

Enhancing Postgraduate Research Success via Co-Created e-Learning in Open University MBA Programs

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Abstract: Distance learning postgraduate programs continue to struggle with supporting research activities of their students. Geographical dispersion, limited contact, and diversified learners' needs tend to hamper research progress, increase completion time, and intensify student isolation. In response to these concerns, this research created, introduced, and assessed an innovative, collaboratively designed eLearning support program for an MBA program of a Thai open university. Guided by a user-centered design thinking methodology, the project facilitated active co-creation by students and faculty from the outset, including needs identification and iterative development. The resulting integrative system bridged formal academic support and informal peer education. The system integrates several key components: self-paced Moodle eLearning modules for core research topics, synchronous Microsoft Teams sessions for individual advisor guidance, and Line application-based peer mentoring. These elements collectively aim to foster collaboration and reduce student isolation. Pilot testing yielded strong initial results with substantially greater on-time graduation rates than prior cohorts and high student satisfaction levels. Qualitative results also showed more collaboration and less academic isolation; peer-to-peer communication through Line was particularly useful for building community. These results validate the utility of this student-centered, co-creative design thinking process for meeting student needs and creating a positive learning environment. This study provides a replicable and empirically validated model using linked, technology-facilitated methods to build research training and stimulate student success across a variety of distance learning environments.

Keywords: eLearning, Co-Creation, Design Thinking, Peer-to-Peer Coaching, Distance Education, Postgraduate Research

1. Introduction

Postgraduate work, particularly in distance learning, faces significant challenges in adequately supporting student research. These challenges arise from inherent constraints such as geographical distance, diverse student groups, and predominantly virtual interactions with teaching staff (Gregori, Martínez, & Moyano-Fernández, 2018; Lee, 2020). Research supervision in these environments demands customized strategies to reverse learner isolation and facilitate the timely completion of academic courses (Castillo-Merino & Serradell-López, 2014; Kebritchi, Lipschuetz, & Santiago, 2017). This was worsened during the Covid-19 pandemic because of technological constraints, issues in building useful student-advisor relationships, and issues to maintain research quality from afar across nations. (Suparman, 2021) Although eLearning has gained widespread acclaim as a reliable instrument in distance learning, maintaining effective research supervision is still an onerous responsibility, particularly when conducted exclusively through online channels (Garrison & Arbaugh, 2007). The literature identifies many critical factors influencing the success of postgraduate research in distance learning environments, including systematic and ongoing guidance, interactive communication platforms, and opportunities for peer collaboration (Kebritchi et al., 2017; Richardson, Maeda, Swan, & Caskurlu, 2017). However, despite technological advancements, the literature reports persistent issues concerning student isolation, lack of support mechanisms, and a lack of interactive and engaging learning spaces, which are considered major barriers to successful completion of research (Tait, 2018; Zawacki-Richter & Anderson, 2014). Hansen-Brown et al. (2022) and Chimbo et al. (2023) asserted that online remote learning under Covid-19 was often associated with higher levels of loneliness and lower levels of a sense of belonging to universities. This is due to the loss of informal and formal contact with lecturers and peers. This has led researchers to design learning interventions to mitigate loneliness and develop a sense of belonging in the online community via online interactive environment, peer interaction, and other educational support.

Open universities, which tend to attract students from a diverse range of educational and professional backgrounds, compound these challenges due to their special student body and entirely online instructional model (Lee, 2020; Simpson, 2013). Students in open university programs often have varying levels of competence in research methods, academic writing, and critical analysis. This variation requires personalized pedagogical methods that specifically target the special needs of each student, an aspect that is often lacking in traditional online courses (Simpson, 2013). Sukhothai Thammathirat Open University, the leading open university in Southeast Asia being examined in this research, postgraduate students studying the MBA program are from different geographic locations, both domestic and international. Supervisory relationships are established purely online, essentially via online communication platforms such as Microsoft Teams and Line, with very minimal face-

to-face contact. This flexible mode of teaching and mentoring, while having risks of delayed completion of research and graduation, has been reported to have annual late graduation rates following enrollment. Such delays not only affect student satisfaction but also institutional reputation and resource use efficiency. Breaking these systemic problems requires innovative solutions that integrate student-centered approaches and digital technologies to enhance the effectiveness of postgraduate research training. Design thinking, with its user-centered approach and iterative process of development, presents an effective model for tackling these challenges via co-creation in collaboration (Brown, 2009; Razzouk & Shute, 2012). By incorporating both teachers and students in the design and development phases, this method guarantees harmony with user needs and aspirations, enhancing engagement and advancing learning outcomes (Brown, 2009). Extending on the existing literature, this study designs and assesses a collaborative eLearning program to assist postgraduate research students pursuing the MBA program at Sukhothai Thammathirat Open University, an open university in Thailand. The program integrates extensive eLearning modules that are delivered via the Moodle platform and is supported by synchronous consultation and peer-to-peer mentoring carried out through Microsoft Teams and Line, respectively. This holistically framed approach is specifically designed to address the problems of isolation, multiple research backgrounds, and supervisory difficulties which are typical of open university settings. Therefore, this research aims to address a critical gap. It investigates the effectiveness of a collaboratively developed eLearning approach, guided by design thinking, in overcoming research completion challenges and enhancing student satisfaction. The study focuses on an unevenly distributed and heterogeneous group of postgraduate students. The findings emanating from this study not only add to the scholarship of distance learning but also offer applicable strategies that can be replicated in comparable educational institutions across the world. This research aims at attaining the following goals precisely

1. To assess how a co-designed, andragogy-based eLearning program, using project-based learning and peer-to-peer mentoring, impacts timely graduation rates of MBA learners in a distance learning setting.
2. To analyze the efficacy of peer-to-peer mentoring and synchronous advisor meetings in enhancing student engagement, reducing isolation, and optimizing collaborative research skills among geographically dispersed postgraduate students.

2. Theoretical Framework and Literature Review

This study is guided by several pertinent educational theories, such as andragogy, project-based learning, and peer-to-peer mentoring, that collectively guide the planning and deployment of a co-designed eLearning environment. Knowles' (1980) andragogy theory focuses on adult learners' unique traits, such as self-directedness, learning from experience, readiness to learn, and internal motivation. The application of this theoretical model in the context of postgraduate distance learning underscores the imperative of creating learning environments that acknowledge and leverage the existing knowledge, professional backgrounds, and self-directed learning inclinations of adult learners (Knowles, Holton, & Swanson, 2015). This approach is in complete alignment with the diverse backgrounds and self-directed learning imperatives typical of open university MBA students. Project-based learning (PBL) augments andragogical theory by providing structured, yet flexible, learning experiences through the resolution of real-world problems.

Project-based learning (PBL) builds deep understanding by involving students in projects that reflect actual professional practice. In the context of this research, building research skills through projects designed to match students' vocational contexts can build engagement, relevance, and successful transfer of research skills. PBL also naturally encourages ongoing reflection, critical analysis, and integration of new knowledge—primary skills needed for upper-level academic research. Peer coaching supplements this study's theoretical underpinning in fostering interactive and collaborative learning environments. Embedded in social constructivism, peer coaching leverages collaborative conversation and mutual support between learners, thus significantly enhancing engagement, confidence, and competence in complex research tasks (Topping, 2005; Ladyshevsky, 2017). This collaborative learning experience can mitigate the isolation distance learners may face by building meaningful and supportive peer relationships, hence fostering a vibrant learning community. Co-design of eLearning environments is also strongly informed by design thinking philosophies that espouse user-centered, iterative design processes (Brown, 2009).

Design thinking promotes engagement of the teachers and students actively in the process of development and implementation in such a way that the educational solutions directly match user needs and wants (Razzouk & Shute, 2012). This co-creative iterative process encourages continuous feedback, enhancing the effectiveness and relevance of the developed eLearning modules. Through the intertwining of these theoretical frameworks,

the co-designed eLearning solution of the present study addresses the special requirements of distance learning in postgraduate research environments. Arkadan and Kazemargi (2024) suggest that implementing a design thinking mindset is key to effectively reshaping the student learning experience in higher education. This approach is particularly relevant given the significant digital transformations and pedagogical innovations required by post-2020 conditions.

Peer coaching among graduate students has emerged as a prominent supportive mechanism for coping with the special demands of high-level scholarly work. Anchored in adult learning theory and social constructivist theory, this practice focuses on collaborative learning, support, and the cultivation of critical thinking. Ladyshevsky (2006) quoted that peer coaching raises self-esteem, boosts motivation, and facilitates personal development, which eventually results in improved academic performance. Current initiatives, as exemplified by the Graduate Student Coaching Program at MIT, have shown promise in utilizing organized peer coaching to build community integration, improve goal-setting competencies, and minimize perceptions of isolation for graduate students (Winn, 2023). Furthermore, online group coaching has been found to form connections among postgraduate students from various geographical locations, thereby inculcating a sense of belongingness and shared aspirations (Dumitru, et al., 2024; Nacif et al., 2023). These results highlight the value of peer coaching as a complementary instrument to conventional academic advising, leading to postgraduate students' personal and professional growth. Parmar et al. (2025) supported that peer coaching supported the social and emotional well-being of postgraduate students studying online during the pandemic.

The combination of andragogy, PBL, peer-to-peer coaching, and design thinking offers a strong theoretical basis to enhance student engagement, reduce isolation, and enhance research outcomes. The current body of research literature corroborates the effectiveness of such composite theoretical frameworks for augmenting the learning outcomes along with satisfaction among heterogeneous, geographically dispersed cohorts of students (Gregori et al., 2018; Kebritchi et al., 2017). Such a review herein therefore underscores the paramount importance of establishing an end-to-end theoretical framework for creating state-of-the-art, learner-centric eLearning tools. Furthermore, Fabriz et al. (2021) and Shoaib et al. (2023) proposed that both synchronous and asynchronous online learning and teaching experiences should be heightened during and post Covid-19 in the form of mentorship and peer support. By combining the strategic integration of andragogy, project-based learning, peer coaching, and design thinking practices, this study's co-designed eLearning program is well positioned to address the pressing needs and issues of open university MBA postgraduate students.

3. Methodology

The research and development framework for this research uses a qualitative R&D design, which is laid out in sequential steps as needs analysis, instructional development, successive prototyping, and pilot trials. The process aligns with qualitative research methods for education research and enables in-depth scrutiny and refinement of a novel eLearning intervention for postgraduate MBA students taking distance education courses within the context of an open university setting.

3.1 Phase 1: Qualitative Needs Assessment

The first phase consisted of gathering qualitative data through semi-structured interviews that were designed to ascertain research-related needs and problems faced by MBA students. A purposive sampling strategy was employed to recruit a total of 15 MBA students from a variety of geographic locations and educational backgrounds. The interviews were carried out online through Microsoft Teams and took about 45 minutes each. The interview timetable included questions that focused on students' views regarding existing supervision practices, difficulties encountered in their research work, desired approaches to online interaction, and recommendations on how to improve research support.

Data collected through these interviews were thematically analyzed, as set forth by Braun and Clarke (2006). Transcripts of all the interviews were carefully examined, coded, and arranged into distinct themes. These results significantly contributed to the instructional design phase by clearly illuminating the specific needs, desires, and problems experienced by students in the context of research supervision.

3.2 Phase 2: Instructional Design

Qualitative needs assessment findings informed the instructional design phase, which integrated fundamental principles of andragogy (Knowles, Holton, & Swanson, 2015), project-based learning (PBL), peer-to-peer coaching

(Topping, 2005; Ladyshevsky, 2017), and design thinking approaches (Brown, 2009; Razzouk & Shute, 2012). The instructional content was organized into self-contained, interactive modules covering critical research skills that included proposal development, literature review, methodology development, data analysis, and academic writing. The instructional design was based on the design thinking framework, which included recursive cycles of development, testing, and improvement. The modules included multimedia content, real-time consultation via Microsoft Teams, and systematic peer-to-peer coaching activities via the Line application, hence improving learners' engagement and fulfilling the established requirements in a relevant way.

3.3 Phase 3: Iterative Prototyping

In the phase of iterative prototyping, several cycles of module development and formative evaluations were conducted. Each cycle involved small groups consisting of instructional design experts, subject matter experts, and student representatives. Participants reviewed prototypes and provided extensive feedback through structured online surveys and online focus groups. Feedback was centered around topics such as instructional effectiveness, content clarity, usability, and quality of interaction within the online environment. Qualitative feedback obtained over these iterative cycles was examined using thematic analysis that allowed for refinement to instructional approaches, content delivery, user interface design, and effectiveness of interactive components. Ongoing, iterative refinement guaranteed the modules adequately addressed the varied needs of the intended student body.

3.4 Phase 4: Pilot Testing

The final phase involved extensive qualitative pilot testing with a small group of 20 MBA students at Sukhothai Thammathirat Open University. This group was selected using purposive sampling to provide representation of diverse student backgrounds and geographical locations. The pilot study was conducted during the period of one academic semester, during which participants were actively engaged with all created eLearning modules, participated in synchronous consultations, and were involved in peer-to-peer coaching activities. Upon completion of the pilot phase, data was collected through detailed virtual focus group discussions and open-ended qualitative questionnaires. The data collection methods used were aimed at exploring student experiences, perceptions of effectiveness, noted challenges, and suggestions for further improvement. The collected qualitative data were analyzed using thematic analysis. This analysis focused on understanding student experiences, satisfaction levels, and perceptions of learning engagement. It also assessed how well the initiative addressed the initial challenges of research supervision. The findings provided a detailed overview of the strengths and areas of possible improvement of the collaboratively created eLearning initiative.

The use of a qualitative research and development approach enabled an in-depth understanding of the specific contexts and requirements of distance learning MBA students. The methodology ensured exhaustive development, continuous improvement, and rigorous evaluation of the new, jointly developed eLearning solution specially tailored to the needs of postgraduate research students at open universities.

4. Results

4.1 Phase 1: Qualitative Needs Assessment

The qualitative data generated during interviews were subjected to thematic analysis, which revealed four broad themes that underlaid the students' experience and challenges. First, the students indicated intense feelings of isolation and disconnectedness from colleagues and advisers. Second, the participants indicated the desire for more structured guidelines for research procedures, which emanated from various previous experiences in academic research. Third, students expressed a desire for frequent, real-time interactions with advisers to allow for the resolution of ongoing questions and receive timely feedback. Lastly, students showed great interest in interactive learning modalities, including peer-to-peer interactions and collaborative activities, shown in table 1.

Table 1: Identified Themes from Qualitative Interviews

Theme	Frequency Mentioned
Student isolation	14
Structured research guidelines	12
Synchronous advisory sessions	11
Peer-to-peer interactions	13

4.2 Phase 2: Instructional Design

The instructional design stage leveraged learning accumulated in Phase 1 by employing a co-creation strategy founded on the principles of design thinking. The final education modules encompassed interactive video tutorials, in-depth research guides, live consultation sessions conducted through Microsoft Teams, and peer coaching sessions supported through Line. The central self-study eLearning modules covered major postgraduate obligations at the university. These included submission dates for each semester, institutional review board (IRB) requirements, research publication expectations, examiners' criteria, and documentation needs from proposal to final thesis. The modules also offered step-by-step, in-depth instruction on the research process, along with illustrative walk-throughs for analyzing data. They also offered access to crucial resources like a model template for research reports, a reference guide in accordance with APA 7th edition requirements, plagiarism detection software, and a repository of research studies both on and off the university network. The students were advised to work through all eLearning modules before attending the synchronous online coaching webinars. They could also revisit the modules at any time and from any location, enabling flexible, self-paced learning at their convenience. The eLearning was supplemented with weekly online coachings, held through Microsoft Teams, by the academic advisors. These coachings were intended to enable regular feedback on research updates, project reviews and comments, and avenues for peer-to-peer discussion. Students who were ahead were invited to act as unofficial peer coaches, modeling by providing best practices and giving others advice on how to steer clear of typical pitfalls. This created a collaborative learning environment whereby students were able to gain advantage not just from advisor feedback but also from constructive criticism provided by others in the class. The students were urged to work with fellow classmates who had allied research interests to promote collaborative idea generation and informal peer review. This not only helped in the refinement of research competencies but also promoted deeper interpersonal relationships and a spirit of intellectual camaraderie among the student body. Besides, a Line group, which is Thailand's most used social media platform, akin to WhatsApp, was created as an open online community for use in sharing brief updates, questions, suggestions, and motivational messages. Microsoft Teams and the Line group together acted as a complete learning space with the purpose of assisting students during their research work. Following a number of rounds of iteration, the design was progressively refined based on continuous feedback from subject matter experts as well as students. Interestingly, peer-to-peer mentoring and weekly virtual coaching were emphasized due to students' high preference for more interactive and collaborative learning experiences.

4.3 Phase 3: Iterative Prototyping

Iterative prototyping involved three cycles of participant feedback on module usability, clarity of content, and interactivity functionality. Feedback from these iterative cycles pinpointed significant improvements in module clarity, ease of user interface, and comprehensiveness of content. Usability feedback led to streamlined navigation pathways within the Moodle environment, while content feedback prompted additional explanatory examples and more concise explanations for complex research concepts, as shown in table 2.

Table 2: Summary of Improvements in Iterative Prototyping

Iteration	Major Improvements
1	Enhanced clarity of module objectives
2	Improved user-interface and navigation design
3	Added detailed examples for research concepts

4.4 Phase 4: Pilot Testing

Qualitative data analysis of the pilot test indicated some significant findings. Firstly, the students cited significant decreases in feelings of isolation due to regular contact through synchronous consultations and peer-to-peer coaching. Secondly, the research modules with structure significantly increased students' levels of confidence in conducting research responsibilities, as brought out through focus group discussions. Finally, students greatly preferred the interactive learning elements, which promoted a collaborative learning environment, as evidenced by numerous positive comments in qualitative feedback sessions, shown in table 3. As a result of this testing, the graduation rate increased significantly from an average of 65-75% in previous cohorts to 85% in pilot cohort with this co-created eLearning initiative. Students reported a substantially higher satisfaction rate of 4.8 out of 5.0, +0.6 vs. previous cohorts.

Table 3: Student Feedback Highlights from Pilot Testing

Feedback Category	Representative Quote
Reduction of isolation	"The regular meetings made me feel less isolated and more connected."
Increased research confidence	"Clear instructions and examples boosted my confidence tremendously."
Value of peer interaction	"Peer coaching provided invaluable support and fresh insights."

In summary, these findings highlight the efficacy of a qualitative and iterative method to the design of a bespoke eLearning intervention. The eLearning programme that was developed effectively remedied the original problems established under the qualitative needs analysis in terms of improved student interest, self-confidence, and team working amongst MBA students in an open university distance learning environment. As a result of this finding, the triangle of research support was proposed, show in Figure 1.

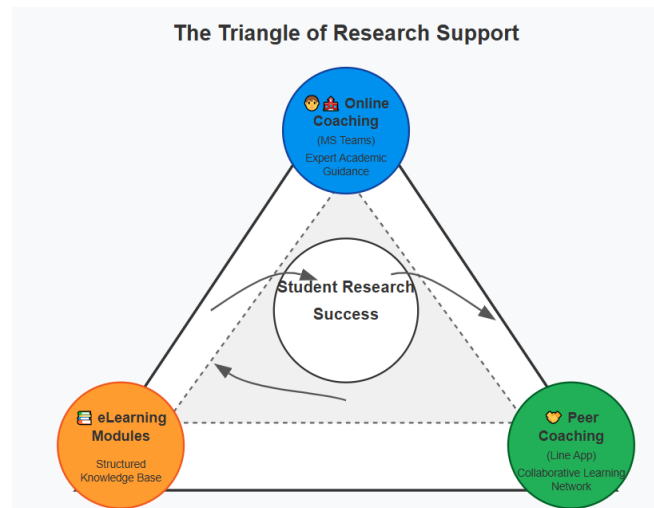


Figure 1: The Triangle of Research Support for Postgraduate Students

5. Discussion

The qualitative results of this research are aligned with earlier academic work that stresses the pivotal role of social contact, organized support, and cooperative peer-to-peer engagement in online postgraduate learning. The significant decrease in student loneliness reported throughout the pilot phase corroborates earlier work by Kebritchi et al. (2017) and Topping (2005), thereby underlining the value of active and cooperative learning spaces in distance learning. In support of the adult learning theory posited by Knowles et al. (2015), the results of this research highlight the importance of structured, yet flexible, learning experiences that leverage learners' self-direction and prior professional experiences. Further, the high level of preference for regular synchronous advisory interactions aligns with previous literature that argues ongoing, real-time communication with coaches enhances learner engagement and enables prompt feedback (Richardson, Maeda, Swan, & Caskurlu, 2017). Good acceptance of peer-to-peer mentoring programs also resonates with Ladyshewsky's (2017) reasoning on peer coaching efficacy in enhancing student confidence and learning performance. Iterative design and prototyping also evidently showed the benefit of using design thinking practices (Brown, 2009; Razzouk & Shute, 2012) in educational settings. Ongoing iteration driven by user feedback resulted in substantial improvements in

teaching material, usability, and overall student satisfaction. These results highlight the triumph of taking an iterative, co-creative stance in creating personalized learning solutions that meet the needs of students and improve postgraduate research skills. In summary, this research provides compelling evidence that integrating adult learning theory, peer coaching, and design thinking can effectively address typical problems in postgraduate distance education. Specifically, this approach helped build community, alleviate isolation, and develop students' research confidence and abilities.

6. Theoretical and Practical Implications

The theoretical contributions of the current research highlight the applicability and viability of using adult learning frameworks, specifically andragogy (Knowles, Holton, & Swanson, 2015) and peer-to-peer coaching (Topping, 2005; Ladyshewsky, 2017), in the context of online learning spaces. The results indicate that adult learners reap substantial advantages from learning modules that are both structured and flexible, allowing for the integration of their varied existing knowledge and professional experience. This study focuses on the important role of developing interactive and collaborative learning environments that significantly enhance learner engagement while reducing feelings of isolation. Theoretically, the research also validates the utility of design thinking (Brown, 2009; Razzouk & Shute, 2012) as a process to undertake education innovation, especially in complicated and geographically distributed learning contexts. The recursive, social processes embedded in design thinking promoted ongoing adherence to the needs of learners and hence exhibited the appropriateness of approaching the sophisticated education problems experienced by distance learners. This study offers definitive recommendations for instructional designers and administrators involved in distance education initiatives. The focus on synchronous advisory consultations and framed peer-to-peer interaction as integral elements of instructional design responds pragmatically to prevalent problems in online learning, including student disconnection and inadequate feedback. Colleges and universities can use these findings to develop more effective, nurturing, and community-based learning environments. In addition, the intensive iterative prototyping model presented in this research provides a template that can be replicated in creating and iterating eLearning content. Teachers can initiate comparable iterative feedback loops to make instructional resources adaptive to both student feedback and the changing needs of learning. Organized integration of peer coaching into instructional frameworks also provides tangible avenues for building student self-efficacy, research proficiency, and teamwork skills that are requisite in graduate education. In conclusion, the theoretical frameworks and practical strategies presented in this study can make a valuable contribution to future teaching practice, more specifically the development and presentation of effective, interactive, and student-centered online postgraduate degree courses.

Ethics Declaration

Ethical clearance was not required for this study, as it involved routine educational practice conducted as part of regular instructional improvement activities within the university's MBA program. All participants voluntarily engaged in the activities and provided informed consent to participate in feedback sessions. Participants were assured of confidentiality, informed about their right to withdraw at any time without any negative consequences, and data were handled securely to protect participant privacy, with personal identifiers removed from all research outputs.

AI Declaration

In the preparation of this manuscript, AI tools were utilized to assist with limited aspects of the writing process, specifically for language editing, grammar checking, and formatting suggestions.

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