

Education Quarterly Reviews

Shumba, N., Hussaini, S. R. (2023). Enhancing Student Engagement in Legal and Criminological Modules: An Andragogical Approach in Higher Education. *Education Quarterly Reviews*, 6(3), 181-201.

ISSN 2621-5799

DOI: 10.31014/aior.1993.06.03.773

The online version of this article can be found at: https://www.asianinstituteofresearch.org/

Published by:

The Asian Institute of Research

The *Education Quarterly Reviews* is an Open Access publication. It may be read, copied, and distributed free of charge according to the conditions of the Creative Commons Attribution 4.0 International license.

The Asian Institute of Research *Education Quarterly Reviews* is a peer-reviewed International Journal. The journal covers scholarly articles in the fields of education, linguistics, literature, educational theory, research, and methodologies, curriculum, elementary and secondary education, higher education, foreign language education, teaching and learning, teacher education, education of special groups, and other fields of study related to education. As the journal is Open Access, it ensures high visibility and the increase of citations for all research articles published. The *Education Quarterly Reviews* aims to facilitate scholarly work on recent theoretical and practical aspects of education.





The Asian Institute of Research Education Quarterly Reviews

Vol.6, No.3, 2023: 181-201 ISSN 2621-5799 Copyright © The Author(s). All Rights Reserved

DOI: 10.31014/aior.1993.06.03.773

Enhancing Student Engagement in Legal and Criminological

Modules: An Andragogical Approach in Higher Education

Nephat Shumba¹, Sayed Reza Hussaini²

Abstract

This research examines the application of andragogical learning and teaching methods in legal and criminological modules in higher education to enhance students' engagement. The study is an online survey that includes both students and lecturers at Hertfordshire Law School (HLS). The research identifies strengths and areas for improvement from both staff and students' insights. Some of the strengths include peer learning and group work, collaboration, problem-solving and critical thinking within HLS modules. In the same vein, areas for improvement include emphasis on individual problem-solving, learners' experience, self-directing scholarship, and guidance of students on research skills. Recommendations offered include balancing individual and group activities, incorporating visual aids, and aligning assessments with problem-solving skills and tactics. Foster-ing self-reflection and collaborative learning can empower students significantly. Implementing andragogical principles can enhance learning strategies and promote effective scholarship in legal and criminological studies.

Keywords: Andragogical, Criminological, Legal, Self-directing, Problem-Solving, Self-reflection, Student Engagement

1. Introduction

Legal and criminological modules in higher education are renowned for their rigidity, abstraction, and complexity, owing to diverse applications of legal and criminological jurisdictions across various justice systems (Kasper & Laurits, 2016). Consequently, engaging students in these modules becomes a paramount challenge for educators. To address this, our research explores implementation of andragogical learning and teaching methods within and across HLS modules, with a specific focus on enhancing students' engagement (Zepke & Leach, 2010), self-directing, problem-solving, and critical thinking throughout learning and teaching processes. Andragogy, as an art and science of adult learning, emphasises the significance of learners' experiences, self-directedness, and problem-solving abilities. Integrating andragogical principles in legal and criminological modules can empower both students and lecturers (Ekoto & Gaikwad, 2015). For students, it provides a learning environment that acknowledges students' prior knowledge, real-life experiences, and professional aspirations, fostering a sense of ownership over their education (Samson, 2015). Moreover, andragogical approaches encourage students to actively participate in the learning process, leading to deeper comprehension and long-lasting knowledge retention (Michael, 2006).

¹ Law School, University of Hertfordshire, UK. Email: n.shumba@herts.ac.uk

² University of Hertfordshire, UK. Email: s.hussaini3@herts.ac.uk

For lecturers, employing andragogical strategies enhance their instructional effectiveness (Wilson, 2009). It allows them to tailor their teaching methods to suit individual learners' needs, interests, and learning styles, thereby creating a dynamic and engaging classroom atmosphere. Andragogical principles also foster a collaborative learning environment, where lecturers become facilitators of knowledge, promoting student-centred discussions and exploration of complex legal and criminological concepts (Ekoto & Gaikwad, 2015).

The central aim of this research is to investigate how andragogical learning and teaching methods can enrich the learning experience of students in legal and criminological modules. We seek to identify the most effective strategies that encourage students' engagement through self-directing, problem-solving, and critical thinking while exploring both students and instructors' orienteering to practical application of legal and criminological concepts in real-life scenarios.

Based on the research outcomes, a series of evidence-based recommendations will be proposed to enhance the learning and teaching of legal and criminological modules in higher education. These recommendations will encompass practical strategies to encourage students' engagement, critical thinking, and active learning in these complex subject areas.

In essence, our endeavour is to shed light on the importance and application of andragogical principles in both students' learning experiences and lecturers' instructional practices in legal and criminological modules. By embracing andragogical methods, we envision creating a dynamic and stimulating learning environment that nurtures students' intellectual growth, equipping them with necessary skills and knowledge essential for their successful careers in legal and criminological domains.

To this end, the structure of this paper is organised as follows: Firstly, a comprehensive review of existing literature is conducted to explore the impact of employing andragogical learning and teaching methods, particularly in providing relevant applications in legal and criminological modules. The subsequent section elaborates on the research methodology adopted for this study, detailing data collection procedures, participant selection, and data analysis techniques.

2. Literature review

Andragogy is an approach applied to adult learning and teaching focusing on self-directing and problem solving at the core of higher education. It is based on the idea that adults learn differently form children and that adults have different needs and motivations throughout their learning process (Bloch, 1982). It emphasises experiential learning and encourages adults to take an active role in the learning and teaching processes. Andragogy also emphasises the importance of contextual learning in the learners' experience (Schneider, 2021). Andragogy is an educational approach that emphasises self-determined learning (Blaschke & Hase, 2016). It is based on the idea that individuals are best able to learn when they take ownership of their own learning process, hence, learning must be self-directed in higher education, with adult learners taking responsibility of their own learning process as well as making informed decisions about their learning goals and activities. Andragogy encourages learners to develop own learning strategies and building upon own skills, knowledge, and experiences (Wilson, 2009).

Andragogy as a learning theory emphasises self-directed learning, where learners take an active role in their own learning, utilise their own experiences and application of both technology and problem-solving techniques in the learning process (Bloch, 1982). It is a critical space in which learning and teaching of legal and criminological concepts at higher education are scaffolded and developed (Glassman & Kang, 2016). It empowers neophytes to take ownership of learning and develop relevant skills and competencies for becoming lifelong learners (Huxley-Binns, 2016).

¹ Andragogy is both a theory and practice of adult education focusing on unique characteristics, needs, and motivations of adult learners, for more: Knowles, M.S., 1970. The Modern Practice of Adult Education; Andragogy versus Pedagogy.

In the context of learning legal and criminological modules, andragogy is key in enabling neophytes to become self-propelling learners, equipped with necessary and adequate skills to conduct research, analyse data, and apply legal and criminological concepts to real-life situations (Maze, 2020). Through andragogical approach, students can learn to identify gaps in their own knowledge and develop strategies to fill such gaps, rather than relying solely on instructors for guidance (Glassman & Kang, 2016; Trigwell &Shale, 2004).

Moreover, andragogy emphasises the importance of critical thinking, problem-solving, and self-reflection, which are essential skills in both legal and criminological professions (Xusanovna, 2023). By engaging in self-directed learning students can develop these skills and become better prepared to navigate complex legal and criminological issues (Ferguson et. al., 2016; Jaakkola, 2015; Hirsch et. al., 2013; Canning & Callan, 2010). What's more, students can stay up to date with legal and criminological developments and adapt to changing circumstances, concomitant with ongoing professional success (Chrysidis et. al., 2020).

Incorporating andragogy in the learning and teaching of both legal and criminological concepts involve creating a learning environment that fosters collaboration, critical thinking, problem solving and self-reflection on unique learning experiences (Taylor, 2017). Instructors can use a variety of strategies, such as case studies, problem-based learning, learning-enhancing technologies (synchronously and asynchronously) and peer-to-peer learning opportunities to invoke sustainable engagement and active participation throughout the learning process (Blaschke, 2016). Learners would be encouraged to set their own learning goals, choose their own learning activities, and reflect on their own learning progress and regress (Canning, 2010).

One potential challenge in implementing andragogy in the learning and teaching of legal and criminological concepts is the need for instructors to shift their roles from that of knowledge-providers to that of facilitators of the learning process. Instructors should be willing to relinquish some control over the learning process and allow learners to take a more active role in their own learning process (Freire, 1996). This could be difficult for some instructors, particularly, those who are used to more traditional, lecture-based teaching methods (Taylor, 2017).

Another challenge is the need for learners to develop skills necessary to take control of their own learning process (Canning, 2010). Neophytes and veterans of law and criminology might be accustomed to more passive, instructor-led approaches of learning, and might require guidance and support in developing necessary learning skills (Daniel, 2021). Instructors might need to provide more explicit platforms (synchronous & asynchronous) as well as clear instructions and constructive feedbacks on students' development of learning skills of which critical thinking, problem-solving, and self-reflection are key on differentiated learning experiences (Takano & Tanno, 2009).

To sum up, incorporating andragogy in the learning and teaching of legal and criminological concepts is instrumental in contemporary learning and teaching, since it involves creating unique learner-centred platforms encouraging collaboration, critical thinking, problem solving and self-reflection. While there may be challenges in implementing andragogical learning principles in practice, the benefits of empowering learners to take control of their own learning process and developing lifelong learning skills are extremely significant.

3. Research Methodology

In this study, we examine the application of andragogical learning and teaching methods in the context of law and criminological modules at HLS. The participants, including both students and academic staff members from HLS, were surveyed anonymously using separate online questionnaires. The research gathered responses from a total of 48 participants, consisting of 22 staff members and 26 students. The analysis is based on open-ended responses collected from both students and lecturers, focusing on three key andragogical principles: self-directed learning, learning from previous experiences, and problem-solving. It is important to note that our initial target sample size for the study was intended to be much larger, comprising of 278 students randomly selected from the HLS law and criminology departments. Additionally, 90 staff/stakeholders were meant to complete randomly the online questionnaires. The original sample size calculations for both students and staff were determined using a random sampling formula, considering a 95% confidence level and a 5% margin of error. However, our final sample size for this research was 48, as certain factors affecting participant recruitment were beyond our scope.

Data pertaining to the three core andragogical principles (self-directed learning, brought-in-learning experiences, and problem-solving) were collected and analysed from two separate questionnaires for students and staff accordingly. The questionnaires included both closed and open-ended questions, aiming to capture the preceding andragogical principles. Prior to participation, respondents were informed about the research purpose, their rights, and given options to consent or not. Both anonymity and confidentiality of responses were ensured to protect participants' privacies.

Data (A.1-A.2 and B.1-B.5) from both students' and staff's questionnaires were analysed using NVIVO software to identify and collate emerging andragogical principles from both closed and open-ended responses. Moreover, for the analysis of open-ended questions, a structured approach using content and thematic analyses were collated using both closed and open-ended responses.

4. Presentation and Analysis of Key Findings

The presumption behind the research is that legal and criminological concepts are difficult or challenging to comprehend without additional students' input in terms of engagement, research, and collaboration, be it synchronously or asynchronously. Our research focus is based on investigating the extent to which andragogical learning and teaching principles are utilised within the learning and teaching of legal and criminological modules at HLS, deriving insights from both HLS learners and instructors. The collated responses on the three attributes of andragogy for HLS students (A.1-A.7) and instructors (B.1-B.5) are shown in the appendix section.

4.1. Analyses and Applications of Collated Responses from Students (see, Appendices A.1-A.7).

Initially, students were asked to provide a self-directed learning activity relevant to either legal or criminological modules (See, Appendix A.1). The students' responses indicate the following conspicuous positives: (i) Engaging in legal research allows for in-depth exploration of specific legal topics, relevant case law, and a comprehensive understanding of the subject matter (Carless, 2015). (ii) Reading books, scholarly articles, and online sources broadens students' knowledge base and exposes them to diverse learning perspectives (Candy, 1991). (iii) Regularly reviewing course materials, including Canvas notes and online resources, reinforces key concepts and enhances comprehension (Garrison & Kanuka, 2004). The following weaknesses, however, in applying the self-directing principle of andragogy is reflected in some students' responses: (i) Students should provide more specific descriptions of own self-directed learning activities showcasing own learning efforts effectively (Merriam & Bierema, 2014). It is essential for students to clearly articulate own specific tasks or actions engaging self-directed learning efforts honing own learning skills. (ii) Students should be encouraged to actively participate in interactive learning experiences like online discussions and group projects fostering self-directed learning, critical thinking, and knowledge sharing (Palloff & Pratt, 2013).

Considering the preceding findings, the following recommendations are proposed: (i) encourage students to provide detailed descriptions of their learning activities, specifying types of research and sources used. (ii) Students should foster active engagement in interactive learning experiences to promote self-directed learning and peer collaboration, which, in turn, pave a way for self-directing, critical thinking, problem solving, knowledge sharing, and peer-to-peer learning tactics (Palloff & Pratt, 2013).

(iii) It is also recommended that students should engage in learning activities using Talis Elevate as it has potential to promote: (i) reflective documentation, (ii) collaborative learning, and (iii) interactive learning opportunities in legal and criminological modules (McDonald & Boud, 2003; Wanner & Palmer, 2015). Through this digital platform, students can annotate course materials, fostering reflective practices and documenting own learning journey at their own suitable time and space. Enabled Talis Elevate collaborative notetaking (private or public) encourages peer-to-peer learning and diverse perspectives empowering students' learning autonomy. Interactive discussions and quizzes facilitated on Talis Elevate stimulate not only collaboration but also active participation and critical thinking both for introverts and extroverts (Luckin, 2018). Such examples may include annotating legal case studies and jointly analysing criminological theories collaboratively just to mention a few examples.

Therefore, implementing Talis Elevate can lead to enriched learning through self-directed principle of andragogy and could potentially improve students' engagement.

The second question of interest focused on students brought in learning experience (the second principle of andragogy) in legal and criminological modules. Students were specifically asked to provide an example of a course concept or topic that was particularly relevant to their personal or professional experience (See, Appendix A.2)

Looking at appendix A.2, there are strengths worth noting. These include the course contents' impact on students' understanding of relevant legal and criminological issues, practical applicability in future careers, and positive reinforcement of their prior knowledge (Davies et. al., 2013). Nevertheless, some responses lacked specificity, necessitating more detailed examples to demonstrate the depth of their own learning experiences. Additionally, the mix of perspectives regarding impact on students' understanding of prior knowledge suggests a need for further exploration of instructional strategies to ensure consistent and meaningful brought in learning experiences for all students (Ekoto & Gaikwad, 2015).

Considering the preceding strengths and points for improvement, the following recommendations are suggested to enhance students brought-in-learning-experiences in legal and criminological modules: (i) Encouraging students to engage in reflective practices relating course contents to their personal or professional experiences. (ii) Prompting learners to provide specific examples of how course contents are applied in real-life contexts. (iii) Incorporating practical exercises, case studies, moot court competitions or simulations to apply course contents to real-life legal and criminological issues, enhancing practical relevance and understanding (Brown et. at, 2014). (iv) Furthermore, Talis Elevate is recommended as a digital platform to facilitate students' reflection and application opportunities in legal and criminological modules through its annotation and collaborative capability features (McDonald & Boud, 2003; McMahon & Oliver, 2019). Students can engage in metacognitive processes, reflecting on case studies and applying theoretical knowledge to real-life scenarios collaboratively using Talis Elevate.

The third question which students were asked was pertains to how course contents provided them with problem solving opportunities in their learning and justifying their responses accordingly (See, Appendix A.3). The analysis of students' application of problem-solving tactics highlights strengths, weaknesses, and development interfaces in legal and criminological modules. Some of the students emphasised practical relevance of HLS courses in developing problem-solving principle of andragogy (Barron & McKeown, 2016), particularly in studying statutory laws related to financial crimes and white-collar crime. (iii) They also recognized the importance of participating in workshops and group discussions with realistic problem-based scenarios, as it hones problem-solving skills and encourages collective problem-solving discussions (Miller et. al., 2019). However, a few responses lacked specific examples or details on how course contents provided problem-solving opportunities to learning. More explicit explaining would enhance understanding and application of problem-solving tactics. (iii) Moreover, there were varying perceptions among students regarding the course contents' effectiveness in developing problem-solving of by which some students expressed uncertainty or indicated a lack of practical experience from their course contents, suggesting a potential gap in module design to consistently addressing problem-solving skills. To address the shortcomings highlighted here, several recommendations are proposed: (i) First, incorporating more problemsolving-based assignments and case studies requiring students to apply problem-solving skills to real-life situations (Barron & McKeown, 2016). Such an approach will provide concrete opportunities for students to develop and practice problem-solving tactics throughout their learning journey. Additionally, creating opportunities for practical experience through internships, moot court competitions, simulated scenarios, or experiential learning activities are of paramount significance (Miller et. al., 2019). Such hands-on experiences can bridge gap(s) between theoretical knowledge and practical problem-solving opportunities, thus enhancing students' overall learning outcomes in HLS modules.

In response to our fourth open-ended question, students were asked to provide an example of a problem-solving approach they engaged with in a legal or criminological module (See, Appendix A.4). Upon reviewing the students' responses shown in Appendix A.4, several strengths emerge so as weaknesses which are worth

mentioning. In terms of strengths: (i) Students recognise the value of legal and criminological research platforms as problem-solving approaches, enabling them to find relevant laws and precedents. (ii) Problem-solving approaches are applied in specific assignments and assessments, such as medical law and ethics assignments or advocacy assessments, demonstrating their practical application. However, there are notable instances for improving application of problem-solving opportunities such as: (i) Providing specific examples or detailing how problem-solving tactics were applied in specific module(s), necessitating more detailed explanations (Mitchell et. al., 1983). (ii) Focusing on legal research and specific aligning course materials to definitive module design (DMD) may limit the variety of problem-solving experiences in some HLS modules.

In light the strengths and weaknesses mentioned, the following recommendations are suggested: (i) Introducing a range of problem-solving opportunities beyond legal research, such as case analysis, moot court competition, simulations, or group discussions equipping students with diverse problem-solving tactics (Reno, 1999). (ii) Incorporating more case-based learning activities, requiring students to analyse and propose solutions to complex legal and criminological issues are pivotal in enhancing critical thinking and problem-solving skills. (iii) It is also prudent that students should be exposed to jigsaw classroom activities enhancing active engagement in interactive learning processes (Voyles et. al., 2015).

In a similar context, students were asked how problem-solving skills were relevant to their future careers (See, Appendix A.5). Drawing insights from appendix A.5, discernible strengths and weaknesses are apparent. In terms of strengths: (i) Students demonstrated an understanding of the importance of problem-solving skills in their future careers. (ii) Many responses acknowledged that problem-solving skills are a basic requirement in the fields of law and criminology and emphasised its relevance to becoming a capable legal professional (Liedtka, 2013). (iii) Some responses highlighted that problem-solving skills gained from the module(s) have given them confidence to speak up and express own opinions, even if they were unsure of the correct answer. (iv) Effective communication is also essential in problem-solving situations (Cottrell, 2017). It is also important to note the following weaknesses from the appendix A.5: (i) Some responses lacked specific examples or details on how problem-solving skills will be relevant to their future careers. Providing specific examples of legal or criminological scenarios where problem-solving tactics are crucial would strengthen learners' application of problem-solving skills in their future careers. (ii) The responses primarily focused on problem-solving skills within legal field without exploring potential transferability of such skills to future careers or other professional contexts.

Based on the preceding observations, the following recommendations seem imperative (i) Incorporating more practical application exercises that simulate real-life legal and criminological scenarios are deemed essential. This will enable students to develop problem-solving skills in diverse contexts and enhance their ability to transfer such skills to different career settings (Bouton, 2007). (ii) Encouraging students to reflect on how problem-solving skills could be applied to various future careers or professional situations beyond the legal and criminological fields remain essential. Such an endeavour will promote a deeper understanding of transferability skills and relevance of problem-solving skills in students' future careers (Cottrell, 2017).

As an extension to the preceding question, students were asked to respond about their learning experience(s) and development within HLS (appendix A.6). In terms of strengths, the following are noticeable: (i) Many students expressed overall positive thoughts about their learning experiences and development within HLS. They described it as 'good,' 'very good,' 'excellent,' and 'enlightening.' Thus, highlighting the high quality of education provided by HLS in general (Gibbs & Coffey, 2004). (ii) Students appreciated that HLS is providing a more student-focused-friendly environment as well as availability of necessary resources, hence, indicating a supportive and conducive learning environment (Ramsden, 2003). In the contrary, (i) some students mentioned a lack of engagement opportunities, such as internships or extracurricular activities. This suggests a potential weakness of HLS in providing practical experiences and opportunities for students to apply their learning experiences within and across HLS modules (Miflin, 2004). (ii) some responses did not extensively discuss innovative learning methods or the use of technology to enhance learning experiences, potentially indicating a need for further exploration and integration of such methods and techniques (Pask, 1976).

Considering the strengths and weaknesses luminating from the students' collated responses, the following recommendations seem inevitable: (i) Increasing opportunities for internships, work placements, or extracurricular activities that enable students to apply their knowledge and gain practical experiences in legal and criminological contexts are paramount (Yorke & Knight, 2006). (ii) Exploring and incorporating innovative learning methods, such as blended learning or technology-enhanced activities using talis elevate, jigsaw classroom/flipped classroom to promote active engagement, problem solving, critical thinking, and creativity among students (Salmon, 2013).

In line with the andragogical principle of learning experiences and development at HLS, students were asked to provide their overall thoughts and experiences about learning and developing andragogical principles within HLS (see, appendix A.6). The picture drawn by students' responses shown in Appendix A.6 include strengths and weaknesses. The following strengths are apparent: (i) Many students expressed positive thoughts about their learning experiences and development within HLS, using terms such as 'good,' 'very good,' and 'excellent'. This indicates that students perceive HLS as providing a satisfactory and conducive learning environment (Ramsden, 2003). (ii) Students mentioned that HLS offers an andragogically-student-focused-friendly environment with necessary learning resources. This suggests that HLS has created a conducive atmosphere for the learning of legal and criminological modules (Entwistle, 2017). In the contrary: (i) some students stated a lack of engagement opportunities, such as internships or extracurricular activities. This indicates a potential weakness in providing practical experiences and opportunities for students to apply acquired knowledge (Yorke & Knight, 2006). (ii) A limited number of students did not acknowledge andragogical learning and teaching principles in practice. Therefore, it is essential that andragogical learning and teaching methods are introduced and invigorated using both synchronic and asynchronic technology enhanced mechanisms such as Talis Elevate, Kahoot, Padlet and jigsaw classroom (Salmon, 2013).

Given the above analyses, some recommendations seem prevalent: (i) The HLS should consider providing more opportunities for internships, moot court competitions, voluntary work, or other germane extracurricular activities. These experiences can help students apply their knowledge, develop practical skills, and enhance their overall learning experiences within HLS (Miflin, 2004). (ii) The HLS should explore and incorporate digital and innovative mechanisms, such as blended learning, online resources, and technology-enhanced activities (e.g., Talis Elevate), to enhance students' engagement, self-directing, problem-solving, critical thinking, and creativity synchronously and asynchronously (Garrison & Vaughan, 2008).

Finally, students were asked to express how their learning experiences and development impacted their understanding of legal and criminological studies at HLS (see, Appendix A.7). In the light of the students' responses shown in Appendix A.7, the following strengths and weakness were luminated. The strengths are as follows: (i) Many students expressed that their learning experiences and development in legal and criminological studies at HLS have positively impacted their educational development and academic achievements by providing valuable knowledge and skills to HLS students (Biggs & Tang, 2022). (ii) a limited number of HLS students mentioned that understanding of potential law-related issues have widened and deepened through interactive learning experiences (be it synchronously or asynchronously). This indicates that HLS modules have effectively exposed students to various legal and criminological concepts implying application of andragogical learning and teaching principles to some extent (Maharg, 2016). Nevertheless, there are also limiting andragogical weaknesses apparent that cannot be assumed away: (i) A small number of students stated that legal and criminological modules were not highly relevant to their future careers. This potentially highlights a gap in aligning the legal and criminological DMD course contents with diverse cultural needs and interests of students (Entwistle, 2017). (ii) A few students observed a need for more problem-solving learning experiences and research opportunities, suggesting that there may be challenges in providing equitable hands-on-learning experiences and opportunities for HLS students (Miflin, 2004).

Based on the above analysis, it is prudent to recommend: (i) The HLS should consider offering a range of elective modules or specialisation options within and across legal and criminological studies catering to the diverse students' interests and career aspirations. This could arguably enhance the relevance of HLS modules for all students (Yorke & Knight, 2006). (ii) Therefore, HLS should create more students' opportunities (be it

synchronous or asynchronous) to enable application of andragogical learning and teaching strategies (Garrison & Vaughan, 2008).

4.2. Presentation and Analyses of Lecturers' and Stakeholders' Collated Responses against Andragogical Principles (see, Appendices B.1-B.5)

Reiterating our presumption that legal and criminological concepts are difficult to teach, it was imperative to solicit instructors' insights on their teaching approaches to legal and criminological modules at HLS. In a similar context, exploring the extent to which andragogical learning and teaching principles are utilised was deemed necessary. Firstly, lecturers and stakeholders were asked to describe how they relate and create learning materials relevant to learners' experiences in their modules (see, appendix B.1). Sifting through the presented responses in Appendix B.1, there are conspicuous strengths and salient weaknesses worth drawing attention to. In terms of strengths, the following are noticeable: (i) Focusing on engaging learners and building learners' confidence in the classroom is magnified. This can contribute to a positive learning environment where students feel comfortable taking ownership of their learning materials. (ii) The combination of aligning problem-solving activities and tasks in relation to module learning materials is instrumental in promoting self-directed learning. (iii) Tailoring learning materials to problem-solving activities encourages independent inquiry, critical thinking, and application of legal and criminological knowledge to real-life situations (Biggs & Tang, 2022). (iv) Students' one-to-one conversations with staff and regular check-ins with learning materials (synchronously or asynchronously) provide conducive and personalised andragogical support required in higher education (Boud & Molloy, 2013). such andragogical and individualised approaches could facilitate meaningful engagement and learning. (v) Linking legal and criminological contents to real-life situations encourage broader and deeper reading and understanding of current legal and criminological issues (Zimmerman, 2002).

On the other hand, there are also indelible stressors worth paying attention to: (i) Challenges relating to problem solving due to poor intrinsic and extrinsic students' motivation, poor attendance, and lack of participation hindering andragogical learning tactics. These challenges may stem from various triggers such as waning or regressing interest in the subject matter or competing responsibilities undermining application of andragogical learning strategies or lack of appreciation of the importance of active engagement (Persada & Lutfi, 2020). (ii) Some students may be reluctant to working with others, speaking in class, or to actively participate in problem-solving tasks. This potentially limits the effectiveness of andragogical activities relying on collaboration and discussion. Reinvigorating andragogical learning and teaching strategies are prevalent in creating supportive learning environment. (iii) Students may struggle with self-directed learning tactics if they lack confidence or are not familiar with an interactive and structured teaching approach (e.g., jigsaw classroom). Some students may need additional guidance and support to develop necessary andragogical skills and overcome their apprehensions (Alam, 2021).

In view of both the strong and weak points, the following recommendations are proffered: (i) Clearly communicating the relevance and practical applications of the modules increase students' motivation (both intrinsic and extrinsic). Incorporating examples and case studies that demonstrate the real-life significance of the subject matter are paramount, hence, fostering intrinsic motivation engaging students in self-directed learning (Gharti, 2019). (ii) Creating activities and discussions encouraging active participation in-class and through online platforms become inevitable. It could be using diverse teaching methods and techniques such as group work, debates, role-plays, and problem-solving tasks that require collaboration and critical thinking (Moore, 2010). (iii) Setting clear expectations for self-directed learning and explaining the benefits of taking responsibility for one's own learning is primary (Knowles, 1980). Clarifying assessment criteria and learning objectives to help students understand boundaries and expectations of personalised assessments cannot be overstated. (iv) Gradually building students' confidence and autonomy through scaffolded learning activities is necessary. Providing structured guidance and supporting students at the beginning of the module (legal or criminological) and gradually reducing lecturers' assistance as students gain proficiency in the self-directed learning process (Kicken et. al., 2008). (v) Continuously offering individualised support through one-to-one conversations, regular check-ins, and personalised feedback is of vital significance. This would help students overcome challenges, as well as identifying areas for improvement, and developing strategies for effective self-directed learning (Darling-Hammond, 2020).

(vi) Incorporating reflective activities prompting students to critically evaluate their learning progress, strengths, and areas for development. (vii) Encouraging students to reflect on their learning journey, goals, and progress (Taylor & Kroth, 2009).

Secondly, lecturers and stakeholders were asked to use their teaching experiences to reflect on some of the biggest challenges of promoting self-directed learning in their modules (see, Appendix B.2). Several lecturers magnify the following challenges: (i) The use of peer learning and group work fostering collaboration, diverse perspectives, and active engagement amongst students. (ii) Engaging students in discussions and role-plays encouraging critical thinking and application of problem-solving skills (Carter, 2020). (iii) Additionally, linking problem-solving activities to real-life examples and practice-based scenarios may help students understand the value and relevance of problem-solving in decision-making processes. (iv) Furthermore, designing legal and criminological DMDs emphasising problem-solving endeavours students' engagement in the module (Jonassen, 2010).

In the contrary, there are also ingrained weaknesses to consider: (i) The emphasis on group work and peer learning may limit self-directing experiences and some students may benefit from opportunities to develop independent self-directed skills and commensurate strategies. (ii) Whilst a number of lecturers pinpoint discussions and role-plays as effective, however, incorporating visual aids, demonstrations, handouts, and interactive activities (synchronous or asynchronous) can enhance self-directed engagement and understanding. (iii) A number of lecturers think that assessments may not always align closely with self-directed skills and outcomes, however, evaluating students' ability to apply self-directed, problem-solving strategies and analyse complex life scenarios is essential in the teaching of legal and criminological modules.

Based on the strengths and weaknesses, several recommendations are suggested to enhance self-directed scholarship in legal and criminological modules: (i) Providing a combination of individual and group problem-solving activities to cater for different learning preferences and problem-solving skills are required (Chan, 2010). Individual tasks can foster independent thinking and decision-making, while group work promotes collaboration and idea generation (Tomczyk et. al., 2018). (ii) Incorporating visual aids, demonstrations, handouts, films, and interactive platforms enhance self-directed engagements and support students' understanding of complex legal and criminological concepts. (iii) Designing assessments that closely align to self-directed-problem-solving skills and outcomes allow students to demonstrate self-directed problem-solving abilities effectively (Brown, 1985). (iv) Including reflective activities and debates that encourage students to critically assess own self-propelled problem-solving approaches, as well as engaging in dialogue facilitated interfaces. These activities (synchronous and asynchronous) promote self-reflection, self-evaluation, and self-refinement of andragogical learning and teaching strategies.

Next Appendix B.3 in the Appendices section, shows collated responses to a question which lecturers and stakeholders were asked on how they ensure that problem-solving is effective for promoting self-directed learning in their modules. Looking at Appendix B.3 responses, there are strengths and weaknesses worth paying attention to. Amongst the strengths include: (i) The use of peer learning and group work enabling students to collaborate, share ideas, and collectively solve problems. Such an approach fosters active engagement, diverse perspectives, and knowledge exchange amongst students. (ii) Engaging students in discussions and role-plays encourage critical thinking and application of problem-solving tactics. These activities provide opportunities for students to explore different perspectives, analyse scenarios, and propose solutions (Jonassen, 2010). (iii) Linking problem-solving activities to real-world examples demonstrate the value and relevance of problem-solving skills in the teaching of legal and criminological modules at HLS. (iv) Incorporating practice-based experience helps students understand the effectiveness of problem-solving in decision-making processes. (v) Designing the DMDs to emphasise the central role of problem-solving in academic endeavour strengthens students' understanding of its importance. Hence, a well-structured-DMD guides students to explore and discover own solutions through varieties of learning activities (synchronous and asynchronous) (Chin & Chia, 2006).

However, there are also salient weaknesses worthy paying attention to considering B.3 responses: (i) The emphasis on group work and peer learning may limit individual problem-solving experiences. Some students may benefit from opportunities to develop independent problem-solving skills and strategies. (ii) While discussions and role-plays are effective andragogical learning platforms, the incorporation of visual aids, demonstrations, handouts,

and interactive resources can enhance students' problem-solving competencies. (iii) whilst assessments may not always align closely with problem-solving skills and outcomes, ensuring that assessments evaluate students' ability to apply problem-solving strategies and analyse complex scenarios is essential (Hmelo-Silver, 2004).

By considering both strengths and weaknesses indicated in the preceding paragraph the following recommendations are worth noting: (i) Provide a combination of individual and group problem-solving activities to cater for different learning preferences and skill building (Hidayat, 2018). (ii) Incorporating visual aids, demonstrations, handouts, films, and interactive platforms to enhance problem-solving engagement and can support students' understanding of complex legal and criminological issues. (iii) Ensuring that assessments are closely aligned to problem-solving activities and outcomes are key, this may imply promoting assessments requiring students to analyse and solve complex legal and criminological issues, to demonstrate their problem-solving abilities (Jonassen, 2010). (iv) Including reflective activities and debates that encourage students to critically assess their problem-solving approaches and engage in dialogue can also promote self-reflection, self-evaluation, and self-refinement necessary learning and teaching of legal and criminological modules (Zeidner et. al., 2000).

The responses shown in Appendix B.4 pertain to lecturers' views on strategies they find most effective in promoting self-directed learning in their modules. The responses articulated in appendix B.4 imply both strengths and weaknesses. In terms of strengths: (i) Prioritising work and indicating time required for completion helps students understand expectations and manage their time effectively (Kenner & Weinerman, 2011). (ii) Engaging students in peer-to-peer discussions fosters active participation and knowledge sharing. (iii) Optimising the level of personalisation in assessments and linking learning to employability and future work benefits students by making learning experiences more meaningful and applicable to students' career goals. (iv) Actively seeking students' opinions, encouraging engagement, and valuing their contributions empower students and promote a sense of ownership in their learning journey.

The observed lecturers' responses (appendix B.4) pose the following indelible weaknesses: (i) Insufficient writing opportunities and lack of confidence to write can hinder students' self-directed learning chances (Knowles, 1980). This may stem from a lack of emphasis on writing in assessments and a perpetuation of the problem through bad teaching approaches. (ii) While some strategies mentioned by a limited number of lecturers involve short research tasks, the more comprehensive focus on developing research skills would enhance self-directed learning opportunities. This may include providing structured guidance on sourcing and critically evaluating such sources. (iii) Varying levels of instructors' facilitation approach(es) may be effective for some students, but others may require consistent support and guidance to develop self-directed learning tactics (synchronously or asynchronously). However, striking a balance between autonomous and structured guidance remains essential (Merriam, 2001).

Considering the strong and weak points, the following recommendations are offered: (i) Designing and incorporating writing opportunities beyond formal seminars and assessments (Knowles, 1980). This encourages students to share own written work with others for feedback and creating a supportive environment that promotes confidence in writing skills (Long, 2022). (ii) Providing explicit guidance on research skills, including sourcing and evaluating sources (synchronously or asynchronously), synthesising information, and citing references correctly is key in promoting andragogy (Grace, 1996). (iii) Recognising that students may have varying needs in terms of autonomy and facilitation is also paramount, hence offering a flexible structure allowing for self-directed learning whilst providing support and guidance to students who require it cannot be overstated. (iv) Fostering self-reflection through reflective working practices encourage students to regularly reflect on their learning progress, strengths, and areas for improvement (McCallum & Milner, 2021). Providing opportunities for students to discuss and share their reflections promote andragogical learning environment in which group work and peer learning are instrumental in the process of knowledge sharing and feedback.

In a similar context the lecturers were asked on strategies they found to be most effective in the creation of learning materials relevant to learners' experiences, (see, Appendix B.5). Upon analysing the survey responses shown in Appendix B.5, several strengths and weaknesses pertaining to the creation of learning materials relevant to

learners' experiences are apparent. In terms of strengths, the following holds: (i) Designing and developing modules in accordance with the learning outcomes of the Definitive Module Design (DMD) ensures that the materials are directly relevant to the intended goals of the learning materials. (ii) The use of self-reflection, studentinformed feedback, and a learner-centred approach in legal and criminological modules is important incorporating learners' experiences and putting perspectives into the design of students' learning materials (Wozniak, 2020). (iii) Relating substantive module contents to shared cultural phenomena helps establish relevance and connect abstract concepts to real-life examples. That is enhancing learners' understanding and engagement with the learning material (Hattie & Timperley, 2007). (iv) Sequential mastery and understanding using scaffolding assessments making use of interlinked questions allow learners to demonstrate a progressive mastery of subject knowledge in the round. That is, by expanding their mind mapping skills, critical analysis, and research over time, learners are encouraged to deepen their understanding (McNaught & Benson, 2015). (v) Offering a range of different types of resources, such as podcasts, lectures, and blogs which cater for diverse learning preferences, promoting engagement, and deepening understanding amongst students. (vi) The incorporation of self-reflection, peer input. guided assistance, and positive reinforcements through small tasks fosters a supportive and participatory learning environment, enhancing students' motivation and self-confidence (Hattie & Timperley, 2007). (vii) Contextualising lectures, utilising popular knowledge, and adapting examples from real-life scenarios help students connect theoretical concepts into practical applications, making the learning materials more relatable and meaningful (Wozniak, 2020). (viii) Incorporating practical assignments and activities help students understand the real-life application of the course content by enhancing the hands-on approach and their abilities to transfer theoretical knowledge into practice (McNaught & Benson, 2015).

Conversely, there are weaknesses identified in the Lecturers'/ stakeholders' responses worth noting: (i) Limited emphasis on intrinsic motivation, necessitating a focus on cultivating a love for learning beyond assessments (Pew, 2007). (ii) Lack of clarity on research-informed teaching, requiring more explicit integration of research-based examples (Hagen & Park, 2016). (iii) Limited responses connected to andragogy principles, suggest a need for explicit discussion on andragogical alignment by incorporating additional resources such as case studies, articles, or interactive multimedia enhancing learning materials to students' experiences. (v) Although some of the responses include description various effective teaching strategies, however, they do not explicitly mention the andragogical principles of under scrutiny (Gitterman, 2004). It would be beneficial to explicitly discuss andragogical principles aligned to students' learning materials and brought-in-experiences. (vi) While some active learning strategies are mentioned, such as group work, workshops, and moot courts, more emphasis on active learning approaches, such as problem-based learning, simulations, or debates, could further enhance students' engagement and critical thinking skills.

Based on the identified strengths and weaknesses, several recommendations are proposed: (i) Introduce learning experiences that stimulate curiosity and lifelong learning, complementing assessment-linked materials (Bolton, 2006). (ii) Enhance students' engagement through collaborative learning, problem-solving activities, and debates (synchronously or asynchronously) (Jonassen, 2010). (iii) Provide a clear articulation of research-informed teaching strategies, supported by specific studies and evidence in which research-based examples and case studies are emphasised. (iv) Ensure learning materials cater for diverse learning styles and abilities, incorporating inclusive practices, supporting neurodiverse learners, and addressing their potential barriers to engagement and comprehension (synchronously or asynchronously). (v) Regularly reviewing and updating DMDs based on students' feedback, emerging research, and changing societal needs is key. This also implies creating formative and summative evaluation mechanisms to gauge effectiveness of the learning materials and adjusting them to students' needs and their prospective career paths (Hattie & Timperley, 2007).

5. Conclusion

In this research, we have delved into the application of andragogical learning and teaching methods in legal and criminological modules at HLS, with a primary objective of enhancing students' engagement in these specialized fields of study. Our research hypothesis posits that these modules, due to their rigid, abstract, and complex nature, can greatly benefit from the integration of andragogical principles, such as self-directed learning, incorporation of students' real-life experiences, and problem-solving approaches. By analysing responses from both students and

lecturers (collated in sections A.1 - A.5 and B.1 - B.5, respectively), we have extrapolated and proffered recommendations based on perceived strengths and weaknesses from the collected data.

Key strengths identified in the research include the effective use of peer learning and group work to foster self-direction, collaboration, problem-solving, critical thinking, and knowledge sharing. These attributes align closely with andragogical learning and teaching strategies, proving their significance in our study. Furthermore, engaging students through discussions and role plays has been highlighted as a valuable method for promoting effective problem-solving within real-life contexts. On the other hand, the research also shed light on certain weaknesses, particularly regarding the limited emphasis on some essential andragogical principles, such as individual problem-solving and the integration of students' experiences into the teaching of legal and criminological modules. This suggests a need for more guided support in research and research skills development.

To address the research findings and implement the recommendations grounded in andragogical principles, we propose a redesign of instructional materials (DMDs) to foster synchronous and asynchronous engagement with diverse students. This could be achieved through flipped classrooms enabled by digital interfaces like Talis Elevate and jigsaw classroom, among others, which are central and crucial to both learning and teaching in legal and criminological modules at HLS. Additionally, incorporating visual aids, demonstrations, and interactive resources in both synchronous and asynchronous settings will play a vital role in enhancing problem-solving engagement and understanding among HLS students and lecturers. Moreover, aligning assessments more closely with andragogical learning and teaching strategies and outcomes will ensure that students' abilities to analyse and solve legal and criminological problems are effectively evaluated.

Furthermore, we suggest fostering andragogical learning and teaching strategies through self-reflection practices and promoting collaborative learning through group work and peer learning interfaces, both synchronously and asynchronously Empowering students to interact with legal and criminological lecturers more purposefully and meaningfully at HLS can be achieved through these approaches.

The research findings on learning and teaching legal and criminological modules at HLS clearly demonstrate that the integration of andragogical principles can have a profound impact on students' engagement and interaction with lecturers. This, in turn, creates a highly conducive and effective learning and teaching environment that is directly relevant to students' employability and career paths beyond their time in the classroom. Embracing andragogical principles in a comprehensive manner allows higher education institutions to develop policies that not only nurture self-directed scholarship but also cultivate a dynamic and enriching learning environment for students from diverse backgrounds pursuing legal and criminological studies.

By adopting the andragogical approach, students are empowered to take charge of their learning journey, enhancing their overall development and preparedness for their future professional endeavours beyond academia. This holistic implementation of andragogical principles fosters an educational environment that is both transformative and empowering, fostering a lifelong love for learning and a deeper understanding of the subject matter. Ultimately, this educational approach equips students with the necessary skills and knowledge to excel in their chosen careers, ensuring they make meaningful contributions to their respective fields and society.

Acknowledgements

We extend our sincere gratitude to the Hertfordshire Law School Small Grant Team, Dean of the Law School, Penny Carey, and Dr Barbara Henry for generously providing us with the funding that made this research possible. Additionally, we would like to express our appreciation to the University of Hertfordshire Ethics Committee for granting ethical approval of our research (Protocol number: LAW/SF/UH/05913), ensuring that our study adhered to the highest ethical standards as set forth by the ECDA of the University of Hertfordshire Law School. We are deeply thankful to all the program leaders, staff members, and students at the Hertfordshire Law School who willingly participated in this research. Their invaluable insights and contributions have been instrumental in shaping the outcomes of this study.

References

- Alam, A. (2021, November). Possibilities and apprehensions in the landscape of artificial intelligence in education. In 2021 International Conference on Computational Intelligence and Computing Applications (ICCICA) (pp. 1-8). IEEE. DOI: 10.1109/ICCICA52458.2021.9697272.
- Biggs, J., Tang, C., & Kennedy, G. (2022). *Ebook: Teaching for Quality Learning at University 5e*. McGraw-hill education (UK), https://tinyurl.com/5yensamh.
- Blaschke, L. M. (2016). Strategies for implementing self-determined learning (heutagogy) within education: A comparison of three institutions (Australia, South Africa, and Israel). *Unpublished master's thesis*). *Carl von Ossietzky Universität Oldenburg, Oldenburg, Germany, https://tinyurl.com/mudtstvz.*
- Blaschke, L. M., & Hase, S. (2016). Heutagogy: A holistic framework for creating twenty-first-century self-determined learners. *The future of ubiquitous learning: Learning designs for emerging pedagogies*, 25-40, https://tinyurl.com/26ba4knu.
- Bloch, F. S. (1982). Andragogical Basis of Clinical Legal Education, The. *Vand. L. Rev.*, *35*, 321, https://tinyurl.com/5d5akuy6.
- Bolton, F. C. (2006). Rubrics and adult learners: Andragogy and assessment. *Assessment Update*, 18(3), 5-6, https://doi.org/10.1002/au.183
- Boud, D., & Molloy, E. (2013). Rethinking models of feedback for learning: the challenge of design. *Assessment & Evaluation in higher education*, 38(6), 698-712, https://doi.org/10.1080/02602938.2012.691462.
- Bouton, M. E. (2007). *Learning and behavior: A contemporary synthesis*, Sinauer Associates. https://tinyurl.com/mrxxke6j.
- Brown, H. W. (1985). Lateral Thinking and Andragogy: Improving Problem Solving in Adulthood. *Lifelong learning*, 8(7), 22, https://tinyurl.com/3yn9vfy3.
- Brown, G. A., Bull, J., & Pendlebury, M. (2013). Assessing student learning in higher education. Routledge.
- Candy, P. C. (1991). Self-Direction for Lifelong Learning. A Comprehensive Guide to Theory and Practice. Jossey-Bass, 350 Sansome Street, San Francisco, CA 94104-1310, https://tinyurl.com/5fuwpcpc.
- Canning, N. (2010). Playing with heutagogy: Exploring strategies to empower mature learners in higher education. *Journal of further and Higher Education*, 34(1), 59-71, https://doi.org/10.1080/03098770903477102.
- Canning, N., & Callan, S. (2010). Heutagogy: Spirals of reflection to empower learners in higher education. *Reflective Practice*, 11(1), 71-82, https://doi.org/10.1080/14623940903500069.
- Carless, D. (2015). Exploring learning-oriented assessment processes. *Higher Education*, 69, 963-976, https://tinyurl.com/2kpcwwjb.
- Carter, A. (2020). Developing critical thinking skills in the ESL classroom. *TESL Ontario. CONTACT Magazine*, 11, 43-52, https://tinyurl.com/zpz5vrzc.
- Chan, S. (2010). Applications of andragogy in multi-disciplined teaching and learning. *Journal of adult education*, 39(2), 25-35, https://tinyurl.com/33upscjz.
- Chin, C., & Chia, L. G. (2006). Problem-based learning: Using ill-structured problems in biology project work. *Science Education*, 90(1), 44-67, https://doi.org/10.1002/sce.20097.
- Chrysidis, S., Turner, M. J., & Wood, A. G. (2020). The effects of REBT on irrational beliefs, self-determined motivation, and self-efficacy in American Football. *Journal of Sports Sciences*, 38(19), 2215-2224, https://doi.org/10.1080/02640414.2020.1776924.
- Cottrell, S. (2017). *Critical thinking skills: Effective analysis, argument and reflection* (Vol. 100). Bloomsbury Publishing, https://tinyurl.com/bdenm9u4.
- Daniel, N. B. (2021). Heutagogy and Lifelong Learning A Question of Self-Determined Practices in Post-Secondary Education (Doctoral dissertation, Mid-America Baptist Theological Seminary), https://tinyurl.com/mt536r77.
- Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied developmental science*, 24(2), 97-140, https://doi.org/10.1080/10888691.2018.1537791.
- Ekoto, C. E., & Gaikwad, P. (2015). The impact of andragogy on learning satisfaction of graduate students. *American Journal of Educational Research*, *3*(11), 1378-1386, DOI:10.12691/education-3-11-6
- Entwistle, N. (2017). *Teaching for understanding at university: Deep approaches and distinctive ways of thinking*. Bloomsbury Publishing, https://tinyurl.com/mrymrc25.
- Ferguson, S., Thornley, C., & Gibb, F. (2016). Beyond codes of ethics: how library and information professionals navigate ethical dilemmas in a complex and dynamic information environment. *International Journal of Information Management*, *36*(4), 543-556, https://doi.org/10.1016/j.ijinfomgt.2016.02.012.
- Freire, P. (1996). Pedagogy of the oppressed (revised). *New York: Continuum*, *356*, 357-358, https://tinyurl.com/3xsd54da.

- Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The internet and higher education*, 7(2), 95-105, https://doi.org/10.1016/j.iheduc.2004.02.001.
- Garrison, D. R., & Vaughan, N. D. (2008). *Blended learning in higher education: Framework, principles, and guidelines*. John Wiley & Sons, https://tinyurl.com/yexf3923.
- Gharti, L. (2019). Self-directed learning for learner autonomy: Teachers' and Students' perceptions. *Journal of NELTA Gandaki*, *1*, 62-73, https://tinyurl.com/3h3c7n5y.
- Gibbs, G., & Coffey, M. (2004). The impact of training of university teachers on their teaching skills, their approach to teaching and the approach to learning of their students. *Active learning in higher education*, *5*(1), 87-100, https://doi.org/10.1177/1469787404040463.
- Gitterman, A. (2004). Interactive andragogy: Principles, methods, and skills. *Journal of teaching in social work*, 24(3-4), 95-112, https://doi.org/10.1300/J067v24n03 07.
- Glassman, M., & Kang, M. J. (2016). Teaching and learning through open source educative processes. *Teaching and Teacher Education*, 60, 281-290, https://doi.org/10.1016/j.tate.2016.09.002.
- Grace, A. P. (1996). Striking a critical pose: andragogy--missing links, missing values. *International journal of lifelong education*, 15(5), 382-392, https://doi.org/10.1080/0260137960150506.
- Jaakkola, M. (2015). Teacher heutagogy in the network society: A framework for critical reflection. *Critical learning in digital networks*, 163-178, https://tinyurl.com/yc7wtf46.
- Jonassen, D. H. (2010). Learning to solve problems: A handbook for designing problem-solving learning environments. Routledge, https://tinyurl.com/87wczu6t.
- Hagen, M., & Park, S. (2016). We knew it all along! Using cognitive science to explain how andragogy works. *European Journal of Training and Development*, 40(3), 171-190, https://doi.org/10.1108/EJTD-10-2015-0081.
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of educational research*, 77(1), 81-112, https://doi.org/10.3102/003465430298487.
- Hidayat, D. (2018). Social entrepreneurship andragogy-based for community empowerment. In SHS Web of Conferences (Vol. 42, p. 00102). EDP Sciences, https://doi.org/10.1051/shsconf/20184200102
- Hirsch, P. D., Brosius, J. P., & Gagnon, P. (2013). Navigating complex trade-offs in conservation and development: an integrative framework. *Issues in Interdisciplinary Studies*, https://tinyurl.com/bdeypdrn.
- Hmelo-Silver, C. E. (2004). Problem-based learning: What and how do students learn?. *Educational psychology review*, *16*, 235-266, https://tinyurl.com/3m3cpeb9.
- Huxley-Binns, R. (2016). Tripping over thresholds: a reflection on legal andragogy. *The Law Teacher*, 50(1), 1-14, https://doi.org/10.1080/03069400.2016.1147310.
- Kasper, A., & Laurits, E. (2016). Challenges in collecting digital evidence: a legal perspective. *The future of law and eTechnologies*, 195-233, https://tinyurl.com/3kwvjnyt.
- Kenner, C., & Weinerman, J. (2011). Adult learning theory: Applications to non-traditional college students. *Journal of College Reading and Learning*, 41(2), 87-96, https://doi.org/10.1080/10790195.2011.10850344.
- Kicken, W., Brand-Gruwel, S., & van Merriënboer, J. J. (2008). Scaffolding advice on task selection: a safe path toward self-directed learning in on-demand education. *Journal of Vocational Education and Training*, 60(3), 223-239, https://doi.org/10.1080/13636820802305561.
- Knowles, M. S. (1980). From pedagogy to andragogy. Religious Education, https://tinyurl.com/4924savh.
- Krutka, D. G., Carpenter, J. P., & Trust, T. (2016). Elements of engagement: A model of teacher interactions via professional learning networks. *Journal of Digital Learning in Teacher Education*, 32(4), 150-158, https://doi.org/10.1080/21532974.2016.1206492
- Liedtka, J., King, A., & Bennett, K. (2013). *Solving problems with design thinking: Ten stories of what works*. Columbia University Press.
- Long, J. D. (2022). The intersection of andragogy and dissertation writing: How andragogy can improve the process. In *Research Anthology on Doctoral Student Professional Development* (pp. 88-109). IGI Global, https://tinyurl.com/4r2wwrvc.
- Luckin, R. (2018). *Enhancing Learning and Teaching with Technology: What the Research Says*. UCL IOE Press. UCL Institute of Education, University of London, 20 Bedford Way, London WC1H 0AL.
- Maharg, P. (2016). *Transforming legal education: learning and teaching the law in the early twenty-first century.* Routledge.
- Maze Jr, R. G. (2020). *Understanding Non-traditional Online Doctoral Socialization Experiences and the Decision to Persist in the Dissertation Phase* (Doctoral dissertation, Grand Canyon University), https://tinyurl.com/thuk6kxn.
- McDonald, B., & Boud, D. (2003). The impact of self-assessment on achievement: The effects of self-assessment training on performance in external examinations. *Assessment in education: principles, policy & practice*, 10(2), 209-220, https://doi.org/10.1080/0969594032000121289.

- McCallum, S., & Milner, M. M. (2021). The effectiveness of formative assessment: student views and staff reflections. *Assessment & Evaluation in Higher Education*, 46(1), 1-16, https://doi.org/10.1080/02602938.2020.1754761.
- McNaught, K., & Benson, S. (2015). Increasing student performance by changing the assessment practices within an academic writing unit in an Enabling Program. *The International Journal of the First Year in Higher Education*, 6(1), https://fyhejournal.com/article/viewFile/249/266.
- Merriam, S. B. (2001). Andragogy and self-directed learning: Pillars of adult learning theory. *New directions for adult and continuing education*, 2001(89), 3, https://tinyurl.com/52av7jzj.
- Merriam, S. B., & Bierema, L. L. (2013). Adult learning: Linking theory and practice. John Wiley & Sons.
- Michael, J. (2006). Where's the evidence that active learning works? *Advances in physiology education*, https://doi.org/10.1152/advan.00053.2006.
- Miflin, B. (2004). Adult learning, self-directed learning and problem-based learning: deconstructing the connections. *Teaching in higher education*, 9(1), 43-53, https://doi.org/10.1080/1356251032000155821.
- Mitchell, T. M., Utgoff, P. E., & Banerji, R. (1983). Learning by experimentation: Acquiring and refining problem-solving heuristics. *Machine learning: An artificial intelligence approach*, 163-190, https://tinyurl.com/yj2n8hdj.
- Moore, K. (2010). The three-part harmony of adult learning, critical thinking, and decision-making. *Journal of Adult Education*, 39(1), 1-10, https://tinyurl.com/4445uce8.
- Palloff, R. M., & Pratt, K. (2011). The excellent online instructor: Strategies for professional development. John Wiley & Sons.
- Pask, G. (1976). Styles and strategies of learning. *British journal of educational psychology*, 46(2), 128-148, https://doi.org/10.1111/j.2044-8279.1976.tb02305.x.
- Persada, A. G., & Lutfi, H. (2020, October). Attract Students Attention using Gamification. In 2020 6th International Conference on Computing Engineering and Design (ICCED) (pp. 1-6). IEEE, https://doi.org/10.1109/ICCED51276.2020.9415860.
- Pew, S. (2007). Andragogy and pedagogy as foundational theory for student motivation in higher education. *InSight: a collection of faculty scholarship*, 2, 14-25, https://tinyurl.com/mt3rkh62.
- Reno, J. (1999). Lawyers as Problem-Solvers: Keynote Address to the AALS. *Journal of Legal Education*, 49(1), 5-13, https://www.jstor.org/stable/42893578.
- Salmon, G. (2012). E-moderating: The key to online teaching and learning. Routledge.
- Samson, P. L. (2015). Fostering student engagement: Creative problem-solving in small group facilitations. *Collected essays on learning and teaching*, 8, 153-164, https://doi.org/10.22329/celt.v8i0.4227.
- Schneider, J. (2021). What's on the Docket?: Applying Universal Design to Support Student Success in Law-Related Coursework. In *Handbook of Research on Applying Universal Design for Learning Across Disciplines: Concepts, Case Studies, and Practical Implementation* (pp. 279-299). IGI Global.
- Takano, K., & Tanno, Y. (2009). Self-rumination, self-reflection, and depression: Self-rumination counteracts the adaptive effect of self-reflection. *Behaviour research and therapy*, 47(3), 260-264, https://doi.org/10.1016/j.brat.2008.12.008.
- Taylor, B., & Kroth, M. (2009). Andragogy's transition into the future: Meta-analysis of andragogy and its search for a measurable instrument. *Journal of adult education*, *38*(1), 1-11, https://tinyurl.com/4dkyxwj8.
- Taylor, P. (2017). Learning about professional growth through listening to teachers. *Professional development in education*, 43(1), 87-105, https://doi.org/10.1080/19415257.2015.1030035.
- Tomczyk, Ł., Vanek, B., Pavlov, I., Karikova, S., Biresova, B., & Kryston, M. (2018). Critical thinking, problem-solving strategies and individual development assessment among NEETs—research conducted in Slovakia, Poland and Estonia. *International Journal of Lifelong Education*, *37*(6), 701-718, https://doi.org/10.1080/02601370.2018.1550446.
- Trigwell, K., & Shale, S. (2004). Student learning and the scholarship of university teaching. *Studies in higher education*, 29(4), 523-536, https://doi.org/10.1080/0307507042000236407.
- Voyles, E. C., Bailey, S. F., & Durik, A. M. (2015). New pieces of the jigsaw classroom: increasing accountability to reduce social loafing in student group projects. *The new school psychology bulletin*, *13*(1), 11-20, https://tinyurl.com/3jv35wjf.
- Wanner, T., & Palmer, E. (2015). Personalising learning: Exploring student and teacher perceptions about flexible learning and assessment in a flipped university course. *Computers & Education*, 88, 354-369, https://doi.org/10.1016/j.compedu.2015.07.008.
- Wilson, L. H. (2009). Practical teaching: A guide to PTLLS & DTLLS. Cengage Learning.
- Wozniak, K. (2020). Personalized learning for adults: An emerging andragogy. *Emerging technologies and pedagogies in the curriculum*, 185-198, https://tinyurl.com/t8z5dejw.
- Yorke, M., & Knight, P. T. (2006). *Embedding employability into the curriculum* (Vol. 3). York: Higher Education Academy, http://hdl.voced.edu.au/10707/185821.
- Zeidner, M., Boekaerts, M., & Pintrich, P. R. (2000). Self-regulation: Directions and challenges for future research. In *Handbook of self-regulation* (pp. 749-768). Academic Press.

- Zepke, N., & Leach, L. (2010). Improving student engagement: Ten proposals for action. *Active learning in higher education*, 11(3), 167-177, https://doi.org/10.1177/1469787410379680.
- Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory into practice*, *41*(2), 64-70, https://doi.org/10.1207/s15430421tip4102_2.

Appendices

Students' collated responses:

(1) Appendix A.1 collated responses on the question: Please provide an example of a self-directed learning activity that you engaged in your course.

"Legal research, Relevant case laws, Legal research, Reading books, Reading other sources on internet and watching academic videos, Class activity, Reading and researching from Textbook and Internet, Canvas notes, Further reading, Reviewing canvas portal works regularly, Research and updating past gained knowledge, I focus on additional readings from other sources such as scholarly articles for gaining information regarding the course, By doing my course works and research myself, We use online library and other sources to find answers, Surfing internet for collecting information, Research."

(2) Appendix A .2 collated responses on the question: How has the course content impacted your understanding of the legal and criminological issues relevant to your personal or professional experience?

"Too early to know this, Same as above, Not much, Its will be practically work in my career life, Yes, It has drawn together and built upon the foundations of my LLB, In day to day work I face how data protection regulations are effective to protect transparency, The course content has helped me to apply a wider knowledge in understanding the international laws and employment which can be effective in my future career, It has helped a lot to search on relevant case laws, The topics, contents and teaching method impacted me very positively, The course content has helped me to apply a wider knowledge in understanding the international law and employment law which can be effective in my future career, It has helped me in the aspect of knowing that's there are laws that protect the data subject if the data is gotten in a dubious way, It was very helpful, Research process and how avoid plagiarism, Now I feel more confident in my ability and it makes my skills more useful, Pro and cons arguments, Of course it improve personal and professional experience it improves understanding level to high."

(3) Appendix A .3: collated responses on the question: **Do you feel that the course has provided you with opportunities to develop problem-solving approaches to learning?** If you tick 'Yes', 'No', or 'Maybe', may you please explain why this is the case?

"I am in the middle of my studies, The module gives you the ability to study statutory laws related to financial crimes, which is vital learning for aspiring lawyers within crime and especially white-collar crime, No practical experience imparted. Theoretically it is difficult to say. Just increased the horizon of knowledge, yes its100% true when i joint classes i feel it, tutoring in classes required problem solving skills to answer problem questions, Workshops often include realistic problem-based scenarios which we attempt alone or in small groups. We then discuss our answers collectively and ensure everyone is on the same page, because we got deep knowledge; For instance, better understanding of the legal issues has also helped me to develop an effective problem solving and critical thinking approach to study. Thus, I believe that this can help me to solve legal issues in the future, because it has developed a sense of research; Yes, it is, I learnt about different remedies and procedure, For instance, better understanding of the legal issues has also helped me to develop an effective problem solving and critical thinking approach to study. Thus, I believe that this can help me to solve legal issues in the future, It has helped to always ask my employer what they do with my data when collected, We have learned a lot from our course, Attention to detail, Depends on cases."

(4) Appendix A.4 collated responses on the question: Please provide an example of a problem-solving approach to learning that you have engaged in any module.

"Legal research is my first priority when it comes to problem solving, Legal research, Nothing much, I used it in Course Medical law and ethics assignment, In the advocacy assessment we were provided with a set of facts and asked to make an application for bail, When using search engines always facing how protecting the data and transparency, I have engaged in a solution-centric approach to learning to solve recurring problems and deliver better results, Using relevant law cites, Redundancy procedure in employment matter was new for me, I have engaged in a solution -centric approach to learning to solve recurring problems and deliver better results, Data protection law has helped me know my employer cannot keep my data if I don't want. So in the office where I utilize my 20hours of work as a student, I made my colleagues aware of the fact that they can say no if they don't

want a particular data about them to be processed, We have done lots of class activities that are all problem solving, How to write a research paper."

(5) Appendix A.5 collated responses on the question: How do you think problem-solving skills will be relevant to your future career?

"Basic requirement, As an aspiring criminal Bar obtaining a 1st class degree module score in white collar crime is extremely vital to my career aspirations, It is very much necessary to cope up in changing times, Yap its relevant when someone entered professional life then can realise, Yes, Strength of a practising as a good lawyer is always depends on the problem-solving skill, Problem-solving skills can help me to become a capable individual in the future, In law field its always well needed, It will open new door of opportunities for me, Problem-solving skills can help me to become a capable individual in the future, It has given me confidence to know I can speak to out even if my answer is wrong, Yes, Yes, As legal experts you always need solutions, of course it will be beneficial."

(6) Appendix A.6 collated responses on the question: What are your overall thoughts about learning experiences and development in this university?

"Good, Excellent, The University consists of a student friendly environment along with all the resources necessary but it lacks engagement of students including no opportunities for internships or any other extra-curricular activities, Very good, Good, Overall Excellent, Excellent, It's an adequate opportunity which I facing, I believe the learning experience has been enlightening for me, It's a great university helps the students to build up a professional research methodology, Quite different than my country because student can explore more and more things and ideas rather than limited with a book, I believe the learning experience has been enlightening for me, The lecturers do well in impacting knowledge to student and engage then in seminars, It was all good, Yes it was very effective course as well as its course design was fabulous, Had a great experience, I have a great experience and pleasure as student of this university"

(7) Appendix A.7 collated responses on the question: **How your learning experience and development** have impacted your understanding of legal and criminological studies?

"I am not studying criminology, It has given me great educational development through academic achievements, Not related, In my bachelor course i have no knowledge about this but now i have all the basic knowledge, In a big and positive way, It has given me a wider experience of potential law related issues and developed my critical thinking abilities, It has given me an understanding to understand the facts of the cases in parts and as a while as well, The study with Herts really open my mind towards new ways, It has given me a wider experience of potential law related issues and developed my critical thinking abilities, It made me see learning in a different way. I developed a skill of always reading before the seminar which the lecturers helped by providing materials to help the students realise before coming for the lecture it makes understanding easy, Teacher's effort was extremely good that has impacted in our learning and thinking style, Convenient for making research, By many different ways, It's need practical theoretical it's good."

Lecturers' and Stakeholders Collated responses:

(1) Appendix B.1 collated responses on the question: Please describe how you relate and create learning materials relevant to learners' experiences in your module?

"Ask questions; Through self-reflection, student informed feedback and results of modules; By relating substantive course content to shared cultural phenomena; test, Make the learning relevant to current issues; I usually follow scaffolding type assessments via two interlinked questions for assignments 1 and 2 and link them to the units along the same line, in order to demonstrate a mastery and understanding of knowledge gained in a sequential way and by expanding their mind mapping, critical analysis and research in time. To this end, I ask the students to undertake case study analysis, video presentation and/or problem questions in the assignments. I design and deliver the module content accordingly. I situate the learner within the wider context of their learning journey for this particular year, so they can start to manage expectations and their time more effectively. They are encouraged to reflect on L4 and L5 learning and how it will be different on this L6 module (Dissertation); Making them interactive by asking questions, giving them tasks or putting quizzes; Be looking at the jurisdictions they have

studied their first degrees in i try to build in practical assignments/ activities, which help students to understand the real-world application of the content they have learned. Provide a range of different types of resources e.g., podcasts, lectures, and blogs, I design and develop my modules in accordance with the learning outcomes of the Definitive Module Design (DMD), and update the teaching material, module content and assessment methods, I design and develop my modules in accordance with the learning outcomes of the DMD, and I update the teaching material, module content and assessment methods, Self-reflection is built into the module and peer input. staff encouraged to engage 1:1 at some point during the module and to offer feedback on formative assignments. strategy of guided assistance given which actively develops throughout the module. Lots of positivity and confidence building through small tasks done well built into the module; I make sure that the learning materials align closely with the assessment(s). The students need to have some incentive to learn and materials that feed into the assessment(s) offer just such incentive. Unfortunately, not everyone will enjoy learning for the sake of learning; I ensure there are a variety of activities that refer to lectures and seminars we do together. I also take ideas and context for activities from popular knowledge as much as I can, Discourse, adapt examples; I rely on research-informed teaching and relate and create learning materials based on my research. Also, my teaching and learning along with assessment strategies are based on research-informed teaching; Lectures are contextualised, and students are made to engage; I teach and lead an inter-disciplinary and comparative module, which examines the role law plays within society and corporate structures. To achieve the desired learning outcomes, we actively involve students in group work, peer presentations, workshops, and mooting."

(2) Appendix B.2 collated responses on the question: In your experience, what are the biggest challenges of promoting self-directed learning in your module?

"Engaging learners and building learner confidence in the classroom; lack of awareness from students that higher education is about self-directed learning; Test; Student engagement is always low; When elements of personalisation in assessments are too extensive, students would not be able to grasp well the expectations and not limit themselves with proper boundaries against the learning outcomes of the module; Student being prone to procrastination and/or putting off work because they are anxious about how to start research assignments. Also managing the other responsibilities students have (paid work and family commitments), Student engagement. Some students do not get engaged with Canvas and material we provide for them there; Student discipline; the students having the self-motivation to direct their own learning - we as lecturers can provide the content and the opportunities but if students do not take these/engage with these it is a big challenge; Managing student's expectations; Low attendance at learning sessions including lectures and seminars; The students have no idea how to make the leap between being fed information and finding it themselves and/or applying critical thinking to deciding relevance or otherwise. Some of it is lack of confidence which is why a structured approach to L4 modules is crucial; Some students do not take responsibility for their own learning. The module is not always seen as intuitively interesting to students. Some students may fail to appreciate the importance of getting a good grade. This might remove some of the incentive to work hard and take responsibility for self-learning; Student motivation (given other challenges in their lives); Students are reluctant to work with others and to talk in class. So, it is difficult to create activities that build on participation in class. If participation is online or outside of the seminar it is difficult to gage their level of engagement; Parity between tutor; Often it is difficult to engage some students due to attendance, attention, work, or other related issues; Many students are not enthusiastic. They just want to have it the easy way and they know the system will always favour them; The challenges encountered include low student motivation, poor attendance, and a lack of willingness to actively participate in the seminar."

(3) Appendix B (3) collated responses on the question: How do you ensure that problem-solving is effective for promoting self-directed learning in your module?

"students interacting; assessment for authentic learning, with real-life problems; Through multiple mechanisms including pre class activity, reflective practice in the classroom and self-directed follow up activities; Making it sufficiently open ended so students can resolve problems in more self-determined ways.; Test; All seminar work is based on problem solving.; Different skills need to be improved on the part of the students. Assessment questions would need to be adjusted in view of the level of the students, the nature; and contours of the subject matter and the overall expectations from them.; One to one conversations w/staff (supervisors) helps a lot to identify problems and allow students to come up with a plan to tackle them. Regular checking-in with students to monitor their

learning progress.; By asking them hypothetical or actual questions and check their problem solving; Wider reading and understanding of current issues in the subject; when students are given an interesting topic / problem to solve, then these tend to be more effective in engaging students, even enthusing students to participate; By providing appropriate questions and allowing students time to engage with them,; By getting students to be more involved in developing individual knowledge through experience, reflection and action.; By encouraging students to be more involved in developing individual knowledge through experience, reflection and action.; Problem solving is still principal tool in the legal arena so it is vital that students develop these skills. A substantial amount of time goes into practising and deconstructing problems throughout the module.; Tutorials are designed to build on what the students have learnt in the lectures. In other words, the seminars do not function as a second lecture since that removes the need for students to study and learn before the tutorials; Set appropriate tasks in seminars; I usually ask them to work in group and ask them to recollect cases in their life that could connect to the issues discussed. For example, when we discuss leaseholds, I ask them to bring in their tenancy agreement if they have one; Range, To ensure that problem-solving is effective I generally run and include this type of activity within my learning and teaching as well as assessment; To enhance problem-solving skills, I employ group work and peer learning techniques, ensuring their effectiveness. Furthermore, I encourage students to individually submit their work as a means of fostering independent thinking and personal growth.

(4) Appendix B (4) collated responses on the question: What strategies have you found to be most effective in promoting self-directed learning?

"Research, clearly prioritising work and indicating time to take to complete. Supporting learners with techniques to speed up reading skills and concept of reading for a purpose. Clearly linking the purpose to the outcomes directly, including assessment strategy, encouraging students to investigate particular literature, test, Having engaged discussions in the classroom, Increasing the means of engagement of the students via peer-to-peer and/or group discussions. Inclusion of real-life examples and scenarios within in-class activities. Optimising the level of personalisation in the assessments, Linking to employability and graduate work, developing self-efficacy skills that will benefit them in the future, Asking for students' opinion often and encouraging them to engage and contribute, Accessible teaching of the basics in the subject, encouraging students to draw on current issues/ case studies that they have read about / watched on tv, to unpick and understand key theories/concepts, Encouraging students, Student-centred/focused approach; flexible and open learning outcomes; flexible structure, minimal facilitation, Student-centred/focused (b) Flexible and open learning outcomes (c) Flexible structure, minimal facilitation, analysing short excerpts from judgments reading and creating case notes playing with the online library in seminars and quizzing working in a pair and producing something which is then subject to constructive peer feedback. short structure dedicated exercises within the seminar set up. Games with words - connotation v denotation self-belief building through achievement building writing opportunities into seminars and then asking students to allow others to read what they have written. Our students do not write enough. They come to us not having the confidence to write and we perpetuate this problem by our approach to assessment, Making sure that the lecture material is highly relevant to the assessments. Making sure that the reading list and materials enables the students to build on the lecture and do well in the assessments, Tasks that require a small amount of research in seminars, group work on problem cases usually brings good results, also open ended discussions in class where students are encouraged to share their knowledge pre-course (so no judgement on their level of knowledge of the issues discussed in class), Discussion, one to one interactions, Running Seminar activities such as, debating, oral presentations, writing short pieces of research (e.g. using collaborative technology such as, Padlet), taking MCQs, reflective activities etc, Collaboration through group work, encourage knowledge sharing through peer learning, and cultivate self-reflection through reflective working practices."

(5) Appendix B (5) collated responses on the question: What strategies have you found to be most effective in the creation of learning materials to learner's experiences?

"Peer learning, discussions; using practice-based experience to demonstrate value of problem-solving and instrumentality in effectiveness in reaching a decision. Allowing students to work in groups and explore and rate different problem-solving approaches linked to different; creating the awareness through course design that problem-solving is central to the academic endeavour.; learner outcomes.; Group work in class.; Via a good design and delivery of the model, enabling the students to find the answers to the questions posed during classes.

Making them explore themselves and the best-fit solutions to the legal problems through a variety of in-class activities.; Like previous question; probably peer observation (learning from each other's practices); Showing the importance of the subject; giving a real-world example to students, to demonstrate how to apply their criminological knowledge to solve a problem / issue; Working through problems with students. Allowing them to works in groups and use; padlet to answer anonymously; (a) Encouraging the class to try and talk through issues, and get on sometimes individually, sometimes collectively, sometimes both to develop their original ideas and express themselves creatively; (b) Using role plays, case studies, and/or focus group discussions; and (c) Using class activities that involve the use of pictures, diagrams, demonstrations, displays, handouts, films, and flip-chart. Ensuring that the seminars are indeed structured as seminars as opposed to second lectures. Tasks the require problem solving in seminars; One to one interaction; Reflective activities, critical assessments and debating. Collaboration through group work, encourage knowledge sharing through peer. Learning, and cultivate self-reflection through reflective working practice."