, M. (2009). 7 skills students need for their future. https://www.youtube.com/watch?v=NS2PqTTxFFc&t=115s

Yeşil, L. B. (2020). Shaping school culture with technology: Impact of being an eTwinning school on its climate. In M. Durnali (Ed.), *Utilizing technology, knowledge, and smart systems in educational administration and leadership* (pp.259–278). IGI Global. https://doi.org/10.4018/978-1-7998-1408-5.ch014

Yin, R. K. (2014). *Case study research design and methods* (5th ed.). Thousand Oaks, Sage. https://evaluationcanada.ca/system/files/cjpe-entries/30-1-108.pdf

---

license are available at. The IEJ: CP is published by the Oceania Comparative and International Education Society (formerly ANZCIES) and Sydney Open Access Journals at the University of Sydney. Articles are indexed in ERIC, Scimago Journal (SJR)Ranking / SCOPUS. The IEJ:CP is a member of the Free Journal Network: Join the IEJ: CP and OCIES Facebook community at Oceania Comparative and International Education Society, and Twitter: @OceaniaCIES

The International Education Journal: Comparative Perspectives Vol. 23, No 1, 2024
http://iejcomparative.org

Challenges and approaches for Agenda 2030: Perspectives of persons with disabilities in a small island context

Sheena Moosa
Te Manawa Teki Trauma Research Centre, New Zealand: moosa.sheena@gmail.com
Hawwa Shiuna Musthafa
University Canada West, Canada: hawwa.musthafa@ucanwest.ca
Aishath Hassan
The Maldives National University, Maldives: aishath.h@mnu.edu.mv

The Convention on the Rights of Persons with Disabilities *was adopted with the intent of bringing about a paradigm shift in the way the general population perceives disability. The paper reports the findings of a qualitative inquiry that used a phenomenological approach to discuss the social grievances of persons with disabilities from a human rights-based perspective and in the context of the middle-income small island nation of The Maldives. Fifteen participants with disabilities, as well as carers and parents of children with disabilities, took part in the study. The findings indicated that the environment is physically disabling, and opportunities for participation, including access to quality education, and social protection for people with disabilities, are limited. The findings speak to the need for a shift in the social view that persons with disabilities are dependants to enabling human diversity and facilitating the capabilities of persons with disability, their dignity and meaningful engagement in society. The paper concludes there is a need to explore further approaches to encouraging a shift in society and using a human rights approach to social protection to make progress towards the* Leave No One Behind Agenda of 2030.

Keywords: Disabilities, Agenda 2030, Sustainable Developmental Goals, Inclusion, Human Rights Approach, Social Protection, Maldives

INTRODUCTION

Agenda 2030 of Sustainable Development Goals (SDGs) calls for an inclusive approach to development with a Leave No One Behind (LNOB) emphasis, particularly focusing on vulnerable groups, including Persons with Disabilities (PwDs) (United Nations Department of Economic and Social Affairs [UNDESA], 2019). The SDGs embody human rights principles as realised in various international conventions, including the *Convention on the Rights of Persons with Disabilities* (*CRPD*). Brolan (2016) notes that PwDs need to vigilantly monitor the extent of their inclusion as countries implement the development agenda. This paper explores the grievances of PwDs living in The Maldives in the context of the country's attempts to fulfil its obligations to *CRPD* and the LNOB agenda of the SDGs.

Conceptualising disabilities

Approaches to studying PwDs have evolved from medical to social and, recently, cultural and human rights models (Degener, 2016; Marks, 1997). While the medical model viewed disabilities solely as a health condition, the social model conceptualises disability as an outcome of society's perceptions and behaviour to adapt to different needs and provide inclusion opportunities (Hashemi et al., 2017). Lang (2001) noted that the social model is a "complex construction that intersects multiple approaches" to understand the notion of disablement. Retief and Letšosa (2018) suggested that the social model significantly shaped social policy in many countries. Devlieger (2005) proposed expanding the social model, suggesting that the community's identity, culture, and worldviews are integral to understanding disabilities. Brewer (2012) constructed an identity model that conceptualised disability as allowing for establishing an identity that emphasises affirmation, confidence and pride among PwDs.

Mitra (2006) suggested that Sen's (1985) capability approach is best suited to exploring the concept of disability, where the focus is on what PwDs can do, thereby expanding the horizons of the social model. A more recent construction of disability that closely ties in with the social model is the human rights approach. Degener (2016) wrote that the social model is constructed through a lens of exclusion and oppression associated with a disability and proposed the Human Rights Based Approach (HRBA) with human dignity at the core of conceptualising disabilities. The HRBA is a paradigm shift to a moral values worldview of "disabilities as part of human diversity" (Degener, 2016). Such a conceptualisation paves the way for advocating for policy action in countries to protect rights as stipulated in the *CRPD*.

In this study, we adopt the Human-Rights Based Framework (HRBF) outlined by Sepúlveda et al. (2012), which identifies 13 principles impacting the social protection of PwDs. Our study focuses on the eight principles most closely aligned with our findings, comprising the inclusion of vulnerable groups, the universality of protection, dignity and autonomy, comprehensive and coordinated policies, accountability and effective remedies, adequacy of benefits, standards for accessibility, adaptability, acceptability, and meaningful, effective participation. By focusing on these principles, we aimed to provide a targeted exploration closely aligned with the core aspects of our research findings.

Disability and inclusive development

CRPD (article 32) identified the need to make development inclusive and requires the cooperation of development partners to achieve this cause (Grech & Soldatic, 2016). Albert and Harrison (2006) argued that associating poverty with disability limits the optimum examination of the drivers that exclude PwDs. They argued that PwDs should instead be viewed in terms of enhancing their contribution to development through social participation. Grech & Soldatic (2016) support this view, criticising the generalisation of disability in the poverty and development discourse.

As the debate on poverty and disability unfolded, the conceptualisation of development through a human rights approach has gained momentum for inclusive development consistent with the HRBA to disability. It offers a platform for social transformation and economic development that paves the way for enhancing human dignity for PwDs (Albert, 2006). However, Katsui et al. (2014) observed that the HRBA to development also suffers from excluding PwDs. Grech and Soldatic (2016) support this observation, noting that while there is considerable rhetoric on the HRBA to development by governments and development partners, there is negligible inclusion of PwDs as development subjects.

Research context

The research was conducted in the small island country of Maldives, a middle-income country with a population of 568,362 (National Bureau of Statistics, 2021). The Maldives enjoyed steady growth in its economy, with a GDP growth rate of 7.8% in July 2019 and 8.7% in January 2020; however, with the onset of COVID-19 pandemic, its economy contracted to 5.9% in the first quarter of 2020 (National Bureau of Statistics, 2021). The COVID-19 pandemic, which emerged in 2019 in China, impacted countries worldwide as they grappled with the numerous challenges of protecting their citizens and responding to the consequences of multiple lockdowns of the global economy and their education systems (Fikuree et al., 2021). Despite economic development in Maldives, inequalities continue to exist. Twenty-eight percent of Maldivians are multidimensionally poor, with 13% living in the capital city Male' and 87% on other islands in the atolls (National Bureau of Statistics, United Nations Children's Fund, Oxford Poverty and Human Development Initiative, 2019).

Maldives ratified the *CRDP* on 05 April 2010, and the *National Law Act 08/2010* came into force on 08 July 2010 (Presidents Office, 2010), showcasing political commitment to protect the rights of PwDs. The legislation sets out government and state mandates to promote, protect, and ensure full and equal enjoyment of all human rights and fundamental freedoms for all PwDs and to promote respect for their inherent dignity.

PwDs have increased from 6.8% of the population in 2017 (Banks et al., 2020) to 9.2% in 2019 (National Bureau of Statistics, 2020) and is expected to further increase with the projected increase in elderly population in the Maldives unless there are concrete policies and interventions to reduce disabilities across the country. Disability prevalence reported in 2019 is higher in the atolls (10.8%) compared to Male', the capital city of the Maldives (7.5%), with increases in the prevalence of disability with age, from 4.2% in the 18-35 years age group (4.7% among women 3.6% among men) to 11.7% in 35-64 age group (14.6% among women and 8.2% among men) to 45.4% in 65 and older age groups (50.3% among women and 40.5% among men). Note that the gender difference exists in all adult age groups (National Bureau of Statistics, 2020).

Data from other low- and middle-income countries or small island developing states provides more meaning to the Maldives statistics. The disability prevalence rate in Fiji is approximately 13.7% (UNESCAP, 2018); in Mauritius, it is 3.75% (UN DESA, 2019), and in Seychelles it is 4.24% (Esparon, 2023). Comparing Maldives statistics on disability with larger low- and middle-income countries like India or Indonesia further highlights the unique challenges faced by smaller island states. The Indian Census 2011 showed that the disability prevalence rate in India is approximately 2.2% (Office of the Chief Commissioner for Persons with Disabilities, 2021), while in Indonesia, it is estimated to be around 9% (Gunawan & Rezki, 2022). In high-income countries like Australia, the disability prevalence rate is approximately 17.7% (Australian Bureau of Statistics, 2018).

Despite the Maldives' commitment to CRDP and efforts to provide social protection, the population is concerned with the lack of access to education for PwDs and discrimination against them (HRCM, 2020). After a decade of state commitment to *CRPD* and five years after pledging to implement Agenda 2030, the disability prevalence, with its differences by gender, location and age, points to the intersecting vulnerabilities of PwDs. In our study, we uncover significant challenges within the education system that directly impact the capabilities and opportunities for PwDs in our small island context. These challenges include limited access to basic education, inadequate support for special education needs and a lack of vocational training opportunities.

Conceptual framework

We conceptualised PwDs broadly in this research, taking an HRBA approach that recognises disabilities as part of human diversity (Degener, 2016) and the capabilities of PwDs when the principles of human rights are considered in applying social protection for vulnerable population groups. The HRBF outlined by Sepúlveda et al. (2012) provided a comprehensive basis for identifying the intersecting vulnerabilities of PwDs (Sepúlveda, 2017). Figure 1 presents the framework with 13 principles that impact the social protection of PwDs.

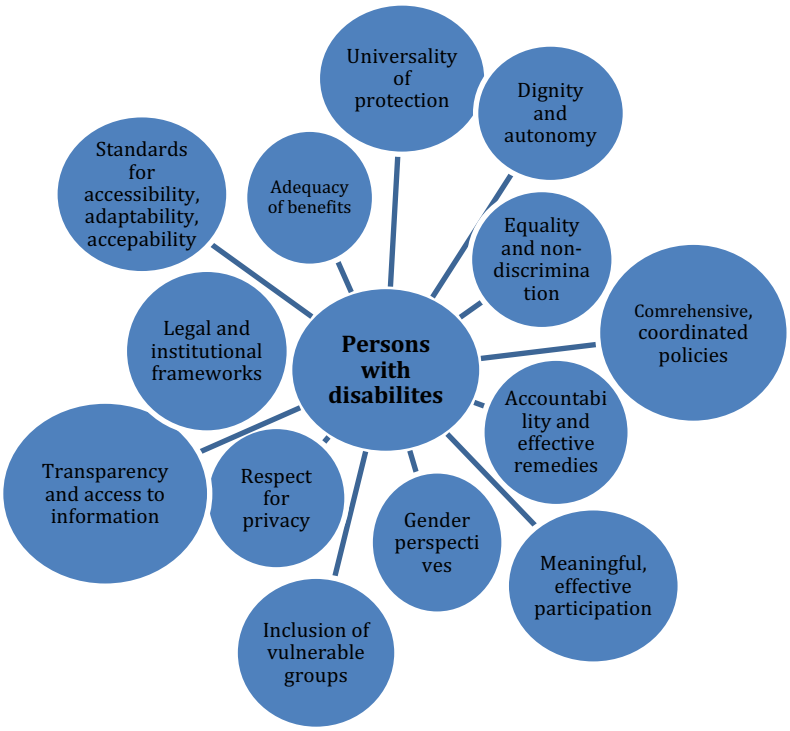


Figure 1: Human rights-based framework for social protection of persons with disability (Adapted from Sepúlveda, 2015; United Nations Research Institute for Social Development, 2016)

METHODOLOGY

This paper aims to explore the lived realities of PwDs from an HRBA perspective in context and explore the research question: How can a human rights-based approach effectively address the social grievances and limited opportunities faced by PwDs in the Maldives, particularly in terms of education and social protection, to advance the LNOB Agenda 2030?

As a single-nation case study, our research explored the unique experiences of PwDs in the Maldives. However, it is important to recognise that our findings' implications extend beyond our country's borders. By examining the social grievances and limited opportunities faced by PwDs through an HRBA, our study offers valuable insights that resonate with challenges encountered by PwDs in diverse socio-cultural contexts worldwide. Thus, while rooted in the specific context of the Maldives, our findings contribute to a broader understanding of how to advance the inclusion and empowerment of PwDs on a global scale.

We conducted focus group discussions and in-depth interviews with PwDs and caregivers of Children with Disabilities (CwD) to record lived experiences and map their socio-economic grievances.

We stratified sampling by geographical location to capture the different living circumstances of residents in the islands of Maldives with large and small populations. We used purposive sampling at all stages, identifying participants through social networks and the snowballing method. Geographically, we selected four densely populated administrative regions: Male' (Kaafu Atoll), Addu (Seenu Atoll), Gan (Laamu Atoll) and Kulhudhuffushi (Haa Dhaalu Atoll). After conducting a pilot study, stakeholder consultations revealed that the grievances of small islands may differ from those of larger islands. Accordingly, to reveal the grievances of less populous islands, we included two islands with less than 500 people: Rasgatheem (Raa Atoll) and Madifushi (Thaa Atoll). Table 1 summarises the number of participants from each area.

Table 1 - Responses from each island across the islands of the Maldives.

Participant location	Number of participants
Addu (Seenu Atoll)	4
Kulhuduffushi (Haa Dhaalu Atoll)	2
Gan (Laamu Atoll)	2
Male' (Kaafu Atoll)	4
Madifushi (Thaa Atoll)	1
Rasgatheem (Raa Atoll)	2
Total	**15**

We held the focus groups and interviews using the online platform Google Meet because of the pandemic-related social and movement restrictions during data collection. We contacted participants by phone, providing them with information about the study and obtaining verbal consent. We then sent informed consent forms digitally to their mobile phones using Viber or WhatsApp and received signed copies as digital images. We included participants ranging from 2 – 4 for each focus group. The final sample size was 15 participants (12 participants of four focus groups and three in-depth interviews).

The participants came from different socio-economic backgrounds and included PwDs who were unemployed, engaged in civil society organisations focused on disabilities, worked in public service media, mosque imams and higher education students. As caregivers, there were mothers, fathers and sisters who looked after children with physical and social disabilities, such as Autism and learning disabilities, and a nurse caregiver of an elderly mother with disabilities.

We asked questions to guide the discussions and interviews, focussing on common grievances and expectations from the society, government and other institutions to address these grievances. We recorded the interviews and transcribed and translated them for analysis. We thematically analysed the data (Braun & Clarke, 2006), starting with inductive open coding, then clustering the codes through repeated reassignment of data transcripts, continuous comparison and reflexive analysis to generate subthemes. (Braun & Clarke 2019). We used an intersectional lens and a human rights perspective to generate four broad themes that intersect eight areas of HRBF for the social protection of the PwDs.

FINDINGS

The main themes of grievances emerging from the lived experiences of PwDs were: (1) disabling physical environment, (2) exclusion and/or limited social participation, (3) limited opportunities for improving capabilities, and (4) inadequate social protection and safety.

Disabling physical environment

Regarding the environment, the grievances of PwDs and caregivers of CwDs include barriers to mobility and obtaining services, including using roads, public buildings, airports and recreational spaces such as parks and beaches. In addition, study participants pointed to the inaccessibility of water, sanitation and hygiene facilities, such as toilets and handwashing stations, to persons with different disabilities.

> One parent went to ministry to submit an application form and needed to get the child (with Autism), to toilet, but the reception staff had to take approval from someone inside to allow it. But parent couldn't stay that long and had to leave and get the child to toilet somewhere else and come back again.
>
> Although some government places that provide services do (have access), but not social spaces like park, places of entertainment, and in some island community centres, there are no opportunities for people like us or children with disabilities.
>
> I was affiliated to xx campus in 2015 back then, it wasn't there available how a disabled person can use a toilet in the campus. I was there for three years, from diploma to degree and within these three years also this issue of how a person in a wheelchair can use a toilet wasn't catered for. So, I have finished my studies without using toilet for three years, so this is how things are.
>
> Travelling or when he is admitted in the hospital and then he has to be cleaned the toilet this (sic) facility is not available for children with disabilities. It's difficult to clean these children even in hospitals.

The PwDs and their caregivers who participated in the study noted that, although there is some attempt to address grievances, it is not done holistically from the perspective of a person with a disability. Increasing accessibility is one of the key provisions of the *Maldives Disability Act* and the *Convention on Disability* (Presidents Office, 2010). Removing these barriers is fundamental to increasing the inclusion and participation of PwDs in society. Despite regulation on minimum standards for accessibility that mandates that existing buildings be brought up to standards and that new buildings be made accessible as per minimum standards, this study found a number of gaps in implementation, requiring greater attention from policymakers, businesses and civil society to ensure these minimum standards (UNCRPD, 2019).

Exclusion and/or limited social participation

The second theme that emerged was the exclusion and limited social participation of PwDs in society. The study found that families and community still viewed PwDs as dependents and did not know or perceive the importance of increasing the independence and autonomy of PwDs. The available literature on community engagement of PwDs in Maldives indicates that only a small fraction (5%) of PwDs engage in the community (Ali, 2002). The participants alluded to the need for PwDs to be imparted with life skills for self-care and social interaction to enable them to function and engage with their families and community.

> Always the child (with disabilities) is viewed as someone they have to take care of their whole life and they are obliged to look after the disabled child forever. This is the thinking parents of a disabled child has, and as long as we are alive, we will look after the disabled child, this is the mentality parents have. But they don't think about how this child will survive once they pass away, and I think this will only happen if we give them this kind of awareness, we need to aware the society and parents about this.

Although the participants acknowledged some improvement in the perception of the communities, such as reduced stigma, there continues to be exclusion. Some examples of exclusion cited include not providing opportunities to help out in the events within the family, not giving opportunities in recreation and sport, and thinking that they will not be able to and will find it too hard to do so. Participants noted that these mindsets prevent them from developing the skills and capabilities for independent functioning as they grow.

> Even though we are blind, we still have physical strength, we also like to lift, for example, heavy things or change arrangements of the house or even go for picnics, let's say to unload or load things to a pickup, to go for a picnic. So personally, to lift something's heavy and the fun that comes from lifting, this is something I would personally like to do, but they will not give me these kinds of chance.

> They will tell me why you don't wait a bit at home. They don't make me part of the fun. What will you do if you go there (picnic) and you will just have to stand there?

> When you say it's a child with autism, they label the child as a child who cannot sit tight or is hyper but not how we can contribute to help the child, what we can do to include the child, how happy will the child be if we take the child someplace and play with the child, it is not there, these different aspects do not come forth in awareness.

The participants advocated for the need to educate and support families and the community to realise the importance of inclusion in its fullest sense and show how they can include PwDs in community activities and events rather than keeping them on the sidelines as observers. While some interventions have provided skills for increased participation, such as sign language training, awareness sessions for employers and awards to encourage skills of PwDs, the efforts are inadequate and disjoined to make a meaningful impact ((MGFM, 2018). There is a need to develop a comprehensive, coordinated effort at national and local governance levels to increase awareness of the inclusion of PwDs in social activities and interventions in consultation with PwDs and their caregivers to understand better their needs and perception of inclusion for meaningful social engagement. For instance, re-signifying inclusive special education is an important move that Koloto (2021) shows can make policies more culturally appropriate and engage communities for whom current approaches have limited purchase.

Limited opportunities for improving capabilities such as education and skills

The PwDs and the caregivers of children with disabilities pointed out that there are limited to no opportunities for basic education, skills training for work and productivity.

The participants noted that school systems are not adequately prepared to address the special education needs of children with disabilities (CwDs) to provide them with the knowledge and skills to enable them to have meaningful engagement in society and be productive citizens. They cited that the opportunity for schooling for CwDs is only available in the Male' city area and at selected schools in the atolls, which are also not appropriately staffed with trained teachers who understand the specific needs of children with different types of disabilities, particularly those with the behavioural disabilities of Autism Spectrum of Disorders.

> I did not get any support from the school management, there were complaints from parents of other children in the class, that their children were not getting the attention because my child is with special needs.
>
> I have to say that the school system is a bit better than before. There are specific teachers also for them now, but the additional facilities they need is not available, it's limited; it is improved to a very small extent but not much.

A major criticism was on the policy of inclusive education in Maldives, with the participants noting that there is a lack of investment in teachers and resources to implement the policy, citing gaps in teacher capacities and the absence of technology-enhanced assistive devices that can be used for teaching children with special education needs (Ministry of Education, Maldives, 2021).

Considering the narratives regarding the lack of resources to implement the inclusive education policy, it is also essential to explore deeper the challenges surrounding the policy's implementation within the Ministry of Education (MOE) of the Maldives. The focus should be on examining why a severe lack of resources is allocated, identifying potential gaps in funding or support, and exploring avenues for improvement. The provision of learning facilities, such as Braille for the blind, alternative scripts and training teachers and professionals with the capability to cater to these individuals in both government-run schools and private schools is also problematic and easier said than done (EFA Country Report, 2015).

Furthermore, study participants criticised the school management and school community for not being tolerant of the needs of CwDs in the school system. They were accused of labelling these children as disruptive, resulting in the exclusion of the CwDs from their right to education.

> What happens is when teachers finish their teacher training, their attitudes and they not being aware of how to attend to children with disabilities. Teachers are not comfortable to face children with disabilities. So, I feel that when they conduct teacher education, their curriculum should include (how to attend to children with disabilities) for a reasonable time.
>
> If we talk about blind children, (school name) school in Maldives only provides education using braille, this service is not there for any blind children anywhere else in the country. Even when they do use braille, it is also not done appropriately.

Participants noted similar grievances about opportunities for vocational skill development and higher education, which limits their capabilities to engage in the labour force and productive work. Participants listed the significant limitation they face in terms of their lack of opportunities to develop English literacy skills, ultimately restricting their job prospects. Furthermore, the participants noted that employers do not perceive that PwDs can do work.

> Everything a normal child can do in front of a computer; a blind child can also do in 90% capacity. So, these are also jobs (they can do as well), so we need to create more job opportunities, strengthen education, strengthen the existing laws, and things would work out for better then.
>
> English has become important, for example, in a resort reception, they can work or if we look at the situation of doctors who is speaking in English, we are not able to go and talk to doctor we have to ask someone else to convey or communicate with the doctor on our behalf because we don't know English so we can't communicate our problems to doctors the best way and also same issue talking to a teacher or even a guest who comes to the island.

Strindlund et al. (2019) noted that there are different views of employability, namely as constrained by disability, independent of disability and conditional, which are characterised through their association with trust, contribution and support. Furthermore, participants noted that there is no option for vocational training for PwDs, and even for those who can gain entry into higher education are not catered to their special education needs (with assistive technologies) at colleges and universities in the country. Like schools, participants recalled their experiences at colleges and universities and noted that higher educational institutes are not inclusive. In particular, lecturers do not understand technologies that can be used to address special education needs of university students and that the modes of delivery do not take into account the needs of PwDs.

> One thing for children who are growing, we need to make it (education infrastructure) more accessible to them so we are not talking about making a small ramp in front of the door but accessible means that all that is required in order for them to get an education that is available to them within the school or even universities.
>
> One way is for the government to provide audio lessons for all that in the curriculum or produce braille textbooks and give to them.

While higher education provided at government-funded universities is free for all citizens, the MoE, Maldives, in January 2021, announced that the higher education loan scheme would be revised to provide special provision to PwDs, thereby creating opportunities for them to pursue higher education (Higher Education Ministry sets aside special loans for persons with disabilities, 2021). However, although the recently enacted law on higher education (7/2021) emphasises the need for equality and non-discrimination, it does not have specific provisions to guarantee access to higher education for PwDs (Presidents Office, 2021).

Inadequate social protection and safety

Caregivers of CwDs pointed out that having a CwD significantly raises the cost of living. In essence, a person with disabilities should be considered equivalent to two individuals because the caregiver often has to dedicate themselves full time to the care of the CwDs, leaving no opportunity to engage in income-generating activities. Hence, participants expressed concern with sadness and anger that the disability allowance is grossly inadequate.

> Now we have to manage with the income of my husband only. I am not able to earn a big income staying home, with three children at home. Having a CwD narrows opportunity, especially for mothers, to earn income.
>
> The treatment and therapy of the CwDs and school related expenses are also quite big. The disability allowance of MVR 2000 (US$129.32) is very less compared to expenses needed for a CwD.

Increased expense is one of the major grievances since a diagnosis is a prerequisite for eligibility for social protection benefits or cover for assistive devices. Participants noted that this is an intervention several governments have pledged to provide but have not produced any sustained outcomes. Participants complained of limited opportunities for assessment even in the Male' city area and the hardship faced by people living on atolls to get the needed health assessment. Participants noted the non-viability of services for disability assessment not only delays care for CwDs but also results in the worsening of disability and loss of valuable time to improve the function of children and their capabilities for self-care and interactions with other people, thus making them more dependent.

> For example, the therapies that we need, the medicine or therapies for disabled people are not available in the island itself so we have to travel somewhere else and try to get these facilities, and this is also difficult because we have to travel. So, we don't have an additional way of earning money, and this becomes a very big challenging for us too.

> Getting disability allowance for the children is a very difficult process. As I said earlier, we have to get the specialist's report. And cannot get the allowance without the report. That is very difficult when the report is not there.

In addition, participants noted that due to the complicated procedures set out to be able to register for disability benefits, many PwDs, including children, do not receive any disability benefits or support. This statement is corroborated by the 2917-2019 disability study that showed only 25.5% of the people with disabilities receive the benefit, and even among those who received the benefit, no impact on the quality of life was observed (Hameed et al., 2020). This evidence further points to the inadequacy and inaccessibility of the current social protection scheme for PwDs.

Another aspect of social protection highlighted was the abuse and exploitation of PwDs, particularly children with disabilities. Participants raised concern and told of the experiences of survivor CwDs who had faced sexual abuse while at home from members close to the family and neighbours who are aware of the child's situation.

> PwDs, particularly children don't usually go out in the society. They are not aware of the different types of people, the approaches they use, and some people in the neighbourhood use this lack of knowledge to their advantage, and the PwDs falls victim to sexual abuse.

It is estimated as much as 10% of the PwDs have been subjected to various forms of abuse, and 40 to 60% of girls or women with disabilities have been subjected to sexual abuse (HRCM, 2020). Furthermore, study participants highlighted that several political actors exploit CwDs and their current circumstances to advance their own political agendas. This manipulation results in negative consequences for both PwDs and their caregivers when they express their concerns through platforms like social media or engage in peaceful protests, leading to backlash and conflict.

> Politicians use the CwDs as a tool for their campaigns. We believe this is wrong. Every time they say, in our government, these children will not be neglected, that these services will be provided, but there's no mechanism to provide services from one place for PwDs.

Despite the claims of modern democracy in the Maldives, such comments reflect a prevalence of paternalism in the society and public institutions. Clifton (2020), discussing power imbalance concerning PwDs, notes that without substantive changes to personal and cultural attitudes and values, PwDs remain victims to hierarchical power that makes them vulnerable to direct and systemic violence, abuse, neglect and exploitation throughout their lives. As such, participants expressed the need to conduct widespread awareness campaigns focussing on policymakers and communities to prevent such exploitation, sincerely include PwDs, and improve their meaningful engagement in society.

The participants used multiple methods to express their grievances, all of which were peaceful means. The dominant methods employed are discussions and dialogue. They discuss with family and peer groups (caregiver groups), as well as civil society organisations. The participants use mobile platforms and calls to discuss their grievances. In addition to these groups, the participants noted they visit relevant public institutions and meet public officials to

express their grievances and to find solutions to their collective needs. Younger PwDs use social media as their main modality for expressing their grievances.

The Male' focus group participants described the backlash they experienced when they expressed major concerns on public social media platforms and when a peaceful protest was planned in the form of warnings and threats of further delay in implementing the policies to protect PwDs.

> We even arranged a protest, but one Member of Parliament in our group knew and made us stop it. We were warned that if we do things like those things will not be made easy, that there is a nicer way.

Discussion & Conclusions

The themes from the findings intersect with several issues identified in the human rights-based framework on the social protection of PwDs, as shown in Figure 2.

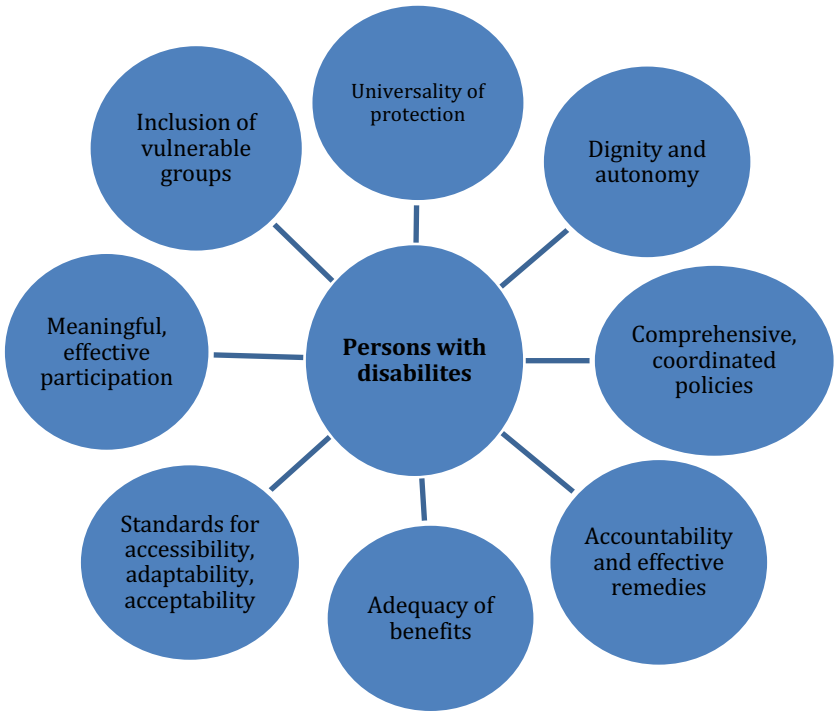


Figure 2: The main areas of the human rights-based framework relating to the PwD's grievances themes

The grievances of the PwDs in the Maldives are regarding protecting their rights. There is considerable emphasis on the government and duty bearers to implement interventions for the protection of the PwDs as required by the *Disability Act of the Maldives* and the obligations of *CRPD*.

Creating a physically enabling environment that provides opportunities for meaningful and effective participation, dignity, and autonomy comes across strongly from the participants' narratives. Consistent with the findings, studies in other small island countries indicate that community perceptions towards the capabilities of PwDs are negative (Hopf & McLeod, 2015). Jones & Serieux-Lubin (2018) argued that recognising that PwDs have the same rights to education, health, work and employment, shelter, and participation in social activities is fundamental to shifting the worldview towards including persons and their capabilities. The

findings indicated the immediate need to bring about the paradigm shift in how disability is viewed by people, within families, society and duty bearers to create such an enabling environment, as articulated in Article 8 of *CRPD* and recognised as fundamental to realising the capabilities of PwDs and their dignity. It is imperative to recognise the intersectionality of human rights to bring about the paradigm shift and recognise those rights through supportive relations (Skarstad, 2018).

Fulfilling the right to health is a basic element needing the attention of society's duty bearers and their partners towards building the capabilities of children with disabilities. The findings indicate the gross inadequacies that not only deprive CwDs of the best possible developmental potential in terms of motor skills, language and social development but also cause secondary problems (Patel et al., 2018). Recent studies suggest the need for policy reorientation and management of health care delivery reform towards integrating occupational therapy and physiotherapy services in primary care to reduce referral to secondary care of PwDs (Brooks et al., 2021).

Moreover, there appears to be a gap in the provision of assistive devices to enhance the capabilities of PwDs. The state report on *CRDP* notes the absence of a comprehensive register of PwDs, which hinders the fulfilment of state obligations (UNCRPD, 2019). Tangcharoensathien et al. (2018) noted that demand for assistive devices is low in many countries because of limited awareness among PwDs, their caregivers and service providers; product designs are insufficiently informed by users' and caregivers' preferences and environments; there is low production quality; cost are high; and there is a scarcity of trained personnel to service the products. Hence, there is a critical need to increase awareness among PwDs, health and social care providers, and beneficiaries on the options for making appropriate assistive devices in the country and increasing accessibility of the products to PwDs to enhance their functioning and capabilities.

Considering the narratives regarding the lack of resources to implement the inclusive education policy, it is essential to explore the challenges surrounding the policy's implementation within the MOE of the Maldives. Fulfilling the right to education of PwDs is necessary to lay the foundation of knowledge and basic life skills that open opportunities and enable self-determination. Studies in the Maldives show that school leaders need to provide more pedagogical support to teachers to help children with disabilities; facilitate a physically safe climate for all the students; and provide opportunities for teachers to acquire more knowledge and skills for teaching students with special education needs in mainstream classes (Shareefa, 2016). Other researchers noted the complexity of developing inclusive education and the changes required in societal views, education policymakers, schools and classrooms to achieve the goal of inclusive education in the school system (Naseer, 2012). Similar findings are reported from other small island countries in the Caribbean and the Pacific that note the gaps in the capacity of teachers and materials to support teaching and learning for CwDs (Pillay et al., 2015). Katsui et al. (2014) noted that a human rights framework needs to be applied to education policy choices, resource allocations and management decision making to accelerate progress towards inclusive education.

As already argued, the current system of social protection schemes in Maldives does not reach most PwDs (Hameed et al., 2021). Consistent with the findings of other similar research, low access to health and therapeutic services places families with a CwD at risk of falling into poverty, making them multidimensionally vulnerable because they must find alternative solutions (Mitra et al., 2017).

The study findings indicate that the community is losing trust in government institutions and political actors because they do not fulfil their obligations as duty bearers and use the PwDs issue only as a political tool to win votes, making false promises. However, the issue of holding duty-bearers accountable is complex and spans across multiple levels of public institutions. Doody (2009) suggests this means "keeping people accountable at all levels in services, from rights holders up through different levels of duty bearers and ultimately to those responsible for funding and commissioning services" (p. 297).

The intersections across these social aspects make it clear that there is systematic neglect of the rights of PwDs that needs to be addressed comprehensively in a coordinated manner to recognise the impact of gaps in one human rights domain on another. Fundamental to progress in this direction requires a shift in how society and policymakers see PwDs as part of human diversity and a segment of the population with the same rights as able persons in society. The importance of creating greater awareness among policymakers, businesses, families and community about the need for the inclusion of PwDs and their protection and meaningful engagement in society is underscored as fundamental to progress towards fulfilment of Agenda 2030. This includes engagement of PwDs in policy formulation and program development at national and local levels to enable evidence-based interventions that address the needs of PwDs and enable the development of their capabilities to function optimally as productive citizens of the country.

This article explored grievances and the human rights of PwDs from the perspective of different types of disabilities. There is a need to explore these aspects further by including approaches that have successfully shifted the moral view towards PwDs from being seen as dependents to acknowledging human diversity. This includes exploring awareness and behaviour change communication and adopting a human rights approach in policy planning and programming social protection programmes for PwDs.

The grievances of PwDs lie in the non-fulfilment of their human rights. Hence, a human rights-based approach to the social protection of PwDs is needed to progress in developing their capabilities for meaningful social engagement and contribute to development. Raising awareness among society, policymakers and development partners regarding this perspective is crucial to fostering this shift and advancing towards the 'Leave No One Behind Agenda' goal by 2030.

This study contributes to the existing knowledge base by providing insights into the challenges faced by PwDs in the Maldives, particularly in the context of inclusive education and social protection. By highlighting the gaps in policy implementation and the need for greater attention to the rights of PwDs, this research adds to the literature on disability rights and social inclusion in small island developing states. Additionally, the comparative analysis with studies from similar contexts provides valuable lessons and perspectives for policymakers and practitioners working towards improving the lives of PwDs in the Maldives and beyond.

In conclusion, our study sheds light on the multifaceted challenges faced by PwDs in the Maldives, offering insights into the intersectionality of human rights, social protection and inclusion efforts. Through an exploration of PwDs' grievances and the implementation of a human rights-based framework, we highlighted the urgent need for comprehensive policy interventions and societal shifts to address systemic barriers to inclusion and empowerment.

PwDs' and caregivers' narratives emphasised the pressing need for increased accessibility, both in physical infrastructure and social services, to ensure meaningful participation and autonomy. Furthermore, our findings highlighted gaps in education and skills development opportunities,

emphasising the importance of targeted interventions to support PwDs' access to quality education and vocational training.

Drawing comparisons with other low- and middle-income countries and small island states, we also brought to focus the unique challenges faced by PwDs in the Maldives while recognising shared struggles across diverse contexts. This comparative perspective emphasised the importance of global collaboration and knowledge exchange in advancing disability rights and social inclusion agendas. Our study advocates for a paradigm shift in societal perceptions of disability, emphasising the importance of viewing PwDs as active agents of change and contributors to societal development. By centring on human rights principles in policy formulation and program implementation, we can work towards realising the 'Leave No One Behind Agenda of 2030' aspirations and creating a more inclusive and equitable society for all.

DISCLOSURE STATEMENT

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

FUNDING

The authors acknowledge receipt of financial support for conducting the research from the European Union through UNDP Maldives.

REFERENCES

Albert, B., & Harrison, M. (2006). *In or out of the mainstream? Lessons from research on disability and development cooperation*. The Disability Press. https://doi.org/71baa0ba77fba95234ada66f5031f582ae3217b3

Ali, I. (2002). *Maldives country status report*. Japanese Society for Rehabilitation of Persons with Disabilities, RNN Conference, Japan, Osaka Toyko. https://www.dinf.ne.jp/doc/english/intl/02rnn/maldives_e.html

Australian Bureau of Statistics (ABS). (2018). *Disability, ageing and carers, Australia (summary).* https://www.abs.gov.au/statistics/health/disability/disability-ageing-and-carers-australia-summary-findings/latest-release

Averill, R., Glasgow, A., & Rimoni, F. (2020). Exploring understandings of Pacific values in New Zealand educational contexts: Similarities and differences among perceptions. *International Education Journal: Comparative Perspectives, 19*(2), 20-35.

Banks, L. M., Hameed, S., Kawsar Usman, S., & Kuper, H. (2020). No one left behind? Comparing poverty and deprivation between people with and without disabilities in the Maldives. *Sustainability, 12*(5), 2066.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, *11*(4), 589–597.

Brewer, E., Brueggemann, B., Hetrick, N., & Yergeau, M. (2012). Introduction, background, and history. *Arts and Humanities*, 1–62.

Brolan, C. E. (2016). A word of caution: Human rights, disability, and implementation of the post-2015 Sustainable Development Goals. *Laws, 5*(2), 22.

Brooks, R., Milligan, J., & White, A. (2017). Sustainability and transformation plans: Occupational therapists and physiotherapists can support GPs. *British Journal of General Practice, 67*(664), 525–526.

Clifton, S. (2020). H*ierarchies of power: Disability theories and models and their implications for violence against, and abuse, neglect and exploitation of people with disability.* Australian Royal Commission into violence, abuse, neglect and exploitation of people with disability. https://disability.royalcommission.gov.au/system/files/2020-10/Research%20Report%20-%20Hierarchies%20of%20power_Disability%20theories%20and%20models%20and%20their%20implications%20for%20violence%20against%2C%20and%20abuse%2C%20neglect%2C%20and%20exploitation%20of%2C%20people%20with%20disability.pdf

Degener, T. (2016). A human rights model of disability. In *Routledge Handbook of Disability Law and Human Rights* (pp. 47–66). Routledge.

Devlieger, P. J. (2005, October). Generating a cultural model of disability. In *19th Congress of the European Federation of Associations of Teachers of the Deaf* (*FEAPDA*) (pp. 14–16).

Doody, C. (2009). Multi-element behaviour support as a model for the delivery of a human rights-based approach for working with people with intellectual disabilities and behaviours that challenge. *British Journal of Learning Disabilities, 37*(4), 293–299.

Fikuree, W., Shiyama, A., Muna, A., Naseer, B., & Mohamed, Z. (2021). Challenges to education during the COVID-19 pandemic: A SIDS perspective with special reference to the situation in the Maldives. *International Education Journal: Comparative Perspectives*, *20*(2), 5–6.

Grech, S., & Soldatic, K. (2016). *Disability in the global south: The Critical Handbook*. Springer.

Gunawa, T., & Rezki, J. F. (2022). *Mapping workers with disabilities in Indonesia: Policy suggestions and recommendations.* International Labour Organization (ILO). https://webapps.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-jakarta/documents/publication/wcms_836028.pdf

Hameed, S., Banks, L. M., & Kuper, H. E. (2021). Impact evaluation of the Disability Allowance in the Maldives: Policy Brief. *LSHTM Research online*. https://researchonline.lshtm.ac.uk/id/eprint/4660479

Hashemi, G., Kuper, H., & Wickenden, M. (2017). SDGs, Inclusive health and the path to universal health coverage. *Disability and the Global South, 4*(1), 1088–1111. https://core.ac.uk/download/pdf/111026125.pdf

Higher Education Ministry sets aside special loans for persons with disabilities (2021, January 23). *The Edition*. https://edition.mv/education/21672

C., & McLeod, S. (2015). Services for people with communication disability in Fiji: Barriers and drivers of change. *Rural and Remote Health, 15*(3), 291–300.

Jones, F., & Serieux-Lubin, L. (2018). Disability, human rights and public policy in the Caribbean: A situation analysis. *Studies and Perspectives (Series).* https://repositorio.cepal.org/bitstream/handle/11362/43306/1/S1701279_en.pdf

Koloto, T. (2021). Reframing inclusive education through local cultural values: A case study from Tonga. *The International Education Journal: Comparative Perspectives, 20*(2), 39-51.

Katsui, H., Ranta, E. M., Yeshanew, S. A., Musila, G. M., Mustaniemi-Laakso, M., and Sarelin, A. (2014). *Reducing inequalities: A human rights-based approach in Finland's Development Cooperation with Special Focus on Gender and Disability: A case study on Ethiopia and Kenya*. Turku/Åbo: Institute for Human Rights, Åbo Akademi University. https://doi.org/10.2139/ssrn.2460234

Lang, R. (2007). *The development and critique of the social model of disability*. Leonard Cheshire Disability and Inclusive Development Centre. https://www.ucl.ac.uk/epidemiology-health-care/sites/epidemiology-health-care/files/wp-3.pdf

Marks, D. (1997). Models of disability. *Disability and Rehabilitation, 19*(3), 85–91. https://doi.abs/10.3109/09638289709166831

Ministry of Gender and Family Maldives (MGFM) (2018). *Promotion and protection of the rights of the children, women, elderly and persons with disability 2013-2018.* https://gender.gov.mv/wp-content/uploads/sites/2/2018/11/Report-on-the-Promotion-and-Protection-of-Children-Women-Elderly-and-Persons-with-Disabilities-2013-%E2%80%93-2018-FINAL-7.docx-1.pdf

Mitra, S. (2006). The capability approach and disability. *Journal of disability policy studies, 16*(4), 236–247. https://doi.org/10.1177/10442073060160040501

Mitra, S., Palmer, M., Kim, H., Mont, D., & Groce, N. (2017). Extra costs of living with a disability: A review and agenda for research. *Disability and Health Journal, 10*(4), 475–484. https://doi.org/10.1016/j.dhjo.2017.04.007

Moosa, S., Riyaza, F., & Usman, S. K. (2020). *Impact of COVID-19 on persons with disability in Maldives: Results of quantitative and qualitative research findings*. The Maldives National University and Health Protection Agency. https://maldives.un.org/sites/default/files/2020-11/10.%20Impacts%20of%20Covid19_PWD%20report.pdf#:~:text=The%20qualitative%20findings%20indicated%20that,are%20the%20key%20themes%20observed.

Naseer, B. (2012). *Moving towards inclusion: A case study of one urban school in the Maldives* [Masters dissertation. University of Canterbury, School of Educational Studies and Human Development]. http://dx.doi.org/10.26021/9974

National Bureau of Statistics (2021). *World population day 2021*. Male', Maldives: Ministry of National Planning, Housing and Infrastructure. https://statisticsmaldives.gov.mv/nbs/wp-content/uploads/2021/07/WPD-2021.pdf

Nations Children's Fund, and Oxford Poverty and Human Development Initiative. (2019). *National Multidimensional Poverty in Maldives. Male', Maldives*. Ministry of National Planning, Housing and Infrastructure. https://statisticsmaldives.gov.mv/nbs/wp-content/uploads/2020/06/MPI-Summary-Report-Updated.pdf

Esparon, B. (November 14, 2023*). Commonwealth and Seychelles collaborate on disability rights capacity building*. Nation Seychelles. https://www.nation.sc/articles/20084/commonwealth-and-seychelles-collaborate-on-disability-rights-capacity-building#:~:text=In%20her%20discourse%2C%20the%20minister,being%20'Persons%20with%20disability

Office of the Chief Commissioner for Persons with Disabilities, Government of India. (2021). *Disability in India*. http://www.ccdisabilities.nic.in/resources/disability-india

Patel, D. R., Apple, R., Kanungo, S., & Akkal, A. (2018). Intellectual disability: Definitions, evaluation and principles of treatment. *Pediatric Medicine*, *1*(11), 10–21037.

Pillay, H., Carrington, S., Duke, J., Chandra, S., Heeraman, J., Tones, M., & Mani, R. (2015). *National profiles of in-country capacity to support disability-inclusive education: Fiji, Samoa, Soloman Islands and Vanuatu*. Queensland University of Technology.

President's Office (2010). *Protection of the rights of persons with disabilities and providing financial assistance act 08/2010* (Maldives). Gazette, 39 (vol, 70).

President's Office (2021). *Maldives Higher Education and Training Act" 07/2021* (Maldives). Gazette, 50 (vol 162).

Retief, M., & Letšosa, R. (2018). Models of disability: A brief overview. *HTS Teologiese Studies/Theological Studies, 74*(1).

Sen, A. (1985). Commodities and capabilities. Lectures in economics: Theory, institutions. *Policy*, 7.

Sepúlveda C. (2015). The human rights approach to social protection. *UNRISD - The Human Rights Approach to Social Protection* [video]. YouTube. https://socialprotection-humanrights.org/resource/the-human-rights-approach-to- social-protection-2/

Sepúlveda Carmona, M. (2017). Ensuring inclusion and combatting discrimination in social protection programmes: The role of human rights standards. *International Social Security Review, 70*(4), 13–43. https://socialprotection-humanrights.org/framework/UNRSID

Sepúlveda Carmona, M., Nyst, C., & Hautala, H. (2012*). The human rights approach to social protection.* Ministry of Foreign Affairs of Finland. https://www.ohchr.org/sites/default/files/Documents/Issues/EPoverty/HumanRightsApproachToSocialProtection.pdf

Shareefa, M. (2016). Institutional and teacher readiness for inclusive education in schools of Hithadhoo, Addu, Maldives: A study of the perceptions of teachers. *International Journal of Scientific & Technology Research, 5*(7), 6–14.

Skarstad, K. (2018). Human rights through the lens of disability. *Netherlands Quarterly of Human Rights, 36*(1), 24–42.

Strindlund, L., Abrandt-Dahlgren, M., & Ståhl, C. (2019). Employers' views on disability, employability, and labor market inclusion: A phenomenographic study. *Disability and Rehabilitation, 41*(24), 2910–2917.

Tangcharoensathien, V., Witthayapipopsakul, W., Viriyathorn, S., & Patcharanarumol, W. (2018). Improving access to assistive technologies: Challenges and solutions in low-and middle-income countries. *WHO South-East Asia Journal of Public Health, 7*(2), 84.

The Human Rights Commission of the Maldives, Family Protection Authority, and United Nations Development Programme (HRCM) (2020). *Reflecting 15 years: The rights side of life 2020*.

United Nations Committee on the Rights of Persons with Disabilities (UNCRPD) (2019). *Initial report submitted by Maldives under article 35 of the Convention. CRPD/C/MDV/1*(vol 7).

United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) (2018). *Fiji country profile.* Sixth Asia-Pacific opulation Conference. https://www.unescap.org/sites/default/files/Fiji%20%286th%20APPC%20Item%202%29.pdf

United Nations Department of Economic and Social Affairs (UN DESA). (2019*). Mauritius national policy paper and action plan on disability*. https://www.un.org/development/desa/disabilities/wp-content/uploads/sites/15/2019/10/Mauritius_National-Policy-Paper-and-Action-Plan-on-Disability.pdf

---

The International Education Journal: Comparative Perspectives Vol. 23, No 1, 2024
http://iejcomparative.org

Cracking the egg carton profession: Sensemaking of the teacher leader role on the Thai-Myanmar border

Thomas Carey
Inclusive Education Foundation

Greg Tyrosvoutis
Inclusive Education Foundation

Nwet Nwet Win
Inclusive Education Foundation

Nan Paw Kyan Kyan
Inclusive Education Foundation

Primarily driven by conflict, displacement and economic pull factors over the past three decades, a homegrown system of mother-tongue-based education for migrant children from Myanmar has been developed in Tak Province, Thailand. This network of Migrant Learning Centers depended mainly on external organisations for teacher professional development (TPD), with few Centres having opportunities to develop school-based models. This paper documents learning from creating the 'teacher leader' role to build school-level capacity to sustain TPD by giving new responsibilities to 31 teachers as peer coaches during the pandemic. Mixed-methods analysis used Hofstede's Cultural Dimensions Theory, specifically, Power Distance, Individualism – Collectivism, Uncertainty Avoidance and Long-Term Orientation to frame sensemaking and the extent to which teachers' perceptions of the new role were consistent with its implementation. The teacher leader role contributed to a perceived reduction of power distance between teachers and promoted long-term orientation regarding TPD. Its emphasis on collaboration allowed collectivist ideals to be played out practically without disturbing the status quo. The prioritisation of reflective practice and teacher-level collaboration improved coaching self-confidence and teaching competencies. Teacher-led peer-support systems within and across schools assisted in the retention of institutional knowledge.

Keywords:teacher leadership; migrant education; teacher professional development; Thailand; Myanmar

INTRODUCTION

(Un)intended outcomes of imported teacher professional development in Thailand and Myanmar

Over the past two decades, there has been pressure to adopt teaching methods and professional development models popularised by the global North throughout Southeast Asia (Park & Nuntrakune, 2013; Schweisfurth, 2011; Sriprakash, 2010; Westbrook et al., 2013) and, specifically, in Thailand and Myanmar (Lall, 2011; Prabjandee, 2019; Thanh, 2012). These 'travelling policies' have been widely validated by international education non-government organisations (NGOs) and have the potential to undermine rather than improve education systems (Ozga & Jones, 2006, p. 15). When examining Myanmar teachers' willingness to adopt student-centred pedagogical approaches, Tyrosvoutis (2016) found that teachers from Myanmar felt substantial normative pressure to adhere to recall-intensive teaching practices and teacher-student authoritative power-distance: both practices inhibit the adoption of active learning approaches. Rigid, top-down implementation of teacher professional development (TPD) in low-resource public schools in Myanmar caused significant confusion among teachers and school leaders (South & Lall, 2016). In her thesis on Myanmar teachers' sensemaking of the new curriculum policy, Lwin (2019) identified that teachers had an established pattern of closely following directives from above and did not seize opportunities to showcase their creativity or flexibility. Overwhelmingly, Myanmar teachers perceived themselves as life-long learners and strictly adhered to new policies as they attempted to better understand and make sense of them. Findings from a longitudinal choice-based TPD intervention on the Thai-Myanmar border identified key aspects of TPD that should be considered in low-resource contexts: teacher ownership, transparent accountability measures, place-based instruction and coaching, high-quality feedback and modelling, contextually relevant design, and strong professional relationships (Tyrosvoutis et al., 2021).

Literature on TPD in Myanmar facilitated by international organisations, such as the British Council's EfECT project reports pre-post teacher competency improvement scores, but lacks the incorporation of teachers' reactions to and interpretations of the interventions (Borg et al., 2018). Prabjandee (2019) gathered Thai teachers' responses to participation in mandated Professional Learning Communities (PLCs), a new approach for Thai teachers rooted in a TPD approach from the global North. The investigation found that teachers were not passive policy followers but active agents in reconstructing their understandings of policy messages.

This study aims to contribute to the literature on teachers' interpretations of interventions by analysing data from a TPD project that introduced a new 'Teacher Leader' role at Myanmar migrant schools on the Thai border. It had two principal questions for investigation:

1. How do Myanmar migrant teachers make sense of their new role as teacher leaders?
2. Do these teachers' perceptions and interpretations of their new role align with the expectations of a Buddhist-collectivist culture?

Context: COVID-19 and complementary education on the Thai-Myanmar border

Multiple complementary education systems coexist to meet the educational needs of the thousands of migrant children from Myanmar whose families are living on the Thai border. The Thai public school system serves the most migrant children with government support. The next

largest education system consists of a network of Migrant Learning Centers (MLCs), a locally developed collection of over 60 'schools' providing Myanmar-language education along Thailand's border with Myanmar. With few opportunities for formal registration, the legal status of staff and this system's long-term sustainability remain uncertain (UNICEF Thailand, 2023). Teachers at these learning centres, mostly migrants from Myanmar themselves, face a host of obstacles in addition to working in low-resource environments. In a case study of migrant teachers in Ranong Province, Bird (2023) identified the following challenges faced by migrant teachers: lack of professional development opportunities, high stress, low salary, lack of subject content knowledge, poor communication and planning, lack of accreditation opportunities, adherence to traditional rote teaching method' and insufficient support from school management. Taken together, even the Thai public education system and MLCs have not been able to address the most critical reality: most migrant children do not complete their education (Dowding, 2015) and are continuing to be pushed to 'earn rather than learn' (Bird, 2023, p. 8).

The COVID-19 pandemic disrupted education provision across the globe, with marginalised populations disproportionately impacted (UNESCO, 2021). The pandemic exposed and exacerbated existing vulnerabilities for marginalised migrant communities, resulting in increased drop-out rates, school closures and learning losses across the country (Belghith & Arayavechkit, 2021; *After Covid*, 2022). Across the MLC ecosystem, a model of home-based learning was more widely adopted than online learning (Lowe, Chan & Tyrosvoutis, 2022), and teachers received COVID safety training to be able to visit their students in their communities and provide them with learning materials (Figure 2). In this context, TPD centred on methods of supporting students' socio-emotional needs. The transition to home-based learning methods played a crucial role in ensuring continuity of education; however, this transition introduced new obstacles to access. MLC teachers highlighted substantial problems related to transportation, exacerbated by increased expenses and heightened travel restrictions.

The teacher leadership model in Migrant Learning Centers

Teaching has long been described as 'the egg carton profession' (Lortie, 1975; 2020), as teachers predominantly work in classrooms isolated from each other and the outside world. From 2020-2022, a project supporting 31 migrant 'teacher leaders' was established in response to the inability of teacher trainers to access MLCs to support teachers during the COVID-19 pandemic (Figure 1). The project aimed to enhance home-based and online learning implementation by improving teacher leaders' and teachers' teaching and coaching skills. A new role of 'teacher leader' was established to support the continuous professional development of teachers at MLCs, bolster teaching competencies, reinforce social-emotional support systems, and inspire teachers by implementing evidence-based approaches to professional development. Each teacher leader was responsible for supporting and coaching an average of three less-experienced teachers at their school.

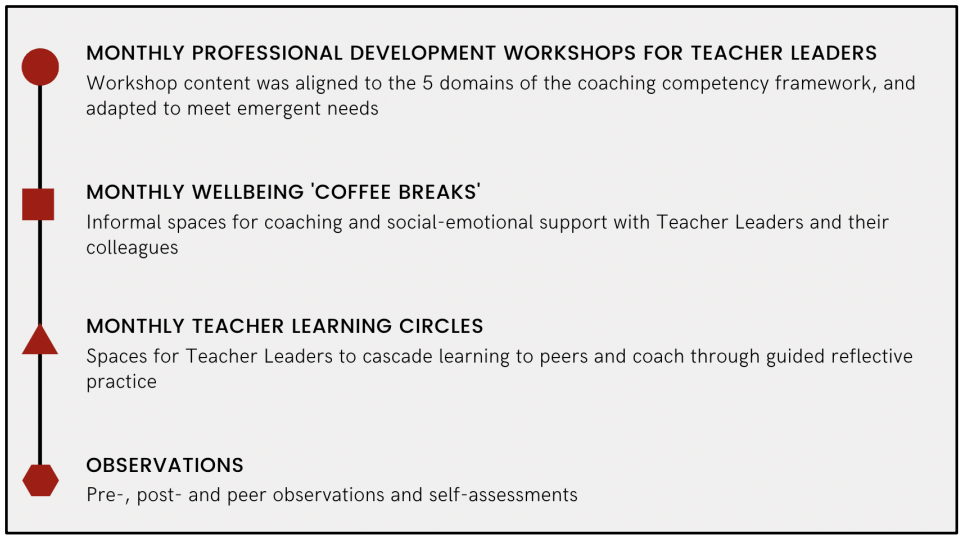


Figure 1: The migrant teacher leadership professional development model, 2020-2022

Teacher leaders attended monthly workshops and 'Teacher Learning Circles' with colleagues at their school and participated in formal teaching observations twice a year conducted by multilingual external trainers who had previously worked as teachers in MLCs. The aim was for teacher leaders to practice and develop coaching competencies, which were assessed using a framework adapted with permission from Clair and Hertz (2013). The coaching competency framework comprised five domains: 1. Adult learning and professional relationships; 2. Classroom observation and feedback; 3. Co-planning, co-teaching and modelling 4. Self-reflection and lifelong learning; and 5. Data analysis and management.

Through this peer-support format, teacher leaders and teachers engaged in co-planning, peer observations and discussions. The Teacher Learning Circle was structured to create a supportive environment where teacher leaders and their peers shared their experiences, ideas and knowledge to enhance their teaching skills, improve student outcomes and strengthen their reflective practice skills. Teacher leaders had regular opportunities to practice their coaching competencies, and teachers received ongoing feedback on their teaching.

Figure 2. An example of community-based teaching and learning during the COVID-19 pandemic

Teacher sensemaking

Conventional explanations of educational policy implementation failure have often focused on political, governance and resource issues while paying insufficient attention to policies' primary agents: teachers (Ali, 2006). The discipline of teacher sensemaking acknowledges a complex array of cognitive, affective, social and cultural factors impacting how teachers interpret, understand and, therefore, implement policy (Allen & Penuel, 2015; Huffman et al., 2003; Spillane, 1999). Spillane, Reiser, and Reimer (2002) argue that teachers, as individual sense-makers, have schemas and intuitive models of understanding, such as the role of a teacher or how children learn. These differences can create variability in personal interpretations of the same policy. Spillane et al. also note that the situations in which individual sensemaking occurs are not just backdrops but are constitutive elements of the process. The social contexts, such as beliefs about teachers in society, the formal and informal relationships teachers have with their colleagues, students and parents, and organisational arrangements at schools—such as whether collaboration is encouraged or teachers are isolated in 'egg-cartons'—greatly impact individual sensemaking.

Additionally, the external representations of policy, that is, the language policymakers use and the abstract ideas of teaching and learning they represent, have a bearing on how individual teachers interpret and implement policy. Different sense-makers may interpret ideas such as the 'Teacher Leader' role differently. Advocates of the sensemaking approach stress the importance of policymakers affording adequate time and space for the sensemaking process to take place, particularly when policy implementation requires a change in teachers' behaviours.

Literature on teacher sensemaking has come mainly from the global North and traditionally hierarchical cultures where teachers are less able to voice their concerns, such as Thailand and Myanmar (Prabjandee, 2019), remain understudied. Several small qualitative studies provide case studies of sensemaking of imported education policy in developing Southeast Asian contexts, most notably Lwin (2019) in Myanmar, King (2019; 2021) in Cambodia and Grassick (2016) in Vietnam. These studies explore the gap between the Western, value-laden ideas of pedagogical best practice being imported, such as UNICEF's Child Friendly Schools (CFS), and the more traditional notions of teachers in Buddhist societies as knowledge transmitters, arguing that policymakers fail to understand the local context, thereby prohibiting successful policy implementation. The current study contributes to this field by providing insight into teacher sensemaking of a new school-level TPD scheme implemented in the Myanmar migrant education ecosystem in Thailand.

Theoretical framework: Hofstede's Cultural Dimensions Theory applied to teachers

Hofstede's body of literature, which examines the dimensions of culture, is the most widely cited in existence (Bond, 2002). Hofstede's Cultural Dimensions Theory provides a useful, if somewhat crude, lens to understand school culture(s). It is important to temper the categorisations by Hofstede and Hofstede (2005) with the dynamic and fluid nature of culture outlined by Nieto (2008), who argues that culture is socially constructed and, therefore, inherently inclined to change based on geographic, economic, sociopolitical and power-based transformations. An education system does not possess a singular monoculture but is composed of multifaceted and embedded subcultures. Hofstede's dimensions have been criticised for their potential to ignore the many indigenous/minority groups and rural/regional subcultures of

societies in diverse settings. Nevertheless, they have proven merit when initially analysing complex cultural behaviours (Osland & Bird, 2000) and as a means for comparability (Jones, 2007). This paper uses four dimensions to study the complexity of subcultures in the diverse MLC ecosystem, itself a system within a system, and to shed light on the process of teacher sensemaking during a two-year project that introduced a new role into MLCs. The dimensions are Power Distance, Individualism (Collectivism, Uncertainty Avoidance) and Time Orientation.

Power Distance acknowledges that power is unequally distributed within a society and measures how much the wider population accepts this paradigm. High power distance is the chasm between students and teachers within a classroom, and within a school, it is the separation between teachers and administrators. The Myanmar word for 'teacher' ('Sayar' for a male, 'Sayarma' for a female) is also used as the title for doctors or those in influential leadership roles. It is a title of great respect and denotes someone who represents a moral leader and role model within Myanmar society (Kobakhidze, 2020). As articulated in Tyrosvoutis (2016, p.112), a teacher is traditionally viewed as 'the sage on the stage', the fount from which knowledge flows. Traditionally, teachers are rarely challenged by students. In a country where the internet only became widely accessible in 2012, teachers have been perceived as the trusted sources of information (Kennedy, 2002).

Individual-Collectivism examines the degree to which a population refers to themselves as 'I' or 'we'. In a collectivist classroom, harmony is promoted rather than individual critical thought. Collectivism can often take the form of compliance (Hofstede & Hofstede, 2005),\ and harmony is promoted at the school level over the pursuit of individual TPD.

Uncertainty Avoidance is the extent to which the members of a culture feel threatened by uncertainty or unknown situations (Hofstede & Hofstede, 2005). Memorising and repeating swathes of text persists in classrooms with high uncertainty avoidance, to the extent that students and teachers are afraid to make mistakes publicly (Tyrosvoutis, 2016). 'Annade' in Myanmar and 'Greng Jai' in Thai refer to 'losing face', which occurs when someone explicitly or implicitly causes themselves or others to feel embarrassed or ashamed. This is avoided at all costs (Gilhooly, 2015). Behaviours such as obedience and conformity are promoted and reinforced within educational settings in Myanmar, leading to challenges in implementing student-centred approaches (Richmond, 2007).

Short-term/Long-term Orientation refers to the link between historical events and ongoing/future actions and challenges. A short-term orientation signifies a commitment to preserving and upholding traditions, emphasising steadfastness. Conversely, societies with a long-term orientation prioritise adaptation and pragmatic problem-solving based on circumstances, considering it essential. Traditionally, Southeast Asian cultures have been perceived as having short-term orientation.

METHODOLOGY

The study used a mixed-methods approach with data collected over two years. Volunteer sampling was used to recruit teachers from MLCs for the project. Principals were invited to put forward teachers to participate based on criteria of teaching experience and ability to commit to a year of the project. Thirty-one participants (19 females and 12 males) with at least three years of teaching experience volunteered to participate in the study. Participants taught English, mathematics, Myanmar, science, history and/or geography. All participants were employed

full-time and were not receiving other in-service professional development support. Acknowledging that multiple data sources can help triangulate and create more trustworthy data (Bryman, 2012; Cohen et al., 2011; Creswell, 2013), this study collected qualitative data from questionnaires, focus group discussions and interviews supported by quantitative data from coaching competency self-assessments and classroom observations.[1]

Data was collected at the base- and end-line of each year via open-ended questionnaires in Myanmar that sought to capture how participants made sense of their new role as teachers. The questions inquired about teacher leaders' experiences of the new role, feelings regarding the responsibilities and commitments this role introduced, the dynamics of relationships with their school headteacher and co-teachers and aspects of the role that were unclear. Additionally, qualitative data was collected through informal observations of teachers during program activities and case study interviews with teachers, teacher leaders, school directors, parents and students conducted at the end of each year to gather data on the wider impact of the new role within school communities. A focus group discussion was held with teacher leaders in August 2023 to gather more detailed information and clarify and consolidate teachers' opinions in light of preliminary findings.

In their study of teacher sensemaking, März and Kelchtermans (2013) note that observation data acts as a ballast for self-reporting data collection methods. Thus, data was also collected during the beginning and end of both academic years using formal classroom observations. Observations occurred either online or in-person at MLCs based on current health regulations. The observation tool assessed 15 teaching competencies adapted from the Myanmar Teaching Competency Standards Framework (TCSF). Each competency was scored using a rubric consisting of four levels. Paper-based mixed methods coaching competency self-assessments were administered at the beginning, middle and end of each school year. The assessments were conducted in Myanmar, and the results were translated into English for data analysis. (1 = no evidence of the competency, 4 = exceptional demonstration of competency). The self-assessments required participants to rate their confidence in the 25 coaching competencies using a 10-point Likert scale, from 'not at all confident' to 'extremely confident'.

Data analysis involved generating descriptive statistics from the observation data to measure the average change in teaching and coaching competencies from base- to endline. The open-ended questionnaire responses were deductively coded based on the four cultural dimensions from Hofstede included in the theoretical framework. Three rounds of coding using Robson and McCartan's (2016) framework for comparative analysis were employed to illustrate changes in participants' sensemaking from base- to endline. The responses were then coded inductively to identify significant patterns emerging from the data not captured in the deductive framework. The final analysis stage involved triangulating how sensemaking of the teacher leader role changed and developed over time, comparing the observed changes with teachers' own interpretations.

[1] The coaching competency self-assessment and classroom observation tool can be downloaded at https://www.inedfoundation.org/resources

FINDINGS

Teacher leaders' confidence as peer coaches

The base- and end-line confidence self-assessments highlight changes in educators' perceptions of their own competencies as teacher leaders as they made sense of and implemented this new role. Figure 3 shows that teacher leaders' self-confidence rose by an average of 8.37% across all coaching competencies, from 76.34% to 84.71%. The improvements in these domains are consistent with the program's benefits stated by teacher leaders in their qualitative responses and with trainers' informal observations throughout the program.

Competency 4.1, which measured teacher leaders' ability to reflect on their own and others' teaching, showed a significant improvement of 9.81%. The teacher leader program aimed to develop reflective practice skills through the systems it helped to implement at schools: co-planning, peer observation and post-lesson discussions. As this peer support was guided by the trainers each month, teacher leaders and teachers could practice their own reflection skills and reflect on other lessons they had observed. These findings suggest that the new peer-support systems facilitated a space for regular open discussions and practical analysis at the school level, which allowed teacher leaders to relate to - and make sense of - the new policies at an incremental pace, with guided practice and specific feedback from trainers and peers. This proved significantly beneficial as health policies and, therefore, educational policies were in constant flux and required teachers to adopt new teaching methods, such as home-based learning. Teachers reported being able to share best practices and learn from each other.

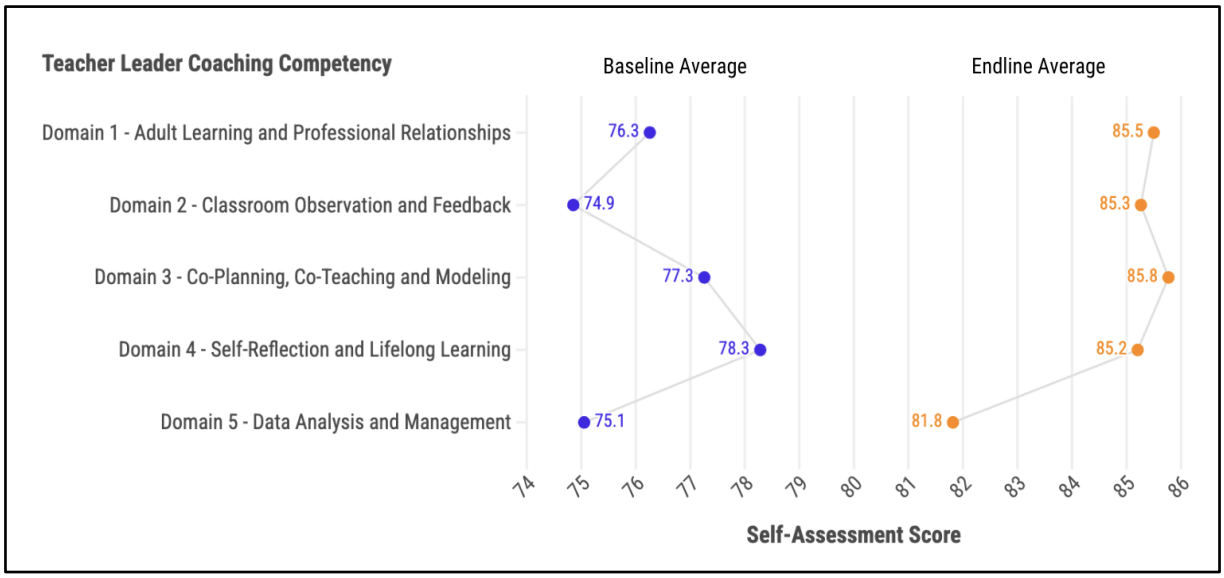


Figure 3. Coaching competency confidence self-assessment results

Sensemaking of the teacher leader role

Reduction of power distance

In the baseline questionnaires, several teacher leaders highlighted a tension between their new role of perceived authority and the authority of the headteacher and/or senior colleagues. This suggests that some MLCs have a high power distance between school management and teachers, as Tyrosvoutis (2016) found. One teacher noted that 'some things can only be done through the headmistress', and another shared that observing and giving feedback to more senior colleagues was initially challenging due to their perceived lower status. One teacher

voiced frustration as she struggled to implement her new responsibilities as a 'leader', explaining that she was required to share learning from the monthly teacher leader workshops with her colleagues back at school but that her colleagues were not initially receptive because of her perceived status as a junior. However, during end-line assessments, most teacher leaders cited improved relationships resulting from their new role. During the focus group, one teacher noted the change in attitudes at her school over the program. Her colleagues were initially resistant to receiving feedback on their teaching practice, but the mentoring skills she gained from the program enabled her to 'find the right words' to give feedback, which her colleagues began to respond to more favourably over time. Feedback techniques included using the sandwich feedback method whereby a suggestion for improvement was prefaced and culminated with positive affirmational commentary.

Collaboration and closer relationships

Within the migrant education ecosystem, the term 'professional development' is often synonymous with training delivered by outside organisations. Most MLCs are understaffed, have a high staff turnover, and lack robust student assessment and teacher appraisal systems. Teachers with more experience are deferred to as *better* teachers, often with limited reference to objective measurements such as teaching standards or student outcomes. Teachers are more often than not left to their own devices, siloed from each other, with few opportunities to observe or discuss teaching or receive formal feedback on their own performance. The Teacher Leader program aimed to disrupt this normative practice by implementing teacher-led professional development through peer observation schemes. In their qualitative responses, teacher leaders frequently referenced improved collaboration with colleagues as a benefit of the program. The emphasis on collaboration suggests that the teacher-to-teacher support systems set up through the program were seen as raising the quality of teaching for everyone, producing a net positive effect on learning at the schools.

> Being a teacher leader led to closer relationships with all the teachers at the school.
>
> There have been more positive effects such as discussion and collaboration between teachers about education than before.

The significance of improved collaboration among teachers can be analysed from several dimensions. First, the 'closeness' of working relationships could suggest that awareness was developing around reducing power distance due to peer support. Teachers who previously would never have thought to ask for help with planning a lesson or ask for feedback on their teaching now felt themselves and their colleagues as more approachable. In a focus group, one teacher shared that 'the relationship with co-teachers got closer and better over time. Every time they needed support with teaching and ICT, they approached me. They saw me as always there to help.'

Second, teachers may be making sense of the new peer-support systems as fulfilling the propagated idea of collectivism in which teachers work together for the 'greater good' of their school and students. In the Myanmar national education culture, collectivism often takes the form of conformity to a valued norm and promotion of agreed hierarchies. Formal teacher-to-teacher collaboration is often absent. The practical collaboration teacher leaders experienced through co-planning, peer observation and discussion may have been made sense of through a collectivist lens.

When asked explicitly about motivations for joining the program, all teacher leaders articulated a collective rather than individual benefit. They saw their participation in the program as a way to develop their own teaching skills so that they could share this learning with colleagues and

contribute to school-wide development. Teacher leaders were making sense of their professional development in collectivist terms, prioritising growth and harmony of the school community over individual attainment.

Long-term versus short-term planning

The focus group discussions expressed a transition to a longer-term mindset regarding teaching. Several teachers cited their attitude towards—and practice of—lesson planning as undergoing change and development throughout the program.

> Before, I just taught normally according to the textbook, but after the teacher leader program, I thought more deeply about what the students are getting from the lesson, what the outcomes are and what they are going to do in the next lesson.

> I stayed because I had a chance to share. But also, I started to think about the long-term. I want to be a teacher for a long time, and I saw this as an opportunity to develop [other teachers'] capacity in the long term.

Teachers and their portrayals of their school management and school culture emphasised an openness to new teaching ideas and a more general commitment to change. Many teacher leaders characterised the migrant education system as in need of development. This belief helped them to make sense of the TPD values embedded in the program. Understanding that context shapes the way cultural values are played out, this may be an instance of an embedded cultural value (i.e., migrant education needs to be developed or changed) superseding, or, to borrow a term from Osland & Bird (2000), *trumping* the cultural norms of uncertainty avoidance extant in the national education culture in Myanmar, where conformity is generally favoured over innovation.

DISCUSSION

To 'crack' the egg carton profession, the traditional walls that have worked to isolate teachers from one another need to be broken down. Teachers need intentional time for co-reflection and peer observation. When teachers were provided with these opportunities, orientations shifted towards the longer term, with teachers more often seeing contemporary challenges as surmountable. Introducing the Teacher Leader model was a low-cost and highly beneficial intervention that gave heavily burdened teachers the space to express their difficulties. Teachers were inspired by one another and became increasingly aware that they had a powerful resource available to them: each other. If specific effort is not made to manage teachers' feelings of uncertainty, ambiguity, and coherence with larger school/state policy, teachers will be less likely to adopt new pedagogical approaches and ignore future change (Lwin, 2019: Spillane, 1999; Spillane et al., 2002).

In line with the recommendations of Prabjandee (2019), more culturally diverse and nuanced research regarding teacher sensemaking is needed in contexts like Thailand and Myanmar. Research in these contexts, where 'traditional' cultural factors such as hierarchy, collectivism, and authoritative power-distance, heavily influence teachers' response to policy change, must be tailored to align with nuanced cultural norms. When rolling out new TPD in the future, policymakers and practitioners in SE Asia should prioritise holistic support, such as creating teacher-led peer-support systems within and across schools and investing in developing coaching competencies.

The teaching profession is highly respected within Thai and Myanmar cultures (Lwin, 2007) and therefore, further research is needed to understand if teachers in these contexts perceive

their professional identities as being reinforced or threatened by new professional development interventions. The remaining questions are whether teachers in Thailand and Myanmar are aware of their potential agency to interpret policy, as found in US contexts (Allen & Penuel, 2015) and to identify the degree to which external factors such as access to resources and payment influence teacher sensemaking. It is recommended that sensemaking research be incorporated when implementing future teacher professional development within SE Asian contexts, as it has the potential to shed needed light on the appropriateness and degree of adoption regarding new teacher policies and the relational dynamics at the heart of peer-based TPD.

5. CONCLUSION

As evidenced by this study, the teacher-leader model offers several advantages for effecting change in attitudes and practices at the school level. TPD for migrant teachers has historically been provided by a patchwork of actors, which has left school-level gaps. Although an outside intervention, the program design was contextualised, and care was taken to ensure teacher leaders were given ownership of their new role and provided with opportunities to share how they were making sense of it. The prioritisation of reflective practice and teacher-level collaboration led to improvements in coaching and teaching competencies. Despite creating a new leadership role at MLCs, which in a few cases caused tension in relationships between school directors, teacher leaders and teachers, the program's horizontal support systems helped foster a sense of optimism and progress during a particularly challenging period in an already under-resourced environment. The teacher-leader model contributed to reducing the power distance between senior and junior teachers and promoted long-term orientation regarding TPD. Its emphasis on collaboration allowed the collectivist ideals prescribed by the dominant system to be played out practically without disturbing the status quo.

Promoting the teacher-leader model could ensure that MLCs retain more institutional capacity, which can help promote systems-level improvement in the future. Teachers need to be at the centre of educational interventions and, therefore, intentionally and continuously supported in their work. TPD programs designed for similar contexts should take into account the dominant values at play in education ecosystems and the varying demands put on teachers as they make sense of policy.

Funding and Authors' Positionality

This research was conducted by the Inclusive Education Foundation's TeacherFOCUS project as part of the Teacher Leader Capacity Building Program under Save the Children Thailand Foundation's REACT (Reaching Education for All Children in Thailand) Phase II project 2020-2022. REACT II was funded by Save the Children Hong Kong to reach 400,000 migrant children from Myanmar residing in the Tak and Ranong Provinces. This study received ethical approval from the Community Ethics Advisory Board (CEAB), operated by the Mae Tao Clinic in Mae Sot, Thailand. Contributors to this article were directly involved in project design, implementation, monitoring, and reporting. The authors would like to express deep gratitude to Ashley Clayton Hertz for her support in developing the coaching competency framework, which was based on findings from her doctoral studies. Her insights were invaluable to the design and implementation of this TPD intervention, which has continued far past the end of the project.

REFERENCES

After COVID-19, Thai workers face a lack of fundamental skills and difficulties. (2022). EFF. https://research.eef.or.th/after-covid-19-thai-workers-face-a-lack-of-fundamental-skills-and-difficulties/

Ali, S. (2006). Why does policy fail? Understanding the problems of policy implementation in Pakistan: A neuro-cognitive perspective. *International Studies in Educational Administration*, *34*(1).

Allen, C. D., & Penuel, W. R. (2015). Studying teachers' sensemaking to investigate teachers' responses to professional development focused on new standards. *Journal of Teacher Education, 66(2)*. 136–149. https://doi.org/10.1177/0022487114560646

Asian Research Center for Migration. (2022). *Investing in a global future: A situational analysis of migrant children's education in Thailand*. UNICEF.

Belghith, N., & Arayavechkit, T. (2021) Impact of COVID-19 on Thailand's households: Insights from a rapid phone survey. *World Bank.* https://blogs.worldbank.org/eastasiapacific/impact-covid-19-thailands-households-insights-rapid-phone-survey

Bird, F. (2023). *Earning vs learning: Supporting Myanmar migrant education on the Thailand Myanmar border*. [Thesis, Te Herenga Waka-Victoria University of Wellington]. https://doi.org/10.26686/wgtn.23949354

Bond, M. H. (2002). Reclaiming the individual from Hofstede's ecological analysis—A 20-year odyssey: Comment on Oyserman et al. (2002). *Psychological Bulletin*, *128*(1). 73–77.

Borg, S., & Clifford, I. & Htut, K. (2018). Having an EfECT: Professional development for teacher educators in Myanmar. *Teaching and Teacher Education. 72*. 75–86. https://doi.org/10.1016/j.tate.2018.02.010.

Bryman, A. (2012). *Social science methods* (4th ed.). Oxford University Press.

Clair, N., & Hertz, A. C. (2013). *Improving schooling in Sierra Leone: Resource manual for Learning Coaches*. International Rescue Committee/DFID Education Consortium.

Cohen, L., Manion, L., & Morrison, K. (2011). *Research methods in education* (7th ed.). Routledge.

Cresswell, J. W. (2013). *Qualitative inquiry and research design* (3rd ed). Sage.

Dowding, L. (2015). *Pathways to a brighter future: A review of education for migrant children in Thailand*. Save the Children International and World Education. https://thailand.worlded.org/wp-content/uploads/2016/04/MESR-Full-Report.pdf

Gilhooly, D. J. (2015). Lessons learned: Insights into one teacher's experience working with Karen refugee students in the United States. *Journal of Southeast Asian American Education and Advancement*, 10(2). htpps://doi.org/10.7771/2153-8999.1121

Grassick, L. J. (2016). *Complexity, connections and sense-making: Stakeholder experiences of primary English language curriculum change in one province in Vietnam*. [Unpublished PhD thesis]. University of Leeds.

Hargreaves, A. & Fullan, M. (1992). Introduction. In A. Hargreaves & M. Fullan (Eds.), *Understanding teacher development* (pp. 1–19). Teacher College Press.

Hofstede, G. (2003). *Culture's consequences: Comparing values, behaviours, institutions, and organisations across nations* (2nd ed.). Sage.

Hofstede, G. & Hofstede, J. (2005). *Cultures and organization-software of the minds* (2nd ed) McGraw-Hill.

Huffman, D., Thomas, K. & Lawrenz, F. (2003). Relationship between professional development, teachers' instructional practices, and the achievement of students in science and mathematics. *School Science and Mathematics*, *103*(8), 378–387.

Jones, M. (2007). Hofstede: Culturally questionable? *Oxford Business & Economics Conference*, 24–26.

Kennedy, P. (2002). Learning cultures and learning styles: Myth-understandings about adult Hong Kong-Chinese learners. *International Journal of Lifelong Education, 21*(5), 430–445.

Kim, C-Y. & Rouse, M. (2011). Reviewing the role of teachers in achieving Education for All in Cambodia. *Prospects, 41*, 415–428.

King, E. (2019). Implications for the child friendly schools policy within Cambodia's cultural and primary school context. *Asia-Pacific Journal of Teacher Education*. htpps://doi.org/10.1080/1359866X.2019.1645811

King, E. (2021). Translating policy into practice: Cambodian primary school teachers' sense-making of the Child Friendly Schools policy. *Compare: A Journal of Comparative and International Education*. htpps://doi.org/10.1080/03057925.2020.1866495

Kobakhidze, M. N. (2020). Desacralising teachers: Inside Myanmar's educational capitalism. *Globalisation, Societies and Education*, *18*(5), 481–494. https://doi.org/10.1080/14767724.2020.1776098

Lall, M. (2011). Pushing the child centred approach in Myanmar: The role of cross national policy networks and the effects in the classroom. *Critical Studies in Education, 52*(3), 219–233.

Lortie, D. C. (1975, 2020). Schoolteacher: A sociological study. *University of Chicago press*.

Lowe, T., Chan, L. and Tyrosvoutis, G. (2022). *Safety nets: A situational analysis of non-formal educational pathways for migrant children in Tak Province, Thailand*. TeacherFOCUS and Help without Frontiers Thailand Foundation.

Lwin, S., Sungtong, E., & Auksornnit, V. (2022). Implementation of online learning program in migrant community: Teachers' challenges and suggestions. *Turkish Online Journal of Distance Education*, *23*(1), 43–59.

Lwin, Han Ni. (2019). *Teachers' sensemaking in curriculum policy enactment in Myanmar*. [Thesis: Monash University]. https://doi.org/10.26180/5cc18f5b7182a

Lwin, T. (2007). Education and democracy in Myanmar: Decentralization and classroom-level educational reform. *International Forum for Democratic Studies*. http://www.thinkingclassroom.org/Education%20Papers/8.%20Education%20and %20Democracy%20in%20Myanmar,%202007.pdf.

März, V., & Kelchtermans, G. (2013). Sense-making and structure in teachers' reception of educational reform. A case study on statistics in the mathematics curriculum. *Teaching and Teacher Education, 29*, 13–24.

Mind the gaps: Myanmar migrant education in Tak and Ranong provinces. (2023). Save the Children Thailand.

Nieto, S. (2008). Chapter 9. Culture and Education, *Yearbook of the National Society for the Study of Education, 107*(1), 127–142.

Nguyen, Phuong-Mai, Terlouw, Cees, & Pilot, Albert (2006) Culturally appropriate pedagogy: The case of group learning in a Confucian Heritage Culture context. *Intercultural Education*, *17*(1), 1–19. htpps://doi.org/10.1080/14675980500502172

Osland, J. S. & Bird, A. (2000). Beyond sophisticated stereotyping: Cultural sensemaking in context. *Academy of Management Perspectives, 14(1)*, 65–76. https://doi.org/10.5465/ame.2000.2909840

Ozga, J. & Jones, R. (2006). Travelling and embedded policy: The case of knowledge transfer. *Journal of Education Policy*, 21(1), 1–17.

Park, J. Y., & Nuntrakune, T. (2013). A conceptual framework for the cultural integration of cooperative learning: A Thai primary mathematics education perspective. *Eurasia Journal of Mathematics: Science & Technology Education*, 9(3), 247–258.

Patrick, S. K. & Joshi, E. (2019). 'Set in Stone' or 'Willing to Grow'? Teacher sensemaking during a growth mindset initiative. *Teaching and Teacher Education 83*, 156–167.

Prabjandee, D. (2019). Unwelcome truths of the professional learning community policy in Thailand: Teacher's Sensemaking. *Issues in Educational Research*, *29*(1).

Richmond, J. D. (2007). Bringing critical thinking to the education of developing country professionals. *International Education Journal*, *8*(1), 1–29.

Robson, C. & McCartan, K. (2016). *Real world research* (4th ed.). John Wiley and Sons.

Schweisfurth, M. (2011). Learner-centred education in developing countries: From solution to problem? *International Journal of Educational Development*, *31*(5), 425–432.

Spillane, J. P. (1999). External reform initiatives and teachers' efforts to reconstruct their practice: The mediating role of teachers' zones of enactment. *Journal of Curriculum Studies, 31*(2), 143–175.

Spillane, J. P., Reiser, B. J., & Reimer, T. (2002) Policy implementation and cognition: Reframing and refocusing implementation research. *Review of Educational Research*, *72*(3), 387–431. https://doi.org/10.3102/00346543072003387

South, A., & Lall, M. (2016). *Schooling and conflict: Ethnic education and mother tongue-based teaching in Myanmar*. The Asia Foundation. https://asiafoundation.org/resources/pdfs/SchoolingConflictENG.pdf

Sriprakash, A. (2010). Child-centred education and the promise of democratic learning: Pedagogic messages in rural Indian primary schools. *International Journal of Educational Development*, *30*(3), 297–304.

Thanh, P. H. (2011). Issues to consider when implementing student-centered learning practices at Asian higher education institutions. *Journal of Higher Education Policy and Management, 33*(5*),* 519–528.

Thanh, P. H. (2012). A framework to implement cross-cultural pedagogy: The case of implementing learning reform at Confucian heritage culture colleges. *Higher Education Review*, *44*(3), 27–40.

Tyrosvoutis, G., Sasaki, M., Chan, L., Win, N., Zar, T., Win, N. N., & Paw, N. N. Y. (2021). Deep change in low-resource classrooms: Data-driven teacher professional development for educators from Myanmar using a choice-based approach. *International Education Journal: Comparative Perspectives*, *20*(3), 15–30.

Tyrosvoutis, G. (2016). Taking the sage off the stage: Identifying obstacles to student-centered instruction on the Thai-Myanmar border. *The International Education Journal: Comparative Perspectives, 15*, 112–132.

UNESCO. (2021, March). Education in a post-COVID world: Nine ideas for public action. International Commission on the Futures of Education. https://unesdoc.unesco.org/ark:/48223/pf0000373717/

UNICEF Thailand. (2023). Make learning count: Migrant learning center registration in Thailand: The policy landscape and ways forward. https://www.unicef.org/thailand/reports/make-learning-count

Walker, A. & Dimmock, C. (2000) One size fits all? Teacher appraisal in a Chinese culture, *Journal of Personnel Evaluation in Education, 14*(2), 155–178.

Westbrook, J., Durrani, N., Brown, R., Orr, D., Pryor, J., Boddy, J., & Salvi, F. (2013). *Pedagogy, curriculum, teaching practices and teacher education in developing countries.* London: Institute of Education, EPPI Education Rigorous Literature Review.

The International Education Journal: Comparative Perspectives Vol. 23, No 1, 2024
http://iejcomparative.org

The impact of short-term pressures on students' performances: An experimental study

Anh-Duc Hoang
EdLab Asia Educational Research and Development Centre, RMIT University:
duc@edlabasia.org

We conducted an experiment to determine the impact of short-term pressure on 1,228 Grade 8 students' outcomes when performing simple math exercises. We required all students to complete 100 simple math questions for 90 seconds. We analysed students' results and then divided them into three groups: (i) a control group who did nothing; (ii) a group who performed an easy task; and (iii) a group who performed a difficult task. Finally, we required all students to solve another 100 simple math questions in 90 seconds and used a Bayesian model to compare the results of the three groups. We discovered that students who successfully solved complex tasks received higher outcomes within short periods than those who succeeded in the easy task. However, students who failed to solve either the easy or the problematic tasks received lower results than those who did nothing between the two attempts. Also, we found no differences between the results of male and female students. The findings shed further light on the Yerkes-Dodson law about the influence of stress and distress on students' performances.

Keywords: Pressure; learning outcomes; stress; experimental study

INTRODUCTION

It has been nearly nine decades since Selye's (1936) founding block of studies on stress through his experiment with rats. The impact of stress is a common research subject in the social sciences disciplines, including school, university and working environments (e.g., Hoang, 2020; Vuong, 2022). In the late 2000s, Finland received accolades for its innovative education system, which did not subject students to pressure and still acquired high PISA ranks (Kupiainen et al., 2009). However, a recent study by Vainikainen and Hautamäki (2022) reported dramatic reductions in Finnish students' performances, cognition and motivation. In particular, the learning-related beliefs index of Finnish students in 2017 was close to the 2001 index.

Vogel and Schwabe (2016) define stress as the perception of emotional or physical tension that is aware and perceived differently across individuals. Scholars list several sources of academic-related stress for students, such as examinations and assignments (de Kloet et al., 2005), extracurricular and cram school activities (McHale et al., 2012), parents' demands (Tam et al., 2018), teachers' demands (Maynard, 2001), lack of support (Yang et al., 2018) and peer pressure (Wells et al., 2009). A common belief about the impact of stress on individuals is that it enhances achievements, as expressed in the saying, 'No pressure, no diamonds'. However, there are concerns that both short-term (acute) and long-term (chronic) stress negatively influences a person's well-being (Thoits, 2010). Yerkes and Dodson (1908) propose a curvilinear relationship between eustress (positive stress) and distress (negative stress) in the Yerkes-Donson Law model. The Law suggests that low-challenging tasks with a low workload

or high-challenging functions with a high workload can lead to distress. By contrast, moderate-challenging and moderate workload can cause eustress. Many studies have been conducted based on the Yerkes-Donson Law to further understand the eustress and distress phenomenon (e.g., Selye, 1950; Cooper & Payne, 1992; Nelson & Cooper, 2005; Branson et al., 2019). Rudland et al. (2020) suggested that the Yerkes and Donson conceptualization of stress may over-generalise the mechanism of stress, human learning and working activities.

The debate over the Yerkes-Donson model has extended to the debate over the effects of time pressure on stress. For instance, Carveth et al. (1996) concluded that students often perceive stress when faced with a large amount of information or tasks they must absorb or complete within a limited and inadequate time frame. However, the authors noted it was difficult to determine whether students experienced eustress or distress. Goodie & Crooks (2004) stated that time pressure could positively affect learning and that we should not consider time pressure to be a negative factor. Similarly, the American College Health Association reported that learning-related stress negatively affected 34% of undergraduate students, but 37% did not perceive stress as a factor that weakened their academic performance (Addie et al., 2022).

Several studies aligned on the benefits of stress on learning performance regardless of whether the sources of stress were within or outside the classroom environment (Vogel & Schwabe, 2016). Smeets et al. (2007) and (Schwabe et al., 2008) believed that stress at lower levels than what students regularly encounter at school might enhance students' memories. Additionally, stress can also improve an individual's brain processing efficiency (Hancock, 1989), mental function (Cahill et al., 2003), motivation (Kaiseler et al., 2009), and work performance (LeBlanc, 2009).

To capture the perspectives about prior studies on learning-related stress, on 1 December 2022, I conducted a Boolean search string in the Web of Science database (one of the largest and reputed research databases in the world (Hoang, 2022)) to published research on stress and students' learning outcomes:

TS=(eustress) OR TS =(distress) AND TI=(STUDENT) AND TI=(LEARNING)

The search string revealed 210 works published in all languages from 1960 to 2022. I excluded non-English articles, meeting abstracts, letters, retraction notes, editorial notes and book reviews and established a final dataset of 185 papers. I conducted a bibliometrics analysis, adopting all metadata to the co-occurrence analysis using the VOS Viewer software. Figure 1 presents the top 46 keywords that appeared at least five times in the dataset. Among the four clusters, the most notable topics are physical health (red) and mental health (green and yellow).

To supplement the findings of the bibliometrics analysis about knowledge structure on stress, I also conducted a chronological review of prior works on eustress and distress. As summarised in Table 1, some notable results are limited to the impacts of stress on the performance of K-12 and college students. In recent years, many empirical studies have explored this topic (e.g., Deb et al., 2014; Li et al., 2016; Prabu, 2015). The primary approach of those studies was non-experimental psychometric surveys. Apart from the inability to generalise the findings, the approaches contained measurement errors regarding differences in participants' cultural and behavioural norms 'across populations and countries (Coughlan et al., 2009).

The study reported in this paper aimed to supplement the non-experimental research findings on stress using a simple experiment capable of being replicated by other researchers across countries and contexts. By replicating this experiment in multiple contexts, scholars can quantitatively compare differences between short-term pressure and students' performances between populations.

In the next section of this paper, I explain the design of the experiment to answer the primary research question:

Does short-term pressure make students achieve better academic results?

Figure 1: Co-occurrence of keywords network from 1960 to 2022 (Minimum times of occurrences: 5; the total number of items: 46).

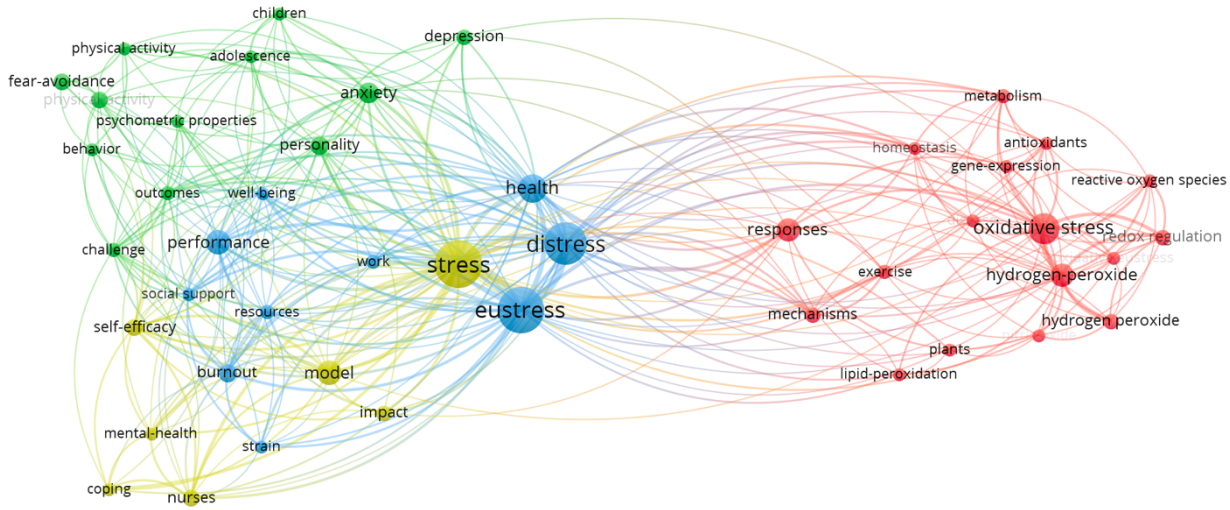


Table 1:Chronological summary of the literature on stress and student performance

No	Study	Method	Observations	Results
1	Gibbons et al. (2009)	A Transactional model survey about the source of distress and eustress	120 nursing students	Three major factors: learning and teaching, placement related and course organization
2	Busari (2012)	Survey BDI (Beck Depression Inventory)	1,200 secondary school students (600 males, 600 females)	• Stress affects students' learning outcomes • Significant difference in academic performance between genders • No significant difference in stress between genders
3	Bataineh (2013)	Survey	232 university students	• Overwhelmed workload and lack of time lead to academic stress • No significant difference in academic stress between levels of study and specialisations
4	Khan et al. (2013)	Perceived Stress Scale	150 university students	No difference in stress between genders
5	Deb et al. (2014)	Survey	400 grade 10-12 students (208 males, 192 females)	• Lower score, higher stress. • More extracurricular activities, more stress

No	Study	Method	Observations	Results
6	Prabu (2015)	Academic Stress Scale	250 upper secondary students	• Males are more stressed than females • Urban students' academic stress is higher than rural students
7	Li et al. (2016)	Correlation analyses of data from wearable devices and survey data	7 participants (5 males and 2 females) from 22 to 28 years old	• Determined a kind of eustress boost performance (accuracy of 71.33%) • Another sort of eustress that improves mood (accuracy of 57.34%)

LITERATURE REVIEW

Experimental design

This experiment aimed to examine the influence of short-term pressures on students' performances with a sample of Grade 8 students from three big cities in Vietnam. Within the scope of the experiment, participants participated in the three phases of the experiment and completed each task within a timeframe of 90 seconds. Table 2 summarises the overall structure of the experiment.

Table 2: Overview of the experiment

	Phase 1 (Task 1) (90")	**Phase 2 (Task 2) (90")**	**Phase 3 (Task 3) (90")**
Group C (control)	Solve Math Sheet 1	Do nothing	Solve Math Sheet 2
Group E (easy)		Find an easy word	
Group D (difficult)		Find a difficult word	

In the first phase, all participants completed the first task: Math Sheet 1 – a math sheet with 100 simple math equations randomly generated from https://mathsbot.com/questionGenerator with a difficulty level of 1 (see Appendix A). The ratio of four operations (addition, subtraction, multiplication, division) is equal, with 25 questions for each kind of operation. The first task required students to solve as many problems as possible within 90 seconds.

In the second phase, students in group C (control group) waited 90 seconds without a task. Students in group E (Easy) and group D (Difficult) scanned a 590 words-length document to find a word (Figure 2). The document contained the plot of *Harry Potter and the Goblet of Fire*, which I extracted from Wikipedia. Harry Potter is a famous book about the wizarding world and includes many Latin words. Therefore, students were unlikely to feel awkward when requested to find a strange expression. Students in group E needed to find the word "Veritaserum" (the name of a drink), which appears in the last paragraph of the document. This task can be solved by using regular scanning and skimming techniques. Students in group D had a more difficult task: finding "Frectbadwasai", a nonsense word constructed by the first letter of each line in the second paragraph. I chose Harry Potter as the theme for this task because the story often contains strange words, and participants would have less mistrust about

the reality of the stated terms. During our pilot round with 60 students, only three found the made-up word within 90 seconds.

Regarding the last phase, all students solved Math Sheet 2, which included the same questions as Math Sheet 1 though with the order of the questions randomly shuffled to eliminate the effect of short-term memory on the result (see Appendix B).

Figure 2. The target keywords for task two

"Veritaserum" – Easy keyword for group B

Harry tells Dumbledore that Voldemort returned and is responsible for Cedric's death. Moody takes Harry back to his office to interrogate him about Voldemort, inadvertently blowing his cover when he asks Harry about a graveyard, despite Harry not mentioning a graveyard. Moody reveals that he submitted Harry's name to the Goblet of Fire and manipulated Harry to ensure he would win the tournament. Moody then attempts to kill Harry, but Dumbledore, Snape, and Minerva McGonagall subdue him. The teachers force Moody to drink Veritaserum, and he reveals that the real Moody is imprisoned in a magical trunk as his Polyjuice Potion wears off. He is revealed as Crouch Jr. and returned to Azkaban.

"Frectbadwasai" – Difficult keyword for group C

For the first task, each champion must retrieve a golden egg guarded by a dragon. Harry succeeds in retrieving his egg, which contains information about the second challenge. Shortly after, a formal dance event known as the Yule Ball takes place; Harry and Ron attend with Parvati and Padma Patil, Harry's crush Cho Chang attends with Cedric, and Hermione attends with Viktor, making Ron jealous. The second task involves the champions diving underwater to rescue someone valuable to them. Harry finishes third, but is promoted to second behind Cedric due to his "moral fibre", after saving Fleur's sister Gabrielle as well as Ron. Afterwards, Harry discovers the corpse of Crouch Sr. in the forest. While waiting for Dumbledore in his office, Harry discovers a Pensieve, which holds Dumbledore's memories. Harry witnesses a trial in which Igor Karkaroff confesses to the Ministry of Magic names of other Death Eaters after Voldemort's defeat. When he names Severus Snape, Dumbledore vouches for Snape's innocence; Snape turned spy against Voldemort before the latter's downfall. After Karkaroff names Barty Crouch Jr., a devastated Crouch Sr. imprisons his son in Azkaban. Exiting the Pensieve, Harry realizes that Crouch is the man he saw in his dream.

2.2 Data collection

The IRB approved the data collection process on Jan 2022. Thereafter, I conducted the experiment at nine schools in Hanoi, Hai Phong and Ho Chi Minh City, three major cities in Vietnam. At each school, I first discussed the experimental process with the school principal administration board to ensure the suitability for their students, including causing minimal emotional and psychological trauma to students. In each classroom, I explained the research protocol to students and teachers in charge of the relevant classes (homeroom teachers) to ensure they would not be negatively impacted by their performance during the experiment. To ensure minimal emotional impacts, I repeated two main points. First, the questions included in the experiment were primary math for Grade 3 students and were not meant to evaluate the mathematical competencies of participants (Eighth-Graders). Second, students' results would be recorded anonymously so there would not be comparisons among students.

After listening to the explanation of the activities, only students willing to attend stayed in the class. Students who did not want to spend their break time to join the experiment were invited to go out of the classroom to enjoy their break time. This arrangement ensured that ethical

requirements were met and contributed to minimising distractions from non-participants. The investigators and homeroom teachers simultaneously handled the experiment handouts at randomly selected classes to ensure that students would not leak information about the experiment to other classes that might affect the results. All sessions were organised during students' long break-time sessions in the morning to eliminate the potential effects on students' pleasure caused by the cancellation of scheduled classes.

Within each class, I randomly selected 20% of students for Group C (control group), 40% for Group E (easy task), and 40% for Group D (difficult task). However, students were not told the differences among the groups or their group allocations. Table 3 summarises the descriptive statistics of the participants. The final dataset includes the results of 1,228 grade 8 students (586 male and 642 female) and is available at Harvard Dataverse (Hoang, 2022).

Table 3: Descriptive statistics

Gender		
Male	586	47.72%
Female	642	52.28%
Type of activity in task 2		
Do nothing	***266***	***21.66%***
Easy task	***477***	***38.84%***
Pass	250	*20.35%*
Fail	227	*18.49%*
Difficult task	***485***	***39.50%***
Pass	154	12.54%
Fail	331	26.96%
Total	***1,228***	***100%***

Method and variables

This study does not focus on the differences in student's abilities, which would require complex benchmarks and indicators, especially when comparing the results of students from different cultures. Rather than comparing the absolute value of derivatives in mathematical tasks among participants, I primarily considered the gap between each participant's performance on task one and task three. Table 4 includes a description of the variables measured in this study.

While regular analyses such as ANOVA, Kruskal-Wallis's test, and Dunn's test can compare differences between parametric and non-parametric variables, they are limited within a single-level of demographics, for instance, result differences among sub-groups such as genders, grade levels, etc. Scholars have designed various Bayesian models to examine random effects on students' academic performance (Arreola & Wilson, 2020; Cabras & Tena Horrillo, 2016). I formed a multi-level varying intercept model to examine the impact of short-term pressures on students' performances in various sequences between different tasks (Figure 3). I adopted this model from the Bayesian Mindsponge Framework (BMF) (Vuong & Napier, 2015; Vuong, 2023), developed to support a complexity in a theoretical model in social science research (Nguyen et al., 2022). In the field of educational psychology, the framework has been adopted to explore the sense of connectedness and the behaviour of help-seeking (Nguyen et al., 2021). The BMF approach also allows researchers to imply simulations based on the actual results of small numbers of observations within each sub-group. The validations of simulations also ensure higher generalisability. To perform the BMF, this study adopted the bayesvl package 0.8.5 in R software, version 3.6.3, developed by Vuong et al. (2020).

Figure 3: The primary model

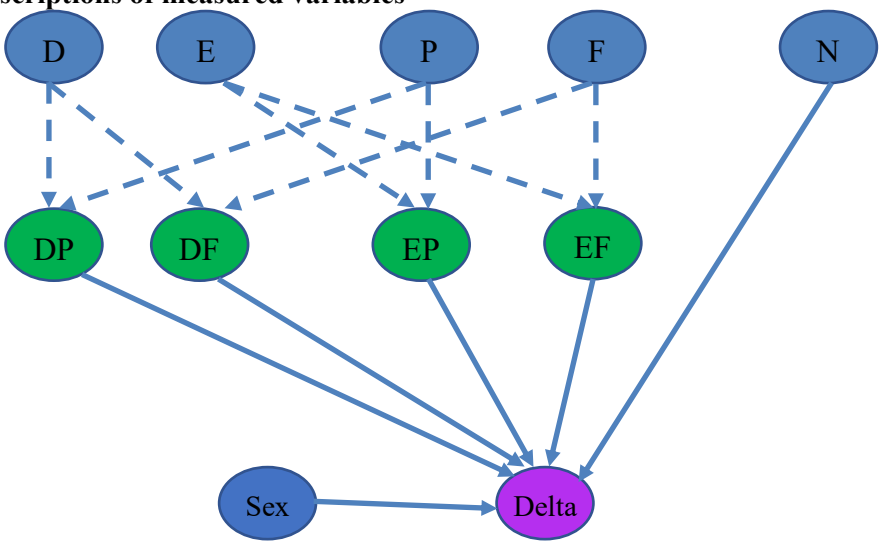


Table 4: Descriptions of measured variables

Code	Definition of variables
Sex	A binomial variable determines whether the participant is a male (1) or a female (0).
C	A binomial variable determines whether the participant belongs to the control group (1) or not (0).
E	A binomial variable determines whether the participant belongs to group E, which must find the easy word in task 2 (1) or not (0).
D	A binomial variable determines whether the participant belongs to group D, which must find the problematic word in task 2 (1) or not (0).
P	A binomial variable determines whether the participant found the word in task 2 (1) or not (0).
F	A binomial variable determines whether the participant failed task 2 (1) or not (0).
N	A binomial variable determines whether the participant do nothing in task 2 (1) or not (0).
DP	A binomial variable determines whether the participant passed the difficult task in task 2 (1) or not (0).
DF	A binomial variable determines whether the participant failed the difficult task in task 2 (1) or not (0).
EP	A binomial variable determines whether the participant passed the easy task in task 2 (1) or not (0).
EF	A binomial variable determines whether the participant failed the easy task in task 2 (1) or not (0).
Delta	Numerical value, the subtraction of the participant's result in task 3 and task 1.

Appendix C contains the R code used to perform the analysis. Figure 2 illustrates the primary model for evaluating short-term pressure's impact on student's performance. Blue nodes present the original observations, while green nodes represent transformed variables. For instance, if the participant must find the problematic word in task two and complete the task within 90

seconds, that result will be presented by a green node "DP". The overall mathematical formulation of this model can be expressed as:

Delta ~ b_E_and_P_Delta * E*P + b_E_and_F_Delta * E*F + b_D_and_P_Delta * D*P + b_D_and_F_Delta * D*F + b_N_Delta * N + a_SEX[SEX]

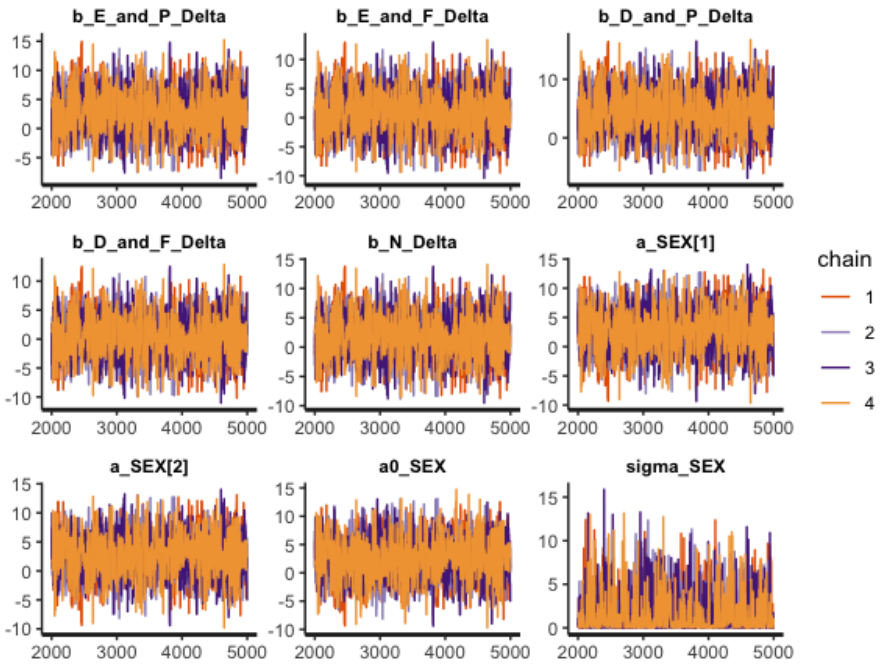
Model validation

Table 5 presents the results of the Markov Chain Monte Carlo (MCMC) simulation regarding the posterior distributions. I performed 4 MCMC chains, with 5,000 steps for each (including 2000 warmup draws and 3000 post-warmup draws). According to Brooks & Gelman (1998), the model can be validated as an adequate sample size (n_eff) bigger than 1000 independent samples and Rhat of 1, which shows the convergence of Markov links to the target distribution. In addition, Figure 4 presents the stability of four MCMC chains, in which the only sign of abnormal dissociation belongs to the participants' gender. Though the coefficients of a_SEX[1] (2.70) and a_SEX[2] (2.65) are close, which means there is no difference in change of students' outcomes regarding genders. Therefore, I excluded students' gender in the further interpretation of this research. To supplement the n_eff and Rhat, the Gelman Shrink factor test (Gelman & Rubin, 1992) shows rapid convergences to 1.0 in most simulations (Appendix D). Also, except for the variable Sex, the distributions of all coefficients satisfy the technical requirement at 89% HPDI (Highest Posterior Distribution Intervals), see Appendix E.

Table 5. Results of posteriors distribution, using Markov Chain Monte Carlo simulation for the model of short-term pressure on student performance

4 chains, each with iter=5000; warmup=2000; thin=1; post-warmup draws per chain=3000, total post-warmup draws=12000.										
	mean	se_mean	sd	2.5%	25%	50%	75%	97.5%	n_eff	Rhat
b_E_and_P_Delta	2.85	0.08	3.34	-3.70	0.65	2.82	4.98	9.66	1640	1
b_E_and_F_Delta	0.91	0.08	3.34	-5.61	-1.29	0.88	3.05	7.73	1639	1
b_D_and_P_Delta	4.46	0.08	3.34	-2.09	2.27	4.43	6.61	11.28	1639	1
b_D_and_F_Delta	0.41	0.08	3.34	-6.12	-1.78	0.40	2.55	7.22	1639	1
b_N_Delta	1.71	0.08	3.34	-4.84	-0.49	1.68	3.85	8.52	1640	1
a_SEX[1]	2.70	0.08	3.34	-4.09	0.56	2.73	4.90	9.25	1639	1
a_SEX[2]	2.65	0.08	3.34	-4.16	0.52	2.67	4.85	9.20	1639	1
a0_SEX	2.53	0.09	3.39	-4.26	0.34	2.60	4.76	9.20	1592	1
sigma_SEX	1.16	0.06	1.75	0.01	0.11	0.42	1.41	6.42	1005	1

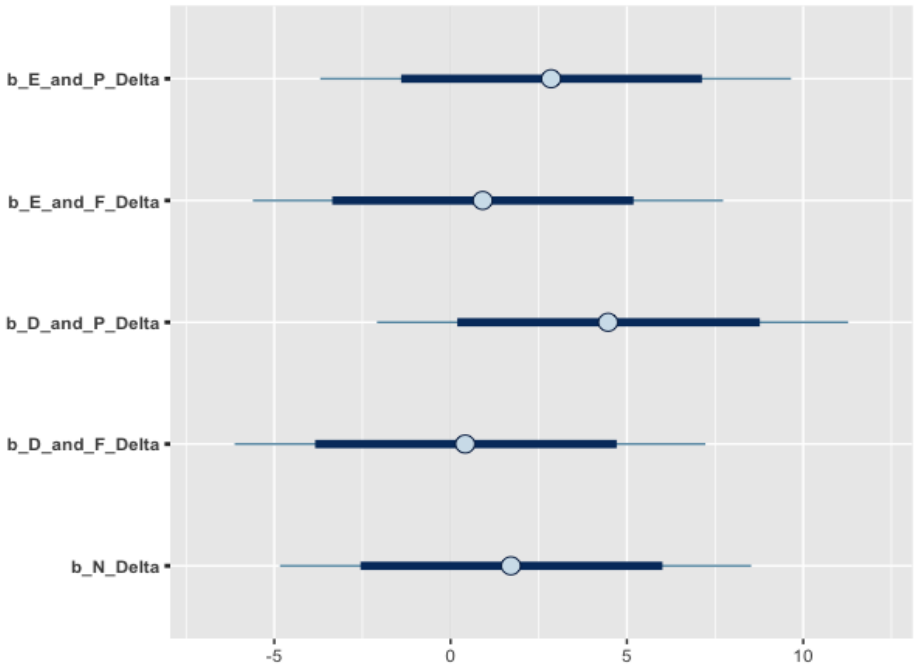
Figure 4: Results of MCMC chains for Bayesian Model of Short-term Pressure over Student Performance



RESULTS

Overall, the results show that all students achieved better results in task three than in task one. Also, there is no significant difference between the changes in outcomes for male and female students regarding the mean of 2.70 and 2.65 in Delta. There is an increase in students' performance in group C (control group), with a mean of 1.71 (Table 5), when considering the regular difference in results between task one and task three.

Figure 5. Means of students' changes between task 1 and task 3 across three groups



Group C students are those who had no task two. Smith et al. (2016) proposed that the intensity of stress on an individual's memory during the retrieval process depends on the strength of their memory. Their study stated that right after an individual experiences stress, there are both rapid and short, and gradual and long-lasting hormonal changes. Those changes deter the memory-strengthening processes. Therefore, as students in the control group were not involved in any stressful activities during task two, they did not face any chemical changes that hampered their memory. The control group's better-achieved results in task three might also result from the momentum they built by completing task one. That is, the students were familiar with how to perform the exercise and implemented short-term retrieval practices (Kuhlmann, 2005).

To answer the research question: *Does short-term pressure make students achieve better academic results?* I examined the changes in students from groups E and D. On the one hand, students in both groups performed better when they passed the challenge in task two. However, students involved in the problematic quest tended to have higher increments (mean of 4.46) than their peers who took the easier ones (mean of 2.85). This phenomenon complements the hypothetical model of Rudland et al. (2020) that stress can be good for learning. Whenever students are put into a difficult situation and can conquer the challenges, specific increments of endogenous factors inside their brains boost their working memory and help them attain higher achievements (McEwen, 2008).

On the other hand, students in groups E and D performed lower than the control group if they failed to find their words in task two, regardless of the difficulties of the challenges. In particular, the mean changes in the results of students who failed to find the easy and challenging words were 0.91 and 0.41, respectively. Those results are lower than the mean of changes in the control group's results (1.71). Ackerman & Gross (2003) discussed a similar issue in their study about negative emotions caused by perceived time pressure and time deprivation. However, more investigations are needed to explain the declining results of students who failed the easy task in step two. For instance, besides the influence of short-term pressure, students' short-term performance might be impacted by students' characteristics (Astuti & Pusparini, 2020), moods (Aniţei et al., 2013), motivations and engagement in activities (Papamitsiou et al., 2014).

CONCLUSION

The findings from this study strengthened the Yerkes & Dodson (1908) model concerning eustress and distress. Even though the same source of factors can cause various manifestations of stress and effects in different individuals (Selye, 1975), stress has certain roles in improving students' academic outcomes. My experiment showed that those students who found either the easy word or the problematic made-up word in task two performed better in task three; however, students who failed to find either the easy or the problematic word experienced worse results in task three compared to the control group. Therefore, it is not necessary to put students under extreme pressure situations. The notation of individualised and personalised learning should be extended beyond the customisation of students' questions, lessons and performance to include rounded perspectives about students' well-being. The accumulation of such short-term challenges at the proper levels will significantly contribute to the incremental learning of students (Jaeger & Adair, 2017). Oducado and Estoque (2021) showed that elevated stress levels can result in diminished learning, adaptation and memory retention, impacting cognitive functions such as focus, problem-solving and memory recall. In addition, stress can lead to diminished self-worth, challenges in managing circumstances, sleep disturbances, less focus and irregular eating habits, all of which can affect academic performance and personal

development (Kötter et al., 2017). Tibus & Ledesma (2021) also examined the correlation between stress and academic performance and emphasised the necessity of readily available stress management techniques to mitigate the adverse effects on students' learning and achievement.

Curriculum and instructional designers must consider an individual student's capacity, proficiency and traits to achieve a harmonious advancement in mental and cognitive growth. It is crucial to incorporate such distinct attributes to design challenges that align with the individual student's zone of proximal development through incremental changes in the complexity of learning activities (Groot et al., 2020). The findings of this study show that short-term pressure is only one factor among several that contribute to supporting students' well-rounded growth. In addition to the minor adjustments teachers can make in their classes, this research also suggests that school leaders and policymakers should revisit their measuring and evaluation policies and regulations to promote students' holistic development. It is unnecessary to create unanticipated pressure on students, notably via over-favoured-deadlock-questions. Instead, greater emphasis should be placed on cultivating students' competencies.

Finally, this study's findings contrast with the work of Prabu (2015), who claimed that male students perceive more stress than female students, and the study by Busari (2012), who found that male students perform better under pressure than female students. Similar to the finding of Khan et al. (2013), this study suggests that the influences of short-term pressure on male and female students are the same.

However, several limitations of this study should be addressed. First, the randomly selected students are eighth graders from public schools in big cities in Vietnam. They do not include rural students or students from bi-lingual and international schools. However, the results reflect Vietnamese school culture, in which students are familiar with various short-term pressures (blitz quizzes, oral exams, etc.) (Hoang et al., 2020). Second, it is evident that students with higher reading proficiency in English will have more chances to complete task two. T the control variable did not include differences in students' English capabilities. Third, as the difficult word in task two had been built on collecting letters vertically, it might be more difficult for ordinary readers and easier for dyslexic readers. Within this study's scope, I could not manage this difference. Finally, the experiment is designed to only measure the changes in simple math exercises, which does not represent the ability to capture students' overall academic performance (Nichols et al., 2012).

Concerning extending the impacts and implications of studies about stress and students' performance, I have several suggestions for future studies. First, I recommend that researchers worldwide duplicate this study to complement the differences in national and school cultures. Second, future studies should extend the control variables to minimise the research design's subjectivities and diversify the perspectives to compare different groups of students. For instance, various music and/or sounds can be used as distractions to measure students' focus across all experiment phases. Primarily, I encourage scholars to develop high stakes testing experiments to examine different effects on students' overall academic competencies. Last but not least, I strongly recommend researchers replicate the experiment with participants from more comprehensive ranges of ages and specialisations.

REFERENCES

Ackerman, D. S., & Gross, B. L. (2003). Is time pressure all bad? Measuring the relationship between free time availability and student performance and perceptions. *Marketing Education Review*, *13*(2), 21–32. https://doi.org/10.1080/10528008.2003.11488825

Addie N., Merians, Mischel, E., Frazier, P., & Lust, K. (2022). Relationships between childhood adversity and life functioning in US college students: Risk and resilience. *Journal of American College Health*, 1–11. https://doi.org/10.1080/07448481.2021.2024205

Aniţei, M., Chraif, M., & Liliana, M. (2013). Influence of fatigue on impulsiveness, aspiration level, performance motivation and frustration tolerance among young Romanian psychology students. *Procedia - Social and Behavioral Sciences*, *78*, 630–634. https://doi.org/10.1016/j.sbspro.2013.04.365

Arreola, E. V., & Wilson, J. R. (2020). Bayesian multiple membership multiple classification logistic regression model on student performance with random effects in university instructors and majors. *PLOS ONE*, *15*(1), e0227343. https://doi.org/10.1371/journal.pone.0227343

Astuti, E. S., & Pusparini, I. (2020). Video making task to decrease anxiety in students' speaking performance. *Journey (Journal of English Language and Pedagogy)*, *3*(1), 52–56. https://doi.org/10.33503/journey.v3i1.705

Bataineh, M. Z. (2013). Academic stress among undergraduate students: The case of education faculty at King Saud University. *International interdisciplinary journal of education*. *1*(1033), 1–7.

Branson, V., Dry, M. J., Palmer, E., & Turnbull, D. (2019). The Adolescent Distress-Eustress Scale: Development and validation. *SAGE Open*, *9*(3), 215824401986580. https://doi.org/10.1177/2158244019865802

Brooks, S. P., & Gelman, A. (1998). General methods for monitoring convergence of iterative simulations. *Journal of Computational and Graphical Statistics*, *7*(4), 434–455. https://doi.org/10.1080/10618600.1998.10474787

Busari, A. O. (2012). Evaluating the relationship between gender, age, depression and academic performance among adolescents. *Scholarly Journal of Education*, *1*(1), 6–12.

Cabras, S., & Tena Horrillo, J. de D. (2016). A Bayesian non-parametric modeling to estimate student response to ICT investment. *Journal of Applied Statistics*, *43*(14), 2627–2642. https://doi.org/10.1080/02664763.2016.1142946

Cahill, L., Gorski, L., & Le, K. (2003). Enhanced human memory consolidation with post-learning stress: Interaction with the degree of arousal at encoding. *Learning & Memory*, *10*(4), 270–274. https://doi.org/10.1101/lm.62403

Carveth, J. A., Gesse, T., & Moss, N. (1996). Survival strategies for nurse-midwifery students. *Journal of Nurse-Midwifery*, *41*(1), 50–54. https://doi.org/10.1016/0091-2182(95)00072-0

Cooper, C. L., & Payne, R. L. (1992). International perspectives on research into work, well-being, and stress management. In *Stress & well-being at work: Assessments and interventions for occupational mental health.* (pp. 348–368). American Psychological Association. https://doi.org/10.1037/10116-023

Coughlan, M., Cronin, P., & Ryan, F. (2009). Survey research: Process and limitations. *International Journal of Therapy and Rehabilitation*, *16*(1), 9–15. https://doi.org/10.12968/ijtr.2009.16.1.37935

de Kloet, E. R., Joëls, M., & Holsboer, F. (2005). Stress and the brain: From adaptation to disease. *Nature Reviews Neuroscience*, *6*(6), 463–475. https://doi.org/10.1038/nrn1683

Deb, S., Strodl, E., & Sun, J. (2014). Academic-related stress among private secondary school students in India. *Asian Education and Development Studies*, *3*(2), 118–134. https://doi.org/10.1108/AEDS-02-2013-0007

Gelman, A., & Rubin, D. B. (1992). Inference from iterative simulation using multiple sequences. *Statistical Science*, *7*(4). https://doi.org/10.1214/ss/1177011136

Gibbons, C., Dempster, M., & Moutray, M. (2009). Surveying nursing students on their sources of stress: A validation study. *Nurse Education Today*, *29*(8), 867–872. https://doi.org/10.1016/j.nedt.2009.04.008

Goodie, A. S., & Crooks, C. L. (2004). Time-pressure effects on performance in a base-rate task. *The Journal of General Psychology*, *131*(1), 18–28. https://doi.org/10.3200/GENP.131.1.18-28

Groot, F., Jonker, G., Rinia, M., ten Cate, O., & Hoff, R. G. (2020). Simulation at the frontier of the zone of proximal development: A test in acute care for inexperienced learners. *Academic Medicine*, *95*(7), 1098–1105. https://doi.org/10.1097/ACM.0000000000003265

Hancock, P. A. (1989). A dynamic model of stress and sustained attention. *Human Factors: The Journal of the Human Factors and Ergonomics Society*, *31*(5), 519–537. https://doi.org/10.1177/001872088903100503

Hoang, A.-D. (2020). Pandemic and teacher retention: Empirical evidence from expat teachers in Southeast Asia during COVID-19. *International Journal of Sociology and Social Policy*, *40*(9/10), 1141–1166. https://doi.org/10.1108/IJSSP-07-2020-0269

Hoang, A.-D. (2022). *Replication data for: Impact of short-term pressure on student's performance: An Experimental Study* (Harvard Dataverse, V1). https://doi.org/10.7910/DVN/SKSDLZ

Hoang, A.-D. (2023). A bibliometrics analysis of research on teachers' satisfaction from 1956 to 2022. *International Journal of Educational Management*, *37*(1), 164–185. https://doi.org/10.1108/IJEM-01-2022-0009

Hoang, A.-D., Pham, H.-H., Nguyen, Y.-C., Nguyen, L.-K.-N., Vuong, Q.-H., Dam, M. Q., Tran, T., & Nguyen, T.-T. (2020). Introducing a tool to gauge curriculum quality under Sustainable Development Goal 4: The case of primary schools in Vietnam. *International Review of Education*, *66*(4), 457–485. https://doi.org/10.1007/s11159-020-09850-1

Jaeger, M., & Adair, D. (2017). Time pressure in scenario-based online construction safety quizzes and its effect on students' performance. *European Journal of Engineering Education*, *42*(3), 241–251. https://doi.org/10.1080/03043797.2016.1153042

Kaiseler, M., Polman, R., & Nicholls, A. (2009). Mental toughness, stress, stress appraisal, coping and coping effectiveness in sport. *Personality and Individual Differences*, *47*(7), 728–733. https://doi.org/10.1016/j.paid.2009.06.012

Khan, M. J., Altaf, S., & Kausar, H. (2013). Effect of perceived academic stress on students' performance. *FWU Journal of Social Sciences*, *7*(2).

Kötter, T., Wagner, J., Brüheim, L., & Voltmer, E. (2017). Perceived medical school stress of undergraduate medical students predicts academic performance: An observational study. *BMC Medical Education*, *17*(1), 256. https://doi.org/10.1186/s12909-017-1091-0

Kuhlmann, S. (2005). Impaired memory retrieval after psychosocial stress in healthy young men. *Journal of Neuroscience*, *25*(11), 2977–2982. https://doi.org/10.1523/JNEUROSCI.5139-04.2005

Kupiainen, S., Hautamäki, J., & Karjalainen, T. (2009). *The Finnish education system and PISA*. opetus-ja kulttuuriministeriö.

LeBlanc, V. R. (2009). The effects of acute stress on performance: Implications for health professions education. *Academic Medicine*, *84*(Supplement), S25–S33. https://doi.org/10.1097/ACM.0b013e3181b37b8f

Li, C.-T., Cao, J., & Li, T. M. H. (2016). Eustress or distress. *Proceedings of the 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing: Adjunct*, 1209–1217. https://doi.org/10.1145/2968219.2968309

Maynard, T. (2001). The student teacher and the school community of practice: A consideration of 'learning as participation'. *Cambridge Journal of Education*, *31*(1), 39–52. https://doi.org/10.1080/03057640123915

McEwen, B. S. (2008). Central effects of stress hormones in health and disease: Understanding the protective and damaging effects of stress and stress mediators. *European Journal of Pharmacology*, *583*(2–3), 174–185. https://doi.org/10.1016/j.ejphar.2007.11.071

McHale, S. M., Blocklin, M. K., Walter, K. N., Davis, K. D., Almeida, D. M., & Klein, L. C. (2012). The role of daily activities in youths' stress physiology. *Journal of Adolescent Health*, *51*(6), 623–628. https://doi.org/10.1016/j.jadohealth.2012.03.016

Nelson, D., & Cooper, C. (2005). Stress and health: A positive direction. *Stress and Health*, *21*(2), 73–75. https://doi.org/10.1002/smi.1053

Nguyen, M.-H., La, V.-P., Le, T.-T., & Vuong, Q.-H. (2022). Introduction to Bayesian Mindsponge Framework analytics: An innovative method for social and psychological research. *MethodsX*, *9*, 101808. https://doi.org/10.1016/j.mex.2022.101808

Nguyen, M.-H., Le, T.-T., Nguyen, H.-K. T., Ho, M.-T., Nguyen, H. T. T., & Vuong, Q.-H. (2021). Alice in Suicideland: Exploring the suicidal ideation mechanism through the sense of connectedness and help-seeking behaviors. *International Journal of Environmental Research and Public Health*, *18*(7), 3681. https://doi.org/10.3390/ijerph18073681

Nichols, S., Glass, G., & Berliner, D. (2012). High-stakes testing and student achievement: Updated analyses with NAEP data. *Education Policy Analysis Archives*, *20*, 20. https://doi.org/10.14507/epaa.v20n20.2012

Oducado, R. M. F., & Estoque, H. (2021). Online learning in nursing education during the COVID-19 Pandemic: Stress, satisfaction, and academic performance. *Journal Of Nursing Practice*, *4*(2), 143–153. https://doi.org/10.30994/jnp.v4i2.128

Papamitsiou, Z. K., Terzis, V., & Economides, A. A. (2014). Temporal learning analytics for computer-based testing. *Proceedings of the Fourth International Conference on Learning Analytics and Knowledge*, 31–35. https://doi.org/10.1145/2567574.2567609

Prabu, P. S. (2015). A study on academic stress among higher secondary students. *International Journal of Humanities and Social Science Invention*, *4*(10), 63–68.

Rudland, J. R., Golding, C., & Wilkinson, T. J. (2020). The stress paradox: How stress can be good for learning. *Medical Education*, *54*(1), 40–45. https://doi.org/10.1111/medu.13830

Schwabe, L., Bohringer, A., Chatterjee, M., & Schachinger, H. (2008). Effects of pre-learning stress on memory for neutral, positive and negative words: Different roles of cortisol and autonomic arousal. *Neurobiology of Learning and Memory*, *90*(1), 44–53. https://doi.org/10.1016/j.nlm.2008.02.002

Selye, H. (1936). A syndrome produced by diverse nocuous agents. *Nature*, *138*(3479), 32–32. https://doi.org/10.1038/138032a0

Selye, H. (1950). Stress and the general adaptation syndrome. *BMJ*, *1*(4667), 1383–1392. https://doi.org/10.1136/bmj.1.4667.1383

Selye, H. (1975). Confusion and controversy in the stress field. *Journal of Human Stress*, *1*(2), 37–44. https://doi.org/10.1080/0097840X.1975.9940406

Smeets, T., Giesbrecht, T., Jelicic, M., & Merckelbach, H. (2007). Context-dependent enhancement of declarative memory performance following acute psychosocial stress. *Biological Psychology*, *76*(1–2), 116–123. https://doi.org/10.1016/j.biopsycho.2007.07.001

Smith, A. M., Floerke, V. A., & Thomas, A. K. (2016). Retrieval practice protects memory against acute stress. *Science*, *354*(6315), 1046–1048. https://doi.org/10.1126/science.aah5067

Tam, H., Kwok, S. Y. C. L., Ling, C. C. Y., & Li, C. I. (2018). The moderating effects of positive psychological strengths on the relationship between tiger parenting and child anxiety. *Children and Youth Services Review*, *94*, 207–215. https://doi.org/10.1016/j.childyouth.2018.10.012

Thoits, P. A. (2010). Stress and health: Major findings and policy implications. *Journal of Health and Social Behavior*, *51*(1_suppl), S41–S53. https://doi.org/10.1177/0022146510383499

Tibus, E. D., & Ledesma, S. K. G. (2021). Factors of academic stress: Do they impact English academic performance? *International Journal of Evaluation and Research in Education (IJERE)*, *10*(4), 1446. https://doi.org/10.11591/ijere.v10i4.21296

Vainikainen, M.-P., & Hautamäki, J. (2022). Three studies on learning to learn in Finland: Anti-Flynn effects 2001–2017. *Scandinavian Journal of Educational Research*, *66*(1), 43–58. https://doi.org/10.1080/00313831.2020.1833240

Vogel, S., & Schwabe, L. (2016). Learning and memory under stress: Implications for the classroom. *Npj Science of Learning*, *1*(1), 16011. https://doi.org/10.1038/npjscilearn.2016.11

Vuong, Q.-H. (2023). *Mindsponge theory*. Walter De Gruyter GmbH.

Vuong, Q.-H., La, V.-P., Nguyen, M.-H., Ho, M.-T., Tran, T., & Ho, M.-T. (2020). Bayesian analysis for social data: A step-by-step protocol and interpretation. *MethodsX*, *7*, 100924. https://doi.org/10.1016/j.mex.2020.100924

Vuong, Q. H. (Ed.). (2022). *A new theory of serendipity: Nature, emergence and mechanism*. Walter De Gruyter GmbH.

Vuong, Q. H., & Napier, N. K. (2015). Acculturation and global mindsponge: An emerging market perspective. *International Journal of Intercultural Relations*, *49*, 354–367. https://doi.org/10.1016/j.ijintrel.2015.06.003

Wells, S. J., Merritt, L. M., & Briggs, H. E. (2009). Bias, racism and evidence-based practice: The case for more focused development of the child welfare evidence base. *Children and Youth Services Review*, *31*(11), 1160–1171. https://doi.org/10.1016/j.childyouth.2009.09.002

Yang, M.-Y., Harmeyer, E., Chen, Z., & Lofaso, B. M. (2018). Predictors of early elementary school suspension by gender: A longitudinal multilevel analysis. *Children and Youth Services Review*, *93*, 331–338. https://doi.org/10.1016/j.childyouth.2018.08.008

Yerkes, R. M., & Dodson, J. D. (1908). The relation of strength of stimulus to rapidity of habit formation. *Journal of Comparative Neurology & Psychology*.

APPENDICES

Appendix A. Math sheet 1

TASK 1 – SOLVE AS MUCH AS YOU CAN WITHIN 90 SECONDS

Name: **Score:**

11 + 27 =	9 + 35 =	42 + 26 =	14 + 22 =
45 – 16 =	93 – 17 =	54 – 18 =	52 – 24 =
73 x 6 =	9 x 81 =	24 x 5 =	33 x 4 =
14 ÷ 2 =	48 ÷ 8 =	42 ÷ 6 =	54 ÷ 9 =
14 + 18 =	21 + 4 =	23 + 48 =	31 + 29 =
86 – 14 =	67 – 17 =	84 – 26 =	56 – 18 =
7 x 96 =	87 x 5 =	23 x 5 =	16 x 6 =
10 ÷ 5 =	72 ÷ 9 =	64 ÷ 8 =	55 ÷ 5 =
5 + 77 =	9 + 35 =	45 + 46 =	23 + 58 =
69 – 7 =	35 – 12 =	57 – 16 =	82 – 27 =
55 x 2 =	8 x 32 =	26 x 3 =	32 x 4 =
9 ÷ 3 =	24 ÷ 3 =	60 ÷ 12 =	84 ÷ 7 =
12 + 83 =	79 + 12 =	24 + 31 =	29 + 32 =
96 – 18 =	82 – 16 =	72 – 36 =	56 – 24 =
16 x 3 =	9 x 16 =	14 x 6 =	17 x 3 =
24 ÷ 3 =	36 ÷ 4 =	84 ÷ 4 =	72 ÷ 4 =
67 + 14 =	27 + 12 =	52 + 39 =	63 + 48 =
75 - 19 =	28 – 12 =	99 – 42 =	86 – 27 =
46 x 4 =	4 x 30 =	19 x 3 =	23 x 5 =
16 ÷ 4 =	49 ÷ 7 =	78 ÷ 6 =	82 ÷ 2 =
24 + 88 =	22 + 39 =	34 + 48 =	46 + 73 =
39 – 15 =	65 – 14 =	65 – 28 =	72 – 46 =
7 x 77 =	70 x 8 =	32 x 4 =	43 x 5 =
20 ÷ 5 =	81 ÷ 9 =	69 ÷ 3 =	72 ÷ 3 =
7+ 75 =	85 – 16 =	19 x 5 =	85 ÷ 5 =

Appendix B. Math sheet 2

TASK 3 – SOLVE AS MUCH AS YOU CAN WITHIN 90 SECONDS

Name: **Score:**

42 + 26 =	14 + 22 =	9 + 35 =	11 + 27 =
24 + 31 =	29 + 32 =	79 + 12 =	12 + 83 =
72 – 36 =	56 – 24 =	82 – 16 =	96 – 18 =
14 x 6 =	17 x 3 =	9 x 16 =	16 x 3 =
23 + 48 =	31 + 29 =	21 + 4 =	14 + 18 =
84 ÷ 4 =	72 ÷ 4 =	36 ÷ 4 =	24 ÷ 3 =
52 + 39 =	63 + 48 =	27 + 12 =	67 + 14 =
45 + 46 =	23 + 58 =	9 + 35 =	5 + 77 =
34 + 48 =	46 + 73 =	22 + 39 =	24 + 88 =
65 – 28 =	72 – 46 =	65 – 14 =	39 – 15 =
26 x 3 =	32 x 4 =	8 x 32 =	55 x 2 =
60 ÷ 12 =	84 ÷ 7 =	24 ÷ 3 =	9 ÷ 3 =
84 – 26 =	56 – 18 =	67 – 17 =	86 – 14 =
23 x 5 =	16 x 6 =	87 x 5 =	7 x 96 =
78 ÷ 6 =	82 ÷ 2 =	49 ÷ 7 =	16 ÷ 4 =
42 ÷ 6 =	54 ÷ 9 =	48 ÷ 8 =	14 ÷ 2 =
32 x 4 =	43 x 5 =	70 x 8 =	7 x 77 =
19 x 3 =	23 x 5 =	4 x 30 =	46 x 4 =
57 – 16 =	82 – 27 =	35 – 12 =	69 – 7 =
99 – 42 =	86 – 27 =	28 – 12 =	75 - 19 =
24 x 5 =	33 x 4 =	9 x 81 =	73 x 6 =
64 ÷ 8 =	55 ÷ 5 =	72 ÷ 9 =	10 ÷ 5 =
54 – 18 =	52 – 24 =	93 – 17 =	45 – 16 =
69 ÷ 3 =	72 ÷ 3 =	81 ÷ 9 =	20 ÷ 5 =
19 x 5 =	85 ÷ 5 =	85 – 16 =	7+ 75 =

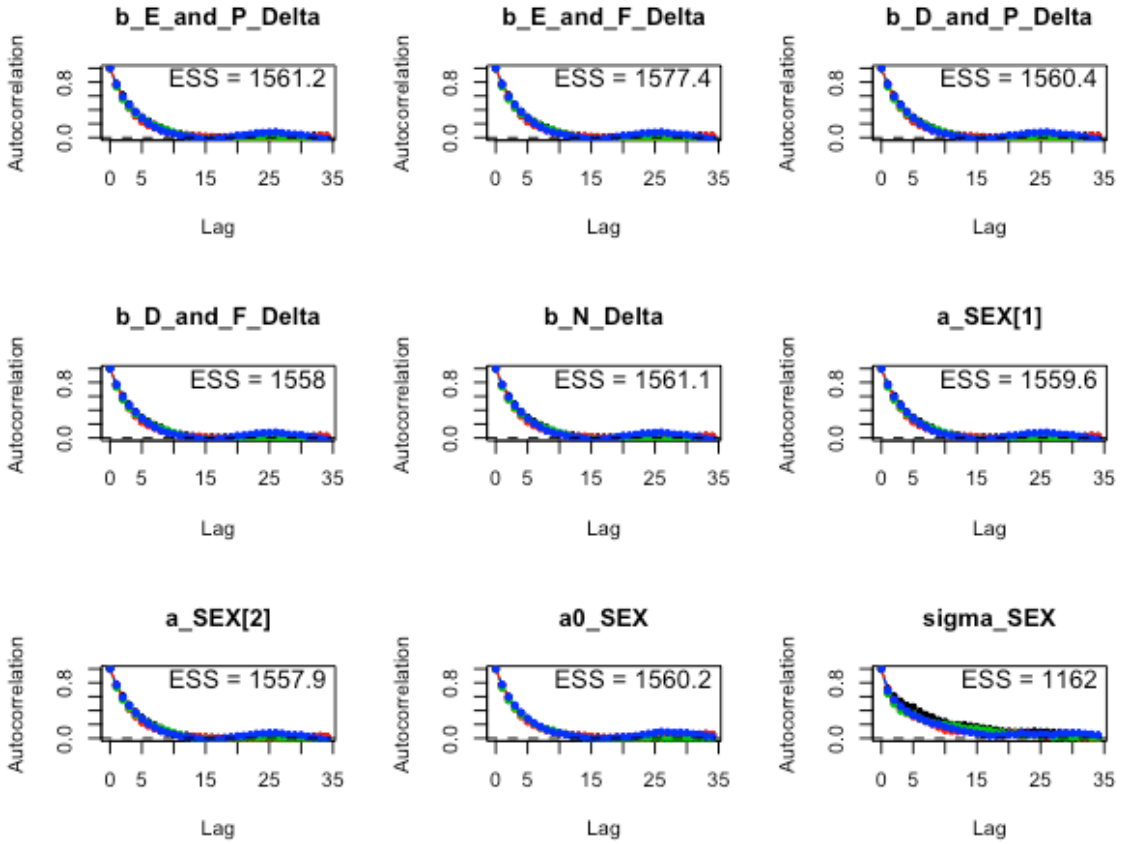
Appendix C. R code

```
library(readxl)
library(dplyr)
library(ggplot2)
library(reshape2)
library("bayesvl")
library("rstan")

model1=read.csv(file = "Pressure1200.csv",header = T)

model1[colSums(!is.na(model1)) > 0]

#1Design the model
model <- bayesvl()
model <- bvl_addNode(model,"E","binom")
model <- bvl_addNode(model,"D","binom")
model <- bvl_addNode(model,"N","binom")
model <- bvl_addNode(model,"P","binom")
model <- bvl_addNode(model,"F","binom")
model <- bvl_addNode(model,"Delta","norm")
model <- bvl_addNode(model,"SEX","binom")

#Step 2a create trans variables
model <- bvl_addNode(model,"E_and_P","trans")
model <- bvl_addNode(model,"E_and_F","trans")
model <- bvl_addNode(model,"D_and_P","trans")
model <- bvl_addNode(model,"D_and_F","trans")

#Step 2b define the relationship of transforming data

model <- bvl_addArc(model,"E", "E_and_P","*")
model <- bvl_addArc(model,"P", "E_and_P","*")

model <- bvl_addArc(model,"E", "E_and_F","*")
model <- bvl_addArc(model,"F", "E_and_F","*")

model <- bvl_addArc(model,"D", "D_and_P","*")
model <- bvl_addArc(model,"P", "D_and_P","*")

model <- bvl_addArc(model,"D", "D_and_F","*")
model <- bvl_addArc(model,"F", "D_and_F","*")

#Step 4 a. Regression between transformed data (Pub) -> Outcome (varint/slope)

model <- bvl_addArc(model,"E_and_P","Delta","slope")
model <- bvl_addArc(model,"E_and_F","Delta","slope")
model <- bvl_addArc(model,"D_and_P","Delta","slope")
model <- bvl_addArc(model,"D_and_F","Delta","slope")
model <- bvl_addArc(model,"N","Delta","slope")

#Step 4c: Hoi quy phan lop (Varying intercepts) for additional variable (normaly gender)
```

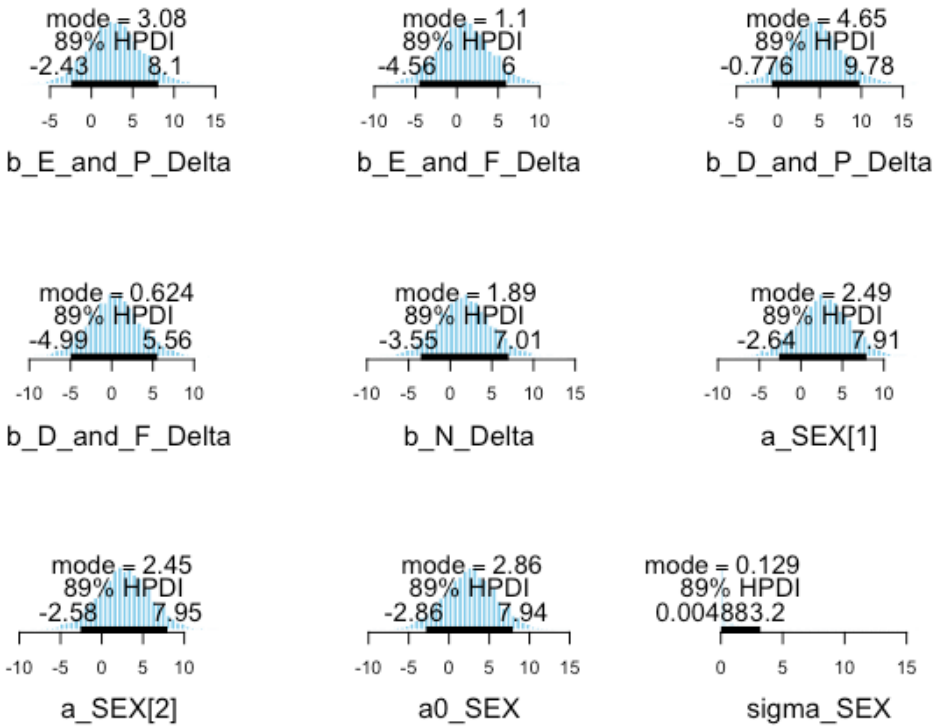
```
model <- bvl_addArc(model,"SEX","Delta","varint",priors=c("a0_~normal(0,5)","sigma_~normal(0,5)"))

#Step 5: network print to TEST logical connection
bvl_bnPlot(model)

#Step 6: Check logic,

summary(model)

#Step 7: Stan code:

model_string <- bvl_model2Stan(model)
cat(model_string)

#Step 8

bvl_stanPriors(model)

#Step 9: Danh gia mo hinh bang bnlearn (Cho cac independent test)
bvl_bnScore(model,model1)

bvl_bnStrength(model,model1)

#còn lại anh dùng cái bvl_LOOtest để xác định xem mô hình có tốt k

#Step 10: Mo phong MCMC, mo phong phan phoi xac xuat cua cac posteriors
model <- bvl_modelFit(model, model1, warmup = 2000, iter = 5000, chains = 4, cores = 4)

#warmup 3000 iter 8000

#Step 10b: summary
summary(model)

#Step 11: plot MCMC
bvl_plotTrace(model)

#Step 12: Ggelman Shrink factors test
bvl_plotGelmans(model, NULL, 3, 3)

#(model, NULL, No of row, No of col)

#Step 13: Autocorrelation cua tung he so
bvl_plotAcfs(model,NULL,3,3)

#Step 14: Danh gia tong quan cac he so hoi quy
bvl_plotIntervals(model)

#14B: PHAN PHOI CUA CAC HE SO
bvl_plotParams(model,3,3)
```

```
#Step 15 a: Danh gia rieng cac he so 1 nhom

bvl_plotIntervals(model,c("b_E_and_P_Delta", "b_E_and_F_Delta"))

bvl_plotIntervals(model,c("b_D_and_P_Delta", "b_D_and_F_Delta"))

bvl_plotIntervals(model,c("b_E_and_P_Delta", "b_E_and_F_Delta", "b_D_and_P_Delta",
"b_D_and_F_Delta", "b_N_Delta"))

#15b: Tuong quan phan phoi posteriors


bvl_plotDensity(model,c("b_E_and_P_Delta", "b_E_and_F_Delta", "b_D_and_P_Delta",
"b_D_and_F_Delta", "b_N_Delta"))

#17a: So sánh tương quan khác theo từng cặp

bvl_plotDensity2d(model,"b_E_and_P_Delta", "b_E_and_F_Delta", color_scheme="blue")
bvl_plotDensity2d(model,"b_D_and_P_Delta", "b_D_and_F_Delta", color_scheme="blue")

bvl_plotDensity2d(model,"b_E_and_P_Delta", "b_D_and_P_Delta", color_scheme="green")
bvl_plotDensity2d(model,"b_E_and_F_Delta", "b_D_and_F_Delta", color_scheme="red")


bvl_plotDensity2d(model,"b_E_and_F_Delta", "b_N_Delta", color_scheme="orange")
bvl_plotDensity2d(model,"b_D_and_F_Delta", "b_N_Delta", color_scheme=" orange")

bvl_plotDensity2d(model,"b_E_and_P_Delta", "b_N_Delta", color_scheme="navy")
bvl_plotDensity2d(model,"b_D_and_P_Delta", "b_N_Delta", color_scheme="navy")
```

Appendix D. Results of the Gelman Shrink Factor Test



Appendix E. HPDI



The International Education Journal: Comparative Perspectives Vol. 23, No 1, 2024
http://iejcomparative.org

BOOK REVIEW:

Local literacies in early childhood: Inequalities in place, policy and pedagogy

Hanying Mao
Monash University, Australia: Hanying.mao@monash.edu
Philip Wing Keung Chan
Monash University, Australia: *Philip.k.chan@monash.edu*

BOOK REVIEW: Smith, Helen Victoria. (2021). *Local Literacies in Early Childhood: Inequalities in place, policy, and pedagogy.* Taylor and Francis Group. ISBN 1-00-303205-2. 174 pages

Have you heard of the ancient Chinese story of Mencius[1]' mother moving three times to show the importance of the right environment for a child's upbringing? When he was three, his father died. His mother raised him. Mencius was smart and good at imitation when he was a child. *Biographies of Exemplary Women*[2] recorded that Mencius' childhood home was near a cemetery, where he found delight in mimicking the gravediggers at play, leaping and frolicking amidst tombstones. Mencius' wise mother considered it harmful to her son, so she decided to relocate their home to another place near a crowded marketplace. But another thing happened. Mencius enthusiastically behaved as a salesman to sell items. Then Mencius' mother saw that it wasn't a good way for his son's growth. Finally, they moved their house beside the school, where Mencius used his imagination to play out the rituals and etiquette of the academic world. His mother gushed, 'This is where my son should live'. From then on, they lived there. Mencius' abilities blossomed in this supportive setting. He became a renowned Confucian scholar and a shining example of discipline as he matured, mastering the six classical arts: rites, music, archery, riding, writing and arithmetic.

This is a widely known story in East Asia. Moving forward, it symbolised the profound influence of the environment and maternal guidance, a tribute to the power of a mother's nurturing hand in shaping a remarkable destiny. Parental beliefs have a significant impact on the development of children's literacy abilities; hence, shaping the extent of parental engagement in fostering their children's literacy development is important (Minna et al., 2022).

Local literacies in early childhood: Inequalities in place, policy, and pedagogy highlight the importance of empowering parents, particularly mothers and local resources, to assist parents in early childhood education and care (ECEC) settings for the literacy development of children. The book comprises nine chapters. The introductory chapter

[1] He was a Chinese Confucian philosopher belonging to the fourth generation of scholars of Confucius. During the Warring States period, he was a great thinker and educator in history.
[2] It is a literary work meticulously assembled by the renowned Han dynasty scholar Liu Xiang around the year 18 BCE. This compendium comprises a total of 125 biographical narratives, showcasing exceptional women from ancient China.

provides contextual background to the research discussed in the book. The next two chapters analyse British ECEC policies. The following four empirical chapters examine four community resources to encourage literacy among children in Britain using findings from the authors' research: (1) a town library (Chapter 4), (2) privately run parent and child early education classes (Chapter 5), (3) Sure Start children's centres (Chapter 6), (4) independently run community preschools (Chapter 7). Finally, Chapter 8 synthesises the findings from the case studies and Chapter 9 draws conclusions.

The purpose of the book is to examine how literacy was introduced to young children and their parents through a particular educational resource. Having interviewed 13 mothers and 9 preschool teachers, taken photographs, made field notes and collected relevant documents, the author conducted an ethnographic study to examine each of the literacy resources she discusses in Chapters 3 to 6. The study took place in Embervale, a small town in the East Midlands, UK. Her research questions were: How was a potent combination of pedagogy and location utilised to implement local policy? How did the preschool professionals' implementation of government policy result in inequality? How can resources, parents and professionals be repositioned?

The author writes, 'Place shapes, and is shaped by, inequalities' (p. 142). She notes that the socioeconomic status of households serves as a fundamental catalyst for discrepancies in access to resources and opportunities, thereby perpetuating inequities. The author found, as also highlighted by Christensen et al. (2014) that the early development of children is significantly influenced by the socioeconomic status of their families, which is intimately tied to the broader social and economic inequalities that shape the regions in which they live. In general, children hailing from socioeconomically disadvantaged households received fewer resources in comparison with their counterparts from more privileged family and community settings. Smith found that literacy resources were distributed unequally in Emvervale. By utilising the social space framework, this book delivers an in-depth investigation and assessment of the individuals and locations associated with the provision of four community resources: (1) Sure Start children's centres, (2) preschools, (3) a public library, and (4) privately operated parent and child early education classes. The book presents a comprehensive narrative and analysis of these entities.

Unexpectedly, by examining the trajectory of UK government policy from 1997 to the present, the author revealed that the government's strategy and policy restricted children's literacy learning and hindered their literacy practices at home and in school, especially for those from working-class families. As a result, an academic disparity emerged between children from lower socioeconomic backgrounds and those who are more affluent. The author notes that the accessibility of literacy resources is crucial, as parents with lower socioeconomic status may be unable to procure such materials due to financial constraints. Therefore, it is essential to consider the diverse literacy learning practices and experiences that are available within ECEC settings.

The book also describes how parents, especially mothers, from low-income backgrounds are frequently portrayed as inferior to policymakers and professionals. Professionals exert disempowering influence over mothers by assuming their lack of knowledge through the dissemination of standardised programs and underestimating their learning capacity Mothers are encouraged to foster their children's development better by enrolling them in preschool. However, such a separation from their children renders them devoid of the agency to assertively request the required support they need. The status disparity between

parents and professionals challenges the establishment of collaborative relationships that would facilitate the educational progress and literacy growth of children, exacerbating the lack of empowerment of mothers.

The book explores the process of repositioning parents, professionals and resources by acknowledging the significant role of parental empowerment. The author notes that to facilitate the successful promotion of literacy among parents and children, it is necessary for professionals to actively engage in partnerships with parents. This partnership should involve providing materials tailored to meet the specific needs and preferences of parents and offering inclusive resources that facilitate the joint engagement of parents and children in literacy activities. This approach acknowledges and values the knowledge, skills and literacy practices of parents and children, which can reduce educational disparities and ensure all children have a positive start to schooling.

The book successfully explores how local resources play a pivotal role in assisting parents, especially mothers, in children's literacy development in ECEC settings. Literacy development is a fundamental component of government policy aimed at ensuring children's readiness for school and future accomplishments. The book makes a valuable contribution by shedding light on critical areas, such as early intervention, parental engagement, early childhood development and school readiness. It further presents fresh and insightful case studies that delve into family and community literacies. One of the book's primary objectives is to guide policymakers and early childhood professionals on how to tackle educational disparities head-on. By leveraging the insights and strategies outlined in this book, these stakeholders can maximise learning opportunities for children and their parents. In a world where educational equity is paramount, this book serves as an invaluable resource for driving positive change and fostering a brighter future for all.

REFERENCES

Christensen, D. L., Schieve, L. A., Devine, O., & Drews-Botsch, C. (2014). Socioeconomic status, child enrichment factors, and cognitive performance among preschool-age children: Results from the follow-up of growth and development experiences study. *Research in Developmental Disabilities*, *35*(7), 1789–1801. https://doi.org/10.1016/j.ridd.2014.02.003

Minna, T., Kati, V., Kenneth, E., & Pekka, N. (2022). Long-term effects of the home literacy environment on reading development: Familial risk for dyslexia as a moderator. *Journal of Experimental Child Psychology*, *215*, 1–22. https://doi.org/10.1016/j.jecp.2021.105314

Join the IEJ: CP and OCIES Facebook community at Oceania Comparative and International Education Society, and Twitter: @OceaniaCIES

The International Education Journal: Comparative Perspectives Vol. 23, No 1, 2024
http://iejcomparative.org

BOOK REVIEW:

Advocacy for social and linguistic justice in TESOL: Nurturing inclusivity, equity, and social responsibility in English language teaching

Nyree Jacobs
Nagasaki Junshin Catholic University, Japan: *jacobs@g.n-junshin.ac.jp*

BOOK REVIEW: C. E. Poteau & C.A. Winkle (Eds.). (2021). *Advocacy for social and linguistic justice in TESOL*: *Nurturing inclusivity, equity, and social responsibility in English language teaching.* Routledge. ISBN: 978-1032064437. 254 pages.

Social justice is increasingly recognised and promoted in the education sector (Mortenson, 2021; Spitzman & Balconi, 2019). Characterised by inclusive teaching pedagogies, respectful communication and a drive to create more equitable learning outcomes, social justice is an essential consideration within the field of Teaching English to Speakers of Other Languages (TESOL), which is often prone to power imbalances in communication and inequality in classroom settings (Spitzman & Balconi, 2019). Due to the extensive diversity in TESOL contexts internationally, domestically and even within a single classroom setting, social justice issues take varied forms.

Divided into three parts, *Advocacy for social and linguistic justice in TESOL: Nurturing inclusivity, equity, and social responsibility in English language teaching* (2021) presents 15 chapters that feature empirical research, including international case studies on attempts to promote social and linguistic justice through agency-oriented English language instruction.

Part One includes four chapters on first language use in English classroom settings, language power and attrition and explores the complexities English learners face when negotiating linguistic identities. For example, Chapter 2 discusses 'English linguistic imperialism' and suggests that the English language classroom is a product of 'academic capitalism' in which students learn to view English as necessary for survival in an increasingly 'global monoculture', often at the expense of their first language. The author, Meighan, argues for heritage language pedagogy to decolonise language learning settings by allowing heritage language speakers to 'feel safe to decolonize the mind and connect with their ancestral knowledge/language' (p. 18). Heritage language pedagogy is relevant even in TESOL settings where first language attrition is not at-risk (such as English as a Foreign Language (EFL) in Japan) since it presents opportunities for English language learners to develop hybrid identities as English users (e.g., 'Japanese English' or 'Indian English'). Doing so could improve perceptions of self-rated English ability for learners in what Kachru (1991) coined the 'expanding circle', where English is used predominantly as an external communication tool with limited internal functions, and allow for speakers to subscribe more authentically to the concept of becoming successful global citizens. Additionally, heritage language pedagogy may invite more flexibility and

acceptance of diverse pronunciations of English into language classrooms (e.g., Japanised pronunciation of English in Japan's EFL context), legitimising learners' diverse manners of speaking and invalidating the ideology of perfect English pronunciation for English educators and learners alike. This could result in a more inclusive understanding of English as an international language.

Chapter 3 argues that English Medium Instruction (EMI), a popular educational model adopted in many higher education institutions globally, has facilitated English as the gatekeeper for university entrance, 'creating an inequality between those with English proficiency and those without' (p. 32). Al-Issa and Dah highlight the need for further research on EMI as a 'pedagogical practice' as distinct from EMI as a 'policy' since the former could potentially empower stakeholders (e.g., educators and learners) to customise EMI classroom practice based on learner needs. Politically driven, top-down EMI policy implementation has often neglected the needs and voices of grassroots curriculum policy actors.

Part Two comprises four chapters that collectively explore how teachers develop identity across various educational contexts, including English as an Additional Language (EAL), EFL, disability-inclusive settings, and developmental stages (e.g., primary, secondary and tertiary). A pivotal section is Chapter 6, which investigates identity development, and primarily focuses on non-native English language teachers (NNESTs). Ng and Cheung identify factors that can contribute to teacher identity formation across different developmental stages, such as the place of self, agency and the role of reflection. Their research foregrounds the interplay between these factors and issues NNESTs face regarding professional legitimacy due to persisting 'native speakerist' views about the ideal English teacher despite the increasing presence of non-native English teachers globally. Through a meta-synthesis of recent literature, the authors explore the intersections between internal (e.g., self-image and self-esteem) and external factors (e.g., job circumstances) in constructing language teacher identity, highlighting how the relationship between these factors influences identity formation. Research has revealed NNEST resistance to government-initiated policies in EFL education (e.g., in Japan) citing anxiety about their English proficiency and inadequate training (Saito, 2021). Therefore, there is wide scope for future research on how to better advocate for NNESTs regarding policy reforms in English language education, and this chapter points to a necessity to further consider factors influencing language teacher identity in teacher training programs.

In Part Three, five chapters introduce innovative, inclusive language teaching practices with empirical investigations of educators' reflections in diverse settings. For example, Chapter 10 examines advocacy in TESOL contexts and highlights 'instructional advocacy' that focuses on inequality in classroom settings and learners' emotional well-being to promote social justice in classrooms. Instructional advocacy offers a student-centred, inclusive perspective that may encourage readers to use pedagogical tools to accommodate diverse student needs in language classroom settings. This is particularly important for educators working in contexts where curriculum design is exam-focused or governed by national policy and outdated teaching methods (e.g., grammar-translation),

Chapter 11 discusses the implementation of queer-inclusive pedagogies in EFL classrooms in Turkey (Güney). While queer-inclusive pedagogies facilitate discussion on an integral and underrepresented social issue in EFL, I think the chapter would benefit

from discussing potential challenges and exploring culturally appropriate ways to implement them. This is because such topics are subject to diverse interpretations in different local cultural contexts of EFL classrooms, for example, in some parts of Asia where views on diverse sexuality are less inclusive (Ellis, 2019). In some settings, educators would need to carefully consider materials prior to their inclusion to avoid potentially disadvantaging or causing discomfort for students who have had limited exposure to queer culture, or learners who may be queer, but have not addressed their identity in a public forum. Not only could this inadvertently lead to teachers neglecting their responsibility to exercise instructional advocacy, but may also impact on learners' classroom success.

Chapters 12 to 15 investigate the complex interface between the spread of English and globalisation, and discuss factors including, methods to better prepare pre-service EFL educators (Burgos), the development of learners' cross-cultural communication and collaboration skills in addition to language proficiency (Cunningham & Golikova), and the current upward trend of Global Citizenship Education (Ortín). Within this context, Chapter 14 (Alharthi & Shelton) presents two distinctive motivations for language learners: 'language for communication', which refers to the instrumental use of English with limited influence on students' cultural or individual identities and 'language for identification'. In some EFL contexts (e.g., Japan and Indonesia), studies identify inconsistencies regarding the purpose of English language education (Hashimoto, 2009; Walker et al., 2019). On the one hand, government-driven initiatives link English language education closely to economic drivers and the cultivation of students as global citizens. On the other hand, a strong sense of national identity may continue to cause global/local tensions when learners are required to construct their identities as global citizens and simultaneously preserve their national identity and its cultural and linguistic associations (Hammond & Keating, 2018; Madya, 2019). Chapter 14 invites EFL educators to reimagine curricula content and methods of instruction to help students bridge the gap between their national identity and their role as English users to create more meaningful educational experiences.

This volume successfully examines critical matters relating to the four areas of advocacy of TESOL from diverse social justice perspectives: (1) English language learner advocacy, (2) intersections of identity, (3) professional learning, and (4) global issues. Heritage language pedagogy, teacher identity development and empirical studies on innovations in inclusive teaching pedagogies will be of particular interest to a wide audience in the field of English language education. The publication succeeds in presenting critical pedagogical tools to stakeholders (i.e., researchers, teacher trainers, and educators) by highlighting areas where social justice principles could be further practised in the TESOL sector and inviting the reader to reconsider their own contexts through a heightened socially just lens.

REFERENCES

Ellis, M. (2019). Promoting gender diversity in the classroom through Drag. In P. Clements, Krause, & P. Bennett (Eds.), *Diversity and inclusion*. JALT

Hammond, C. D., & Keating, A. (2018). Global citizens or global workers? Comparing university programmes for global citizenship education in Japan and the UK.

Compare: A Journal of Comparative and International Education, *48*(6), 915–934.

Hashimoto, K. (2009). Cultivating 'Japanese who can use English': Problems and contradictions in government policy. *Asian Studies Review, 33*(1), 21–42. https://doi.org/10.1080/10357820802716166

Kachru, B. B. (1991). Liberation linguistics and the Quirk concern. *English today*, *7*(1), 3-13.

Mortenson, L. (2021). White TESOL instructors' engagement with social justice content in an EAP program: Teacher neutrality as a tool of white supremacy. *BC TEAL Journal*, *6*(1), 106–131.

Madya, S. (2019). Going beyond communicative competence to become literate national and global citizens. In *English Linguistics, Literature, and Language Teaching in a Changing Era* (pp. 20–34). Routledge.

Saito, Y. (2021). *Japanese High School Teachers' Cognition of the Policy of Conducting English Classes in English and Classroom Practice* (Doctoral dissertation, Temple University).

Spitzman, E., & Balconi, A. (2019). Social justice in action: A document analysis of the integration of social justice principles into teaching. *Journal of the Scholarship of Teaching and Learning*, *19*(5).

Walker, T., Liyanage, I., Madya, S., & Hidayati, S. (2019). Media of instruction in Indonesia: Implications for bi/multilingual education. *Multilingual Education Yearbook 2019: Media of Instruction & Multilingual Settings*, 209–229.

.

The International Education Journal: Comparative Perspectives Vol. 23, No 1, 2024
http://iejcomparative.org

BOOK REVIEW:
Pacific educators speak: Valuing our values

Makiko Nishitani
La Trobe University, Australia: *m.nishitani@latrobe.edu.au*

BOOK REVIEW: Fuapepe Rimoni, Ali Glasgow, & Robin Averill. (2022). *Pacific educators speak: Valuing our values.* NZCER Press. ASIN**:** B0B9GPVBCD. pp. 246.

In the last decade, there has been an increased emphasis on supporting Pacific learners in Aotearoa New Zealand. The Ministry of Education published key policies and guidelines, including *The Pasifika Education Plan 2013-2017* (2013) and *Tapasā: Cultural competencies for teachers of Pacific learners* (2018). These government publications identified nine key values that must be included in learners' education environment if Pacific heritage learners are to achieve successful learning outcomes: belonging, family, love, service, spirituality, reciprocal relationships, respect and leadership. These values would make educational environments more compatible with learners' home and cultural environments. Thus, Pacific families, communities and schools can build closer relationships integral to Pacific learners' success. To support this plan and help Pacific heritage learners achieve success, *Pacific Educators Speak* was written for educators to deepen their understanding of the key Pacific cultural values. Two of the authors (Rimoni and Glasgow) have Pacific heritage, and all three teach in education at *Te Herenga Waka* Victoria University of Wellington.

The book's data are from the authors' four-year research project, which involved interviewing Pacific and non-Pacific educators across educational sectors, including early childhood, primary, secondary and tertiary education, in three urban centres in Aotearoa New Zealand. In addition to one-on-one interviews, the authors held *talanoa*-style discussions (culturally appropriate focus group) with some participants and observed research participants teaching in class.

Among the research findings were different ways Pacific and non-Pacific heritage educators understood and practised the nine values (Averill et al., 2020). As the authors argue, Pacific Island countries include vast geographical areas and rich linguistic and cultural diversity. Thus, each value has cultural specificity: even among the Pacific heritage people, there are differences. However, the nine values have a common interpretation among Pacific heritage educators. The authors found that non-Pacific and Pacific educators differed in their interpretations of the values.

Although New Zealand education policy identifies the Pacific values, if they are not implemented appropriately to the Pacific cultural context, the authors argue, the policy will not help Pacific learners. The authors note that for Pacific heritage learners to thrive, it is important for educators—non-Pacific and Pacific—to implement the values based on the Pacific perspectives. The authors' observations are supported by a wide range of other scholars on culturally responsive pedagogies who discuss the importance of educators

knowing and understanding their learners' and families' cultural identities (e.g., Pale 2019).

Pacific educators speak: Valuing our values presents the wisdom of 30 Pacific educators who shared how they understood and implemented each value and how Pacific heritage learners responded to these practices. Following Chapter 1, where the context of this book is introduced, each of Chapters 2 to 10 focuses on one of the nine values and presents various interpretations and practices by Pacific educators.

Each chapter, from Chapters 2 to 10, begins with an opening message from a Pacific heritage education leader and the authors' interpretation of the message. It then presents key themes about the focus value from the literature and participants in dot points. The rest of the chapter presents Pacific educators' responses to interview questions such as 'What does belonging mean to you?' (Chapter 2) and 'How is love present in your teaching?' (Chapter 4), followed by the research participants' responses. Although there are no clear indications, I understand that each paragraph comprises a quote from a participant. The authors say it is 'softly edited for flow' (p. 11). I think that is why they do not use quotation marks for these research participants' words. Each chapter ends with a paragraph summarising key ideas from the chapter, several discussion questions, ideas for further reading and suggested practices for readers and educators that could help demonstrate and nurture the value of their teaching. Some chapters also include a short column that presents the participants' in-class pedagogy based on the authors' observation data.

Chapter 11, 'Honouring Pacific Values: A Compass for Educators', the volume's concluding chapter, provides four additional values that emerged through their research but are not in the New Zealand educational policy: gerontology (respecting old people's roles), humility, generosity and well-being.

As a non-Pacific anthropologist working with Pacific heritage high school students and their Anglo-Australian teachers in rural Australia (e.g., Nishitani & Lee, 2022), I read this book with excitement to see how beneficial it might be to learn how Pacific educators embed cultural values in Pacific learners' educational environments. I also felt it would be challenging for Pacific and non-Pacific educators to implement the Pacific perspective when working with students from other diverse cultural and religious backgrounds. Ideally, each educator—irrespective of their cultural background—should be familiar with students' cultural identities and embed their values in teaching. However, in reality, in this increasingly mobile, multicultural world, I assume teachers in New Zealand also work with students from diverse cultures, including and beyond Pacific heritage learners. To respond to this issue, it would have been helpful if the book expanded the section on 'Education Policy' (pp. 6–8) and provided more information about the national context and the extent to which the New Zealand government prioritises Pacific heritage learners in education over other migrants with different cultural backgrounds.

While the book offers rich stories of the Pacific educators, more information about each participant would help the reader understand their thoughts and experiences. As it stands, each paragraph of participants' words is listed without supplemental information about the participant. For example, under the heading 'In terms of teaching and the learning environment, how does demonstrating and nurturing spirituality play out?' (p. 83), there are six paragraphs, which I assume are quotes from six participants. Some say they implement Christianity and prayer in class, and others say they are in a secular school. It

would have been more readable if pseudonyms and brief profiles of each participant, including what they teach, were available for readers to provide some contexts of the research participants' teaching practices.

Although this book has the potential to be an invaluable resource for non-Pacific educators, it may not be accessible to those who have limited knowledge of Pacific languages and cultures. The research participants' narratives are peppered with various words from the Pacific languages without English translation. I have a limited knowledge of Tongan, which helped me understand Pacific educators' words, but there are some that I could not understand. While part of the issue could be addressed by simply adding a translation, for example, '*mokopuna* (grandchildren)', some important cultural concepts, such as *vā* (space, relationships), need an extensive explanation for non-Pacific educators to fully understand their research participants' words (e.g., Ka'ili 2017). Implementing Pacific cultural values in the wider education structure would become possible when both non-Pacific and Pacific educators work together. I agree with the authors that the cultural values identified in New Zealand's education policy require educators to understand Pacific cultural perspectives. However, to achieve this goal, additional scaffolding, such as a glossary explaining cultural concepts, would have made this book more accessible to a broader readership.

REFERENCES

Averill, R., Glasgow, A., & Romini, F. (2020). Exploring understandings of Pacific values in New Zealand educational contexts: Similarities and differences among perceptions. *International Education Journal: Comparative Perspectives,* 2, 20–35.

Ka'ili, T. (2005). *Marking indigeneity: The Tongan art of sociospatial relations.* University of Arizona Press.

New Zealand Ministry of Education. (2013). *Pasifika education plan 2013-2017. https://www.education.govt.nz/assets/Documents/Ministry/Strategies-and-policies/PasifikaEdPlan2013To2017V2.pdf*

New Zealand Ministry of Education (2018). *Tapasā: Cultural competencies for teachers of Pacific learners. https://teachingcouncil.nz/assets/Files/Tapasa/Tapasa-Cultural-Competencies-Framework-for-Teachers-of-Pacific-Learners-2019.pdf*

Nishitani, M., & Lee, H. (2022). Fruit picking and farmwork as racialised stigma: The children of Pacific migrant workers in rural Australia. *Journal of Intercultural Studies* 44(4): 488–504. https://doi.org/10.1080/07256868.2023.2136631

Pale, M. (2019). The Ako conceptual framework: Toward a culturally and linguistically responsive pedagogy. *Asia-Pacific Journal of Teacher Education* 47(6), 539–553. https://doi.org/10.1080/1359866X.2019.1575945