

Editorial: Understanding the Value of Pilot Studies in Educational Research

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Abstract

Pilot studies play a crucial role in strengthening doctoral research, yet limited detailed discussion has been carried out on how to effectively design, conduct and reflect on them. This gap potentially leads to incorrect understanding or misunderstanding of their purposes and undermines their value to enhance research quality. This special issue brings together reflections on pilot studies from seven doctoral students in education, offering rich insights into their practical, methodological, and personal benefits and challenges. Complemented by perspectives from experienced researchers at the School of Education, these contributions highlight that research is not solely about results but also about the process. Importantly, this process begins well before the main study commences, with pilot studies serving as a foundational step in shaping rigorous and reflective doctoral research.

Keywords

Pilot studies, Design, Conduct, Reflection Benefits and Challenges, Doctoral Research

Introduction

Pilot studies are an essential yet often underappreciated process of robust doctoral research. They assist novice doctoral researchers to reveal potential challenges before the main study and address them via shaping research questions and refining methodology. Designing effective pilot studies and utilising them to refine research design also cultivates postgraduate research students' knowledge of methodological rigour and critical thinking as researchers.

Despite their importance, there is limited detailed discussion in the literature about how to design and conduct effective pilot studies. The limited elaborated discussions about the procedure of effective pilot studies in the existing literature has led to misconceptions about what pilot studies are, for what purposes, and how to carry them out and use their results to improve main studies.

This special issue brings together reflections from seven doctoral students in education, each of whom conducted a pilot study as part of their research journey. Their stories offer insight into the practical, methodological, and personal benefits and challenges that pilot studies can bring about, revealing the importance of pilot studies and the necessity of training new researchers in undertaking pilot studies. The contributions in this issue remind us that research is not only about results but also about the process, and that the process begins long before main studies are underway.

What is a pilot study?

A pilot study can be understood as a rehearsal for the main study, much like rehearsals for an opera. It should take various forms, either be a smaller version of the main study or a trial of a specific component (e.g., a particular research instrument) (van Teijlingen & Hundley, 2002). Depending on the study's goals, pilot studies may be conducted with family members, friends, peer researchers and individuals with similar backgrounds to the intended sample.

It can be conducted at different stages of the research design process, serving distinctive purposes. At the outset, a pilot study can assist in selecting appropriate research methods. In the middle stages, it helps to refine the questions to be asked in

each research instrument. Towards the end, it provides insights into how long each procedure might last and how data should be analysed (Yin, 2015).

Why does an effective pilot study matter?

Effective pilot studies can reveal potential problems in research design before significant time and resources are invested. These include but are not limited to the clarity and relevance of research questions (e.g., too broad or whether relevant), the access to participants (Kim, 2011), the appropriateness of data collection methods (e.g., interviews or observations), the practicality of the research process (e.g., the sample size), the potential for generating meaningful data to answer the research questions, and the potential ethical concerns (e.g., what bothers participants).

Effective pilot studies also help build relationships and trust with participants, particularly in contexts involving sensitive personal data or tackling nuanced issues (e.g., implications of emerging technologies for academic integrity). For new researchers, pilot studies serve as a practice to develop their research skills and confidence in managing the research process and handling challenges that arise. Pilot studies in qualitative research are particularly valuable due to the complexity and variability of real-world settings. Schools, classrooms, teachers, and learners are all situated within unique social, cultural, and institutional contexts.

These values are substantiated in the papers included in this special issue. Nevertheless, few pilot studies are published, often due to their small scale, less rigorous design and processes than those of main studies, and findings that may not be generalisable. Furthermore, the prevailing publication culture tends to favour fully developed studies, as these are more likely to produce convincing and reliable results. This emphasis contributes to the underrepresentation of pilot studies in the research literature.

How can you enhance the value of pilot studies?

The effectiveness of pilot studies depends largely on the extent of reflexivity invested in interpreting the pilot process and data of reality in your research. Reflexivity is the process of critically

examining your ontology (i.e., the nature of reality), epistemology (i.e., the methods to discover the nature and what counts as valid evidence), and axiology (i.e., what you believe is important, right, or meaningful). Papers 1 and 7 in this issue discussed the importance of reflexivity on insider-outsider perspectives as a researcher in a local educational context to navigate complex ethical values.

There are varied approaches to enhancing reflexivity, including engaging in dialogue with supervisors (see Paper 7), fellow researchers (see Papers 1, 3 and 7) and, pilot participants (see Papers 1, 2, 3 and 4) to discuss the pilot process and arising values and challenges.

A reflexive journal, as suggested by Lincoln and Guba (1985), has been widely recommended to assist reflexivity by recording information about various aspects of research conducts, including reasons for methodological decisions (based on pilot studies in this case). Examples of this approach are illustrated in Papers 1 and 2.

Reflections in this special issue

This special issue gathers seven first-hand reflective accounts of pilot studies conducted across diverse educational contexts. These papers collectively demonstrate how pilot studies serve not only to refine research tools and procedures but also to build researcher reflexivity, adaptability, and methodological rigour.

- Paper 1 (Md Nabinur Rahman) reports a pilot study that explored how EAP writing teachers in Bangladesh exercise professional agency. The pilot tested multiple qualitative methods and highlighted the importance of adapting tools to local contexts and managing insider–outsider dynamics. The lessons learned from this pilot has directly shaped a more adaptable and context-aware design for the main study.
- Paper 2 (Sharifa Chowdhury) introduces a pilot study, focusing on academic literacies in a Bangladeshi STEM university. The pilot confirmed the value of gathering perspective from both students and tutors while revealing practical challenges in data access and participant engagement, leading to methodological refinements and enhanced researcher reflexivity in navigating fieldwork in a resource-limited context.
- Paper 3 (Nurdamia Shafee) reflects on piloting interviews and think-aloud protocols with Malaysian ESL teachers using automated writing tools. The study led to improved question design and highlighted the importance of ethical and contextual sensitivity. It also revealed how piloting developed the author’s adaptability and interview skills.
- Paper 4 (Xuechun Huang) reports on a pilot on vocabulary learning in China, testing instruments and procedures across strands. The study addressed measurement challenges and logistical constraints, strengthening the main study’s design.
- Paper 5 (Dalia Cohen) presents a pilot study, using corpus data to analyse authorial voice in academic writing. It tested the code framework based on existing studies, leading to a refined coding process and selection of related tools. It demonstrated the value of piloting analytical tools before scaling up.

- Paper 6 (Noof Alkahtani) introduces a pilot which investigated Saudi teachers’ expectations of girls’ use of educational technology. The pilot revealed the limitations of interviews and logical issues, leading to revisions in both the interview format and observation strategies. These changes enhanced contextual relevance and ensured stronger alignment with the research aims.
- Paper 7 (Zachary Chai) outlines a pilot on Malaysian primary teachers’ use of mobile assisted language learning. It surfaced issues with interview clarity and group dynamics, prompting procedural adjustments and deeper ethical awareness in an under-explored primary school context.

Messages to PGRs and supervisors

As part of this special issue, we invited our reviewers who are also supervisors in the School of Education to share their perspectives on the value, challenges, and effective use of pilot studies in doctoral research. Presented here in their own words, their reflections reinforce the importance of pilot studies discussed above, offer practical strategies, and highlight institutional support.

They emphasise the key role of pilot studies in refining research instruments and supporting researcher development. They ensure the quality and clarity of data collection tools, especially in perception-based research:

My research area is in digital education, specifically teachers’ digital practice and change. Much of the research in my area looks at perceptions and experiences. Pilot studies are critical in this area, to ensure data collection tools are capturing the ‘right’ perceptions and able to gather rich experiences with digital technologies. Interviews and focus group data collection that captures only superficial or misunderstood data will not be of benefit to the field. Pilot studies provide a way to test our data collection tools to make sure they are understood, and that our procedures are clear, so participants are able to fully engage in the research.

Professor Sarah Howard, Professor of Digital Education

Pilot studies enhance research rigour and quality:

Piloting is an essential stage of quality research. It allows researchers to test and refine their methods, clarify ethical considerations, and deepen their understanding of specific contexts, which in turn enhances the rigour of the main study. Sharing reflections from pilot work is good research practice because it makes a meaningful contribution to the wider research community.

Dr Yen Dang, Associate Professor in Language Education

They support both methodological refinement and researcher self-awareness:

This special issue on pilot studies has long been required and will be a valuable contribution not only for doctoral students but also for all the students who carry out research at the school. Students sometimes overlook pilot studies, and they do not really see the value of them. This special issue of HPP brings pilot studies to the forefront, as they play a pivotal role in research, not only from a methodological perspective but also to learn about oneself as a researcher.

Dr Loreto Aliaga-Salas, Lecturer in TESOL;

To make pilot studies impactful, doctoral students need to set up clear goals and evaluation criteria for meaning pilot studies:

To be truly useful, pilot studies should have clear criteria aligned with their aims. This enables us, as researchers, to be clear about why the pilot is needed, how it will inform the main study, and reflect on its overall success.

Professor Louise Tracey, Professor of Early Years Education

They also need to understand different forms of pilot studies to use it appropriately in the research process:

Pilot studies are obviously very important but I think it's worth distinguishing between 'trailing' and 'piloting'. As I understand it a pilot mirrors the exact process of the main study but on a smaller scale. It can produce findings of its own, which can actually be utilized in the main study sometimes. By contrast, trailing involves use of the research instruments, for example giving a questionnaire to individual participants and having them think aloud while responding to each item. Thus, trailing is often necessary even before conducting a pilot study.

Dr Martin Lamb, Senior Lecturer in Language Education

On the other hand, doctoral training in fostering critical researchers is essential for effective pilot studies and improve their research practice:

Pilot studies are useful for many types of research, including doctoral research. However, since pilot studies often serve as an initial step for many doctoral students, they are sometimes unsure how to reflect meaningfully on their experiences. Many doctoral studies lack critical reflection on the pilot phase, which can hinder the ability to learn effectively from the process and apply those lessons to the main data collection. To improve this, I would suggest that doctoral students receive training in critical reflection particularly in how to become critical researchers who can examine their own assumptions and perspectives as part of the research process.

Dr Syafiq Mat Noor, Lecturer in Climate Change Education

At the same time, institutions need recognise the structural challenges and practice time for piloting within the timeframe of doctoral studies:

For those engaged in empirical research, it is rare to embark on a project without some form of piloting; many funders now expect preliminary data collection before awarding a grant and institutions often offer 'pump priming' or 'seed funding' to engage in some initial data collection. Yet, in practice, our postgraduate researchers can struggle to find the time or space for piloting. In my experience, this is partly because the ideal window for piloting tends to coincide with the 'transfer' (or 'upgrade') process, typically towards the end of the first year for full-time PGRs. To maintain momentum, there is often an implicit expectation that researchers will move straight into full data collection once ethical approval is secured and the transfer is complete. While piloting is critically important for building researcher confidence and strengthening methodological design, there remains a challenge: how do we create and protect the space for a meaningful, reflexive pilot in a 3 year doctorate?

Dr Peter Hart, Lecturer in Inclusion, Childhood and Youth

Taken together, these messages affirm that pilot studies are

not merely preliminary exercises but essential opportunities for high quality research. They help refine methods, build researchers' confidence and develop critical researchers. To maximise their value, pilot studies must be intentionally, well-considered, and integrated into doctoral training and timelines. It needs the community of practice to promote pilot studies as a strategic and developmental stage in the research journey of emerging critical researchers.

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