

Enhancing Graduate Research Skills via Action Research and Book Clubs

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Abstract

This study investigates the application of action research to enhance the development of research methodology knowledge among graduate students. Students, in this study context, were dissatisfied with current courses, leading to knowledge gaps and limited application of research approaches. Through iterative cycles of action research, a book club intervention was implemented. Key findings highlight several critical design elements: selecting engaging textbooks, optimizing group size for interaction, scheduling sessions during breaks, actively facilitating discussion and misconception correction, and integrating technological tools for communication and reflection. Overall, this study underscores the potential of action research as a valuable framework for developing effective educational methodologies, emphasizing the need for thoughtful design in creating supportive learning environments. Future studies should explore innovative teaching approaches that incorporate diverse perspectives to further enrich graduate education.

Keywords: action research, research competence, online book club, graduate students

1. Introduction

Research is crucial for any country's economic development (Garg, Madhulika, & Passey, 2018). It leads to inventions, innovations and creation of new knowledge, and production of technologies that would impact politics, society and economy, culture, education, and the environment (Blackburn, Huang, & Pozzolo, 2000). Research requires sufficient resources and competency. Higher education is critical for developing research competencies among students to prepare them for the knowledge society. Research has also become an important indicator in measuring the quality of universities nationally and internationally. Therefore, research skills have been identified as important attributes that should be imbibed among and used by undergraduate and graduate students (Garg et al., 2018). Subsequently, a variety of learning tasks that enhance research skills has been introduced into undergraduate and graduate curriculum such as term papers, projects, research study, and dissertations (Garg et al., 2018).

In general, graduate programs are designed based on a curriculum structure, and students are required to complete a thesis/dissertation (Chumwichean et al., 2023). Thus, it is assumed that each course in a graduate program places careful attention to the promotion of research competence. Students need to acquire knowledge in research methodology to undertake various research processes, including research design, data collection and analysis, manuscript writing, and presentation. Research methodology courses play a critical role in developing graduate students' research competences (Daniel, 2021). Hence, these courses need to be taught "at a slow pace as well as making research teaching more practical" (Baidoo & Tetteh, 2024, p. 1729). Research has found that "[t]he lack of training opportunities may contribute to a less diverse methodological landscape" (Corr et al., 2023, p. 120). Graduate educational programs need to be designed thoughtfully to educate students in designing multiple research methodologies that can enrich knowledge and research society (Al-Omairi, 2019). Research on supporting graduate students research competence remains limited (Daniel et al., 2021, Kaeedi et al., 2023). Moreover, pedagogical practices on research methodologies are an emerging issue (Freitas et al., 2024). Therefore, the action research employed in this study is aimed at creating and implementing an online book club to enhance graduate students' knowledge of research methodology. Furthermore, the study considers how students experience this approach. Specifically, the following research question was guided the study:

To what extent would an online book club influence students' knowledge of research methodologies and lead to

increased diversity in the selection of such methodologies?

2. Literature Review

As part of the requirements for the award of degrees in higher education institutions, postgraduate students have to conduct independent academic research. Research methodology is an essential element of postgraduate programs across a wide range of social science disciplines (Daniel et al., 2021). It is often taught to help students undertake research projects and complete their theses. A well-structured training program in research methodology can significantly enhance the postgraduate research experience, leading to improved academic outcomes and timely completion of degree requirements (Daniel et al., 2021). Moreover, Heng et al. (2020) claimed that quality graduate programs influence the level of research competence and confidence of students after graduation, thus impacting their level of research engagement and productivity in workplaces. Graduate programs provide various types of support for research methodology training, such as courses, seminars, workshops, and one-to-one tutorials, with the purpose of assisting students in conducting their research.

Research methodology courses directly impact graduate student experience. Daniel (2021), in his study at a New Zealand public university, found that graduate students were dissatisfied with their research methodology courses, citing issues such as pedagogical rigidity and a lack of practical application. To bridge the gap between theory and practice, research methodology courses should incorporate hands-on experiences that allow students to apply their knowledge in real-world settings. Wang and Guo (2011) found that learning difficulties in research methodology courses is likely to affect students' interest in and attitude toward research productivity. Moreover, insufficient preparation in research methodology results in a less diverse use of methodologies (Corr et al., 2023). Siddiqua (2023) discovered research on educational leadership conducted by emerging school leaders predominantly used the quantitative method. Ibrahim (2018) conducted an exploratory analysis of master's and doctoral theses in the field of education at a Saudi university from 2011 to 2015. The total number of theses examined was 105, of which the researcher analyzed a random sample of 50%. The findings indicated that quantitative research methodologies were mainly used in such theses. In another study, Al-Hano (2016) analyzed 348 research papers published in ten refereed Arabic educational journals over a period of ten years from (2005-2014). The author found that qualitative research methodology was used in only three studies and quantitative research was used in 322 studies. Therefore, careful and thoughtful design of graduate programs that expose students to various research methodologies and equip them with the necessary skills is important. Al-Omairi (2019) recommended reevaluating programs in the field of educational social studies, emphasizing the need to shift from traditional paradigms toward contemporary research methodologies. This transition aims to adopt modern research practices that enhance the accuracy and validity of educational research by adopting diverse research methods, varied approaches, and rich sources.

Innovative approaches to teaching research methodologies that foster engagement and applicability are essential. Integrating interactive learning environments, such as book clubs or collaborative workshops, with graduate programs can facilitate peer-to-peer learning and critical discourse. These settings encourage students to engage with research actively, share insights, and discuss methodological challenges. By fostering supportive communities, students can enhance their understanding of complex concepts and develop critical thinking skills necessary for academic success (Grenier et al., 2021).

Book clubs constitute a social learning approach that can enable individuals to engage with content in both traditional face-to-face settings and online environments, fostering thoughtful dialogue among peers (Sedo, 2011). Long (2003) characterized the book club experience as "conversations [that] allow participants to clarify their own insights and opinions and also to integrate the various perspectives other readers bring to the book" (p. 187). Furthermore, book clubs can facilitate relationship building and community among students, creating a supportive network that encourages intellectual risk-taking and enhances emotional investment in studies (Grenier et al., 2021). By incorporating book clubs that focus on relevant theoretical and practical applications, graduate programs can stimulate critical thinking and reflective practice, ultimately preparing students for professional challenges in their respective disciplines. Additionally, the informal nature of book clubs can enable greater retention of material and a more enjoyable learning experience, making such clubs a valuable pedagogical tool in higher education (Long, 2003). For instance, when students lead discussions on research-focused literature, they have to formulate questions, synthesize information, and articulate their insights, which enhances their analytical abilities. Therefore, book clubs can alleviate the pressure often associated with traditional classroom settings, enabling students to explore methodologies more freely and creatively. As found by Matos et al. (2024) in their systematic review, graduate students reported "negative attitudes towards research methods courses, apparently due to instructors' pedagogical difficulties, which translate into restricted understandings of methodological knowledge" (p. 2). By incorporating theoretical texts and practical applications, book clubs can help students use research methodologies in real-world settings, thus reinforcing relevance and importance of such methodologies in

students' respective fields.

3. Research Context

This study was conducted among students in the Education Master's Program at a university in Saudi Arabia. The program is thesis-based, comprising 12 required courses along with a thesis submission. Of these courses, only two focus on research methodology: 1) General Research Methods and 2) Statistics. The remaining courses pertain to educational theories, instructional design, and practical applications in the field. The program admits an average of 15 students each year. During the first two academic years, students are required to complete their coursework and submit a research proposal for approval before beginning work on their master's thesis. Students participating in this study joined the graduate program in 2020 and conducted research two years later, in 2022. The researcher, who was also the department chair, observed a lack of methodological diversity in the master's theses submitted, with a notable predominance of quasi-experimental designs.

4. Research Design

Action research was used purposefully because it allows one individual to assume the roles of both a teacher and a researcher, thus enabling them to investigate how to improve their own teaching methods. Action research is a systematic procedure "used by teachers (or other individuals in an educational setting) to gather quantitative and qualitative data to address improvements in their educational setting, their teaching and the learning of their students" (Creswell, 2013, p.22). The researcher was interested in helping masters' students develop knowledge of research methodologies by adopting a book club approach. Koshy (2010) perceives action research as

a constructive enquiry, during which the researcher constructs his or her knowledge of specific issues through planning, acting, evaluating, refining and learning from the experience. It is a continuous learning process in which the researcher learns and also shares the newly generated knowledge with those who may benefit from it (p. 9).

Action research provides an opportunity for self-study and reflective practice in the process of developing knowledge of research methodologies among graduate students. Action research is a dynamic and iterative process that involves several key stages designed to facilitate continuous improvement and reflection. The stages of action research typically include identifying the problem, planning, acting, observing and reflecting.

4.1 Identifying the Problem

The initial stage of action research involves identifying and defining a specific problem or area of concern within a given context. This phase requires practitioners to engage in reflective practice to pinpoint aspects that necessitate improvement. It is essential to ensure that the identified problem is both relevant and significant to the participants involved in the research (Koshy et al., 2010). In the current study, the head of one of the educational departments observed a lack of diversity in the research methodologies employed by graduate students in their theses, with a predominant reliance on quasi-experimental research designs. Informal discussions with graduate supervisors and students revealed that many students felt inadequately prepared in terms of methodological knowledge. This deficiency can be attributed to the limited availability of research methodology courses, as only two such courses are offered within the graduate program. The first course is a general research methodology course, which introduces students to fundamental concepts and prepares them to develop their research proposals. The second course focuses on statistics, assisting students in selecting appropriate tests and designing their research measurement and data collection tools. The restricted scope of these two courses adversely affects students' understanding of research methodologies, ultimately influencing their methodological choices. Additionally, the heavy workload of graduate supervisors limits their capacity to provide effective guidance in teaching research methodology to their students.

4.2 Planning

Once the problem has been identified, the next step involved developing a comprehensive plan to address it. This planning phase included outlining specific objectives, selecting appropriate strategies or interventions, and determining methods for data collection and analysis.

The primary objective of this initiative was to enhance graduate students' knowledge of research methodologies. Many students expressed dissatisfaction with the courses currently offered and reported feeling overwhelmed by the heavy workload associated with their required coursework. An online book club approach was chosen to improve students' understanding of research methodologies. This format aims to encourage student engagement through reading a textbook, enabling participants to discuss ideas, reflect on their learning experiences, and apply the concepts to their own contexts.

During the summer term, no graduate courses were offered, thus it was an appropriate opportunity to introduce the intervention. The book club was planned to be implemented during the summer of 2021 to provide students with ample time to engage with the program deeply over a five-week period. The selected textbook was a well-known resource that covered three types of research methodologies: 1) qualitative designs (e.g., case study, grounded theory, ethnography, phenomenology, and narrative), 2) quantitative designs (e.g., experimental research and survey design), and 3) mixed methods designs (e.g., convergent parallel design, explanatory design, and exploratory design). Table 1 outlines the topics covered during the five weeks.

Table 1. Topics covered over five weeks in the online book club

Week 1	Week 2	Week 3	Week 4	Week 5
Chapters 1 & 2	Chapters 3 & 4	Chapters 5 & 6	Chapters 7 & 8	Chapters 9 & 10
Topics:	Topics:	Topics:	Topics:	Topics:
-Introduction to educational research	-Collecting quantitative data	-Reporting and evaluating research.	-Qualitative design: case study, grounded theory, ethnography, phenomenology, and narrative	-Mixed methods
-Steps in the process of research	-Analyzing and interpreting quantitative data	-Quantitative design, experimental research, survey design		-Ethical consideration
-Literature review	-Collecting qualitative data			
-Specifying research purpose and research questions or hypothesis	-Analyzing and interpreting qualitative data			

A secondary objective was to foster a learning community in which students felt safe to express their thoughts, negotiate their ideas, and support each other. The inclusion of students from different academic years was intentionally considered to facilitate the transfer of knowledge and the sharing of both successes and challenges.

Weekly online meetings/sessions were assigned based on student availability to facilitate dialogue among participants. Blackboard Inc.'s Elluminate Live! was primarily used for synchronous meetings. Additionally, a Notebook with five sections was created as participants were required to submit their summaries and reflections to encourage them to contemplate the key ideas presented in the assigned chapters, identify difficulties in understanding concepts, and consider how the main ideas could be applied in their own research. To further maintain student engagement and encourage ongoing reading and reflection, a WhatsApp group was created on which participants could communicate and share insights.

4.3 Acting

In this stage, the planned intervention was implemented. Practitioners engaged in the implementation phase by applying the strategies developed during the planning stage. Prior to the start of the summer term, participants for the book club were selected based on three criteria:

- A strong desire to acquire knowledge of research methodology.
- Availability to actively participate in the book club for an extended five-week period (July–August 2021).
- Enrollment in either the first or second year of their academic program, with research proposals that had not yet been approved.

After selecting the participants ($N = 10$), a brief introductory session was conducted to set expectations, explain the objectives of the book club, outline the timeline, and discuss requirements. A survey was distributed to assess participants' current knowledge of research methodologies, identify their expectations from the book club, and determine a common time for asynchronous weekly meetings. The survey questions were designed to evaluate students' self-perceived knowledge instead of testing their recall or comprehension. The questions concerned the following:

- Familiarity with research methodologies
- Experience with quantitative research designs
- Experience with qualitative research designs
- Experience with mixed-methods research designs

- e) Research methodology areas that students wanted to focus on in the book club
- f) Preferred time for synchronous meetings

All students were new to the book club format and expressed enthusiasm about learning research methodologies during the summer. Students' knowledge of research methodologies ranged from intermediate to novice levels. Survey results indicated that qualitative and mixed-methods designs were the most needed topics, with students reporting little to no prior knowledge in these areas. These findings helped shape the focus and content of the book club and ensured that it addressed participants' learning needs and knowledge gaps in research methodologies. Based on students' availability, meetings were scheduled for Wednesdays from 11:00 a.m. to 1:00 p.m. However, one participant withdrew from the book club due to family commitments. Students provided informed consent for participation. The researcher served as the facilitator of the book club. Pseudonyms were assigned to each participant, as shown in Table 2.

Table 2 Participants of the book club.

Name	Academic Level
Ibtihal	Second Year
Raghd	Second Year
Sarah	Second Year
Mada	Second Year
Hayat	First Year
Marwa	First Year
Nora	First Year
Salwa	First Year
Amal	First Year

A timetable was provided to participants at the beginning of the program. Furthermore, the facilitator ensured that everyone had access to the required textbook. At the start of each week, a reminder was sent to the group via WhatsApp to encourage them to read the assigned chapters and reflect on the guided questions. The facilitator also participated in the weekly reflections alongside the participants. Students were given the option to either write a paragraph or create thematic maps to share their ideas.

4.4 Observing

During and after the action phase, practitioners collect data to assess the effects of the intervention. This data collection may involve both qualitative and quantitative methods, including surveys, interviews, observations, and reflective journals. The primary goal is to gather evidence that will inform the evaluation of the intervention's effectiveness and its impact on the identified problem (Koshy et al., 2010). The current study primarily utilized observations along with participant interviews conducted at the conclusion of the book club. Observational protocol—which included a descriptive section to record activities as they occurred and a reflective section to record the researcher's notes about the process and activities—was used to document online observations. Group interviews were employed to explore participants' experiences and insights gained throughout the process.

Results of observations and interviews showed that participants were satisfied with their experience in the book club. They exhibited deep engagement, as evidenced by their commitment to reading the assigned chapters, sharing their reflections, and actively participating in discussions. The participants also suggested that a group of students be assigned each week to summarize the key ideas in order to enable collaborative learning. In these collective summaries, students included external resources to enhance their understanding. Some participants utilized thematic maps that visually represented their insights. Participants actively interacted with each other during the weekly synchronous meetings as well as asynchronously via the WhatsApp group, where they exchanged resources related to the weekly topics. Participants recognized the value of methodological diversity in research to support knowledge acquisition. Additionally, some students took the initiative to explore new research designs that had not been applied by their peers. Following the book club, five of the ten participants adopted methodological approaches that had not previously been used in the department. In particular, the participants chose mixed-methods and qualitative case study designs for their master's thesis proposals.

4.5 Reflecting

The final stage of the process involved critical reflection on the collected data and their overall experience. This

stage allowed the participants to learn from their experiences and refine their practice. The book club approach had a significant impact on graduate students' research competence, as evidenced by students' interview responses and master's proposals following the club. Previously, students predominantly used quasi-experimental research designs. However, after they participated in the book club, they became more open and enthusiastic regarding various research designs. They expressed their appreciation for the opportunity to participate in this club. Key factors contributing to the success of the book club included the following:

- a) **Timing:** The club was held during the summer holiday, when students were free from course workloads and other academic commitments, allowing for full engagement.
- b) **Approach:** The book club approach required participants to read assigned chapters and discuss and reflect on them with colleagues, promoting deeper thinking.
- c) **Interaction and collaboration:** The participants exchanged resources, supported and encouraged each other's participation, socially constructed knowledge through agreement or questioning of ideas, and challenged each other's perspectives. These emerging indicators reflected a sense of community among participants, as described by Palloff and Pratt (2007).

The book club approach facilitated a collaborative learning environment that enhanced students' research competencies and broadened their understanding of various research methodologies.

5. Results

Collected data were analyzed using thematic analysis (Clarke & Braun, 2006). In this context, codes were initially generated and subsequently assigned to develop preliminary themes. The themes were then reviewed and refined at two levels: 1) at the level of the coded data, to ensure that all data associated with each theme formed a "coherent pattern" (Braun & Clarke, 2006, p.20), and 2) at the level of the themes themselves, to identify relationships among themes and determine whether they accurately reflected the meaning of the data and addressed the research questions (Braun & Clarke, 2006). Three main themes emerged: experience, design, and recommendation.

5.1 Experience

None of the participants had prior experience with an online book club, yet all reported having a meaningful experience during the program. Here are some of their reflections: "I had an exciting time; I'm so happy that I read one of the most renowned books on methodology in just about a month." Another participant stated, "It was a valuable experience; I explored qualitative and mixed methods in depth." A third participant commented, "I learned many things that will help me with my research proposal." Another shared, "The different perspectives we encountered influenced our understanding; it was truly an exceptional experience." Finally, one participant noted, "Although research methodology textbooks are dense with information, the experience was smooth for me. The interactive nature of the book club and the opportunity to discuss the content with peers made the process more enjoyable and meaningful."

5.2 Design

The choice of book played a crucial role in influencing students' decisions to join the club. This well-known translated work in the field covers a wide range of topics that address both theoretical and practical aspects of methodology. One participant stated, "The book was one of the main reasons I joined the club." Another participant mentioned, "I had the book for some time but hadn't read it. When I discovered that the book club was using the same book, I felt excited and decided to register." A third participant remarked, "The book was very informative; I had numerous questions about qualitative and mixed methods, and I found the answers I was looking for within its pages."

The dialogue during the sessions was informative and enriched the participants' knowledge. One participant noted, "One of the most significant aspects of the book club is the discussion that follows the reading of the assigned chapters." Another participant mentioned, "The weekly discussions were interesting and informative; we shared our experiences and built knowledge together." A third participant stated, "The weekly meetings provided an opportunity for us to ask questions, present our ideas, and clarify any misconceptions that arose."

The facilitator played a vital role in supporting the book club by encouraging participation, moderating discussions, answering questions, and addressing misconceptions. One participant commented, "The facilitator did an excellent job of moderating our discussions in a professional manner."

Additionally, participants were required to share their summaries and reflections with their colleagues. Based on the facilitator's observations, some participants exceeded expectations as they used thematic maps to illustrate key ideas, supplemented with external multimedia resources. Furthermore, one student suggested assigning a group

each week to summarize the main ideas, which was well-received. One participant remarked, “The collective summaries and reflections were a great idea; they will serve as a valuable reference for us after the club.”

However, not all participants engaged equally in sharing their summaries. One student explained her reluctance by saying, “I completed my weekly reflections and summaries, but I chose not to share them because I prefer to keep them for myself.” Another participant cited her discomfort with the technological tool “Notebook” as the reason for not sharing her reflections, stating that she did not like it.

A WhatsApp group was created to provide an accessible communication tool for participants. At the beginning of each week, reminders were sent, and guided reflective questions were posed to ensure participant engagement. The participants acknowledged the effectiveness of this tool, with one highlighting, “The use of the WhatsApp group organized the process; reminders were sent, questions were posed, and help was sought.” Another participant added, “It was not disruptive at all; we stayed connected, sharing pictures of ourselves reading with a cup of coffee, which motivated us to keep going.”

The formation of the book club group was crucial in providing a meaningful experience. Participants recognized that the group size of ten students allowed everyone to engage in discussions, enabling various perspectives to be shared and fostering moderated dialogue. Additionally, having participants with different academic levels facilitated knowledge building and the sharing of experiences. One participant remarked, “Collaborating with peers who have been in the program a year longer than I have significantly broadened my understanding of research methodology through their in-depth discussions.”

Scheduling the book club during the summer, when no other courses were offered, was another factor that influenced participation. Participants valued the opportunity to utilize their holiday for a meaningful experience, with one stating, “I am very happy that I was able to benefit from the summer for my academic growth.” Another participant suggested, “I recommend implementing a summer online book club in the coming years; I will be the first to register.” Additionally, students appreciated that the timing for the weekly discussions was determined based on their votes.

5.3 Recommendation

Participants in the online book club were from the same department but represented various academic levels. They offered two main recommendations to enhance future experiences. First, they suggested opening registration to students from other departments and faculties to enrich the dialogue, as diverse backgrounds and perspectives would allow for a broader understanding of how methodology can be applied across different fields. Second, they recommended making participation in the weekly reflections and summaries mandatory, as some participants did not share their insights, possibly impacting the depth of the discussions. One participant explained, “Each participant should share their reflections before the weekly session, as this will influence the quality of our discussions. Multiple perspectives and different ideas can spark deeper dialogue, and everyone will be more committed to it.”

6. Discussion and Conclusion

This research explored the potential of action research in developing research competence among graduate students. The study addressed a significant gap in the current methodology courses offered to graduate students, leading to students’ dissatisfaction and limited proficiency in various research approaches. This gap was also observed by Corr et al. (2023), Siddiqua (2023), and Wang and Guo (2011), highlighting a persistent issue in research methodology education.

This study employed multiple cycles of action research, encompassing problem identification, solution planning, intervention implementation, observation, and reflection. Following this systematic approach, the study yielded valuable insights into effective strategies for enhancing research competence. Notably, the implementation of a book club approach emerged as a particularly effective intervention. This finding aligns with Long’s (2003) assertion that the informal nature of book clubs contributes to improved material retention and a more engaging learning experience, underscoring their value as pedagogical tools for higher education.

Furthermore, this study corroborated the findings of Grenier et al. (2021), which demonstrated that the book club approach fosters relationship building and nurtures a sense of community among participants. This supportive environment encourages intellectual risk-taking and deepens emotional investment in the learning process. The sense of community that is cultivated through the book club approach facilitated a more fluid exchange of information among participants, thereby creating a rich, collaborative learning experience.

Several key elements related to the design of the book club warrant consideration for future iterations. First, the selection of the required book is crucial for fostering a meaningful experience among club members. A

well-chosen text can stimulate engagement and facilitate deeper discussions. Second, careful consideration should be given to the number of participants, as an optimal group size can enhance interaction and ensure that all voices are heard. Third, timing is essential; scheduling the book club during breaks when students are free from course workloads can considerably improve participation and engagement. Fourth, the facilitator plays an active role in promoting engagement by ensuring participation, asking reflective questions, answering inquiries, providing assistance, and rectifying misconceptions. Finally, the use of technological tools is vital for facilitating smooth interactions, enabling participants to share reflections, and for supporting ongoing discussions. Selecting the appropriate technological platform can greatly influence students' level of engagement and participation.

In conclusion, this research highlights the potential of action research as a framework for developing effective methodologies for graduate students. The findings underscore the importance of thoughtful design elements in creating a supportive learning environment that fosters knowledge acquisition and enhances research practices. Future studies should continue to explore innovative approaches for teaching research methodology by incorporating diverse perspectives and experiences to further enrich graduate education.

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Authors contributions

The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

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Data sharing statement

No additional data are available.

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