

An evaluation of the adapted Population, Experience, Results, Method (PERM) framework towards formulating main research questions and topics for qualitative studies in teacher education

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Abstract

Formulating a sound research topic has remained a daunting task for many researchers in teacher education despite the abundant literature on the subject. Successful formulation of a research topic is underpinned by the ability to formulate a sound researchable research question –a process which also requires skill. While many literatures have explained explicitly how to formulate the research question, lacking is a demonstrative framework that can be used in order to formulate research questions with relative ease. This paper is a preliminary study that sought to evaluate the usability of a Population, Experience, Results, Method (PERM) framework in formulating research questions and topics for qualitative studies in teacher education. The framework was adapted from the Population/Patients, Exposure, Outcomes (PEO) framework which has successfully been used in formulating research questions and topics in health education. Informed by the structuration theory, this qualitative study presents pilot test results from thirteen final year university students that were conveniently selected from one institution. Two focus group discussions and document analysis were used to collect data. The results show that, although the adapted PERM framework has benefits and limitations, it is capable of formulating research questions and topics for qualitative studies in teacher education. This study concludes that the PERM framework can be used in guiding the formulation of focused research questions and topics for qualitative studies in teacher education research. Therefore, the study recommends that the PERM framework be further tested for wider application and that it be adopted in teacher education research studies.

Keywords: *PERM, Teacher education, Research question, Research topic, Framework*

Introduction

Many student teachers spend a lot of time battling with formulating a research topic that would be deemed acceptable for their projects (Ameen, Batool & Naveed, 2018; Azami, 2016). Formulating a research topic is usually underpinned by the ability to formulate a sound researchable research question. The latter requires skill since it is not done haphazardly or by chance (Saunders, 2016). While many authors (Cohen *et al.*, 2018; Denzin and Lincoln, 2018; Magwa & Magwa, 2013) have explained in-depth how research questions and topics can be formulated and also outlined the essential components that should be considered; the explanations are neither demonstrative nor illustrative enough to assist the formulation with ease. This study presents preliminary results of the usability of an adapted demonstrative PERM framework in formulating qualitative research questions and topics in teacher education.

Background

Worldwide, universities are mandated to research, generate new knowledge and innovate (among other essentials) (Matula, 2009). In the education fraternity, research by teachers is an old phenomenon that has been stressed for centuries. Emphasizing on the importance of research in education, one researcher of long ago, (Fattu, 1960) identifies two essential reasons. First, it maintains professional integrity through establishing and maintaining standards of professional practice. This first reason explains that for a teacher to remain professional and true to their field, they have to keep researching. Secondly, it also assists classroom practitioners to keep learning so that they apply new and current knowledge every time. This second reason emphasizes that research keeps a teacher abreast with new trends so that the teacher's pedagogic methods do not remain static in an ever-changing environment. These two reasons stress the importance and routine nature of research in teaching. In a study carried out on the views of teachers on the importance of research in teaching and learning, (Baş & Kivilcim, 2017) found that many teachers said it assisted them in solving educational problems scientifically and methodologically while developing the classroom practitioner professionally.

With the above noted importance of research to and in teaching and learning, it is disheartening to note that many studies are finding that a lot of students in higher education (and sometimes lecturers) generally lack the skills of research. According to Chabaya,

Chiome, and Chabaya, (2009), research work at Zimbabwe's tertiary level is a hustle to both supervisees and supervisors. The trio found that at times students fail to submit their research projects due to reasons that include incompetence in conducting a full research study. In their study of three universities in Zimbabwe comprising 15 supervisors and 45 students, Magwa, Makuvaro, and Ngara (2015) also discovered that research expertise was lacking in both supervisors and supervisees. The main recommendation from the study by Magwa et al (2015) is that research skills in some lecturers need to be strengthened and basic skills of research should be inculcated in students before they embark on their research studies.

One such needed development is in the formulation of the main research question, herein referred to as the research question. The main research question is the question that the research study that is being undertaken has to answer (Mattick, Johnston & de la Croix, 2018). This definition explains that the study being conducted is guided by a research question to which the study should respond. A more explicit definition that differentiates the questions that guide a research study is given by Leavy (2017). She defines the research question as the primary question which then has sub-questions which she calls secondary questions. In her definition of both types of research questions, that is, the primary and the secondary ones, (Leavy, 2017) explains that both are central in guiding the study. This preliminary study is concerned about what Leavy (2017) refers to as the primary research question only.

Many research writings have explicitly explained how research questions, and consequently, research topics can be formulated. Creswell (2007) explained how the study can be introduced and focused. This explanation is a description of the characteristics that are essential in formulating the topic or the research question. On the same note, Magwa and Magwa (2013) outline a seven-staged list of criteria that can guide topic formulation. This list includes the subject being interesting, narrowly defined, researchable, intellectual, and briefly stated in statement form. In another guiding handbook, Magwa and Magwa (2015) stress that a study needs a question which not only focuses the study but also drives and gives the study its purpose. Leavy (2017) adds other characteristics of the topic which include showing that the study is of benefit and need. Flick (2018) emphasises that the topic should be streamlined and be about a problem or process that is inadequately understood. Despite these detailed guidelines and explanations, research question and/or topic formulation remains mazy to many researchers (Alsied & Ibrahim, 2017). Lacking from all this literature is an illustrative

‘How to’ guide that can assist researchers to formulate the research question and topic of the above-outlined quality. A ‘How to’ guide is a framework that the University of Bath (2022) identifies as having distinct benefits for giving technical instructions and outlining step-by-step directions which researchers may follow. Therefore, this preliminary study seeks to augment the existing literature on research and/or topic formulation in teacher education circles by explaining, piloting and evaluating the adapted PERM framework which may be used in qualitative studies.

Theoretical framework

This study was informed by Giddens’ structuration theory that he developed in the 1980s. The theory argues that social structures are neither rigid nor static but are prone to manipulation and alteration (Allen, 2017). Users of these structures can re(interpret) and/or re(adjust) them to suit new social contexts (Allen, 2017). Explaining how structuration is usable in the fraternity of information and communication technology Schmitz, Teng, and Webb (2016) submit that while a structure is originally designed for a definite performance, the society may manipulate it and adapt it so that the structure is applied to other needs. Thus, while the PEO health education framework was originally designed by healthcare practitioners for healthcare research and settings, this study sought to adapt it (in line with the structuration theory) so that the framework can be used in teacher education research.

Methods

In order to adapt, test and evaluate one of the frameworks used in healthcare education for use in teacher education, several methods were used. First, the PEO healthcare framework was analysed, then developed and adapted in line with teacher education concerns. The resulting framework was then tested in reverse-constructing some published topics. The framework was then refined. The refined framework (PERM) was then used and evaluated by thirteen university students.

Sampling

Sampling was done at varied levels. First, topics of published articles were sampled as the framework was being constructed. These were conveniently sampled from educational research work that the researcher had previously read. Student teachers (who were the users of the developed framework) were also conveniently sampled. These were final year students who were allocated to be supervised by the researcher. They were at the stage of crafting

their research topics. While convenient sampling usually fails to choose those who are considered to give rich data (Schreier, 2018), the participants for this study held the requisite experience and their contributions were adequate to the study. As explained by Cohen, Manion, and Morrison (2018), the participants were selected as they were easily accessible to the researcher. The size of participants was determined by data saturation which, as explained by Creswell and Clark (2018), ensures an in-depth evaluation of the phenomenon under study.

The process of adapting the framework

The original healthcare PEO framework explained

Many nursing education institutions have successfully relied on the use of various frameworks in the formulation of main research questions and topics. These frameworks include the PEO (Population/Patients, Exposure, Outcomes) which is used in qualitative studies, PICO (Population/Problem/Patients/, Intervention, Comparison, Outcomes) which is used in quantitative studies, SPIDER (Sample, Phenomenon, Interest, Design, Evaluation, Research type) which is used in qualitative and mixed methods studies, ECLIPSE (Expectation, Client group, Location, Impact, Professionals, Service) which is used in policy or service evaluation, and SPICE (Setting, Perspective, Intervention, Comparison, Evaluation) which is used when evaluating a project, service, or intervention (University of London, 2022). A framework, such as any of these, assists the researcher in formulating the research question that can be answerable and one that contains the key concepts of the intended study (University of Suffolk, 2021). While it is possible that some, or all of these frameworks, can be adapted for use in teacher education, this preliminary study seeks to demonstrate the adaptation of one of them, the PEO for qualitative studies.

Most healthcare education institutions such as the University of London (2022) and University of Suffolk (2021) explain the PEO framework using the example of the research question. Table 1 below illustrates the framework.

Table 1: The PEO healthcare framework

Component	Explanation of component	Example of PEO application
P (Population/Patients)	Who exactly is the research focusing on?	Healthcare professionals working in an acute setting

E (Exposure)	What issue is of interest that the population is exposed to?	Caring for elder patients with dementia
O (Outcomes)	What are the outcomes or themes that the research wants to collect?	Attitudes of the professionals towards offering that care (Attitudes of the 'Population' towards the 'Exposure')
Research question: What are the attitudes of health professionals towards caring for older patients with dementia in an acute setting?		
Possible research topic: Attitudes of health professionals towards caring for older patients with dementia in an acute setting		
Possible research topic: Caring for older patients with dementia in an acute setting: An analysis of the attitudes of health professionals		

University of London (2022) and University of Suffolk (2021) further explain Table 1. The 'P' (which is for the population/patients under study) requires a well-explained group and their problem. Population may also be families, patients, practitioners and others. The symptoms, illnesses, health conditions, age, background and setting of that population may provide further identification of that population. The 'E' (which is about the exposure for the population) may include the illness, condition or risk factor which has been the experience of interest for the study. The 'O' (for outcomes) refers to the themes or results being sought by the study. These may include feelings, attitudes, experiences, care, and responsiveness to treatment.

Analysis of essential components in teacher education studies

Prompted by the structuration theory, the PEO healthcare framework was then adapted to suit teacher education research studies. Published teacher education research topics were conveniently sampled and analysed to decipher the essential components they are composed of. Table 2 below summarises the analysis of twelve topics that informed the crafting of the PERM framework. Analyzing the topics assists the reverse-construction in order to establish an emerging trend towards adapting the PEO framework.

Table 2: Emerging framework from teacher education published studies

Author(s)	Title of study (Topic)	Essential components identified
(Charamba and Zano, 2019)	Effects of translanguaging as an intervention strategy in a South African Chemistry classroom	Population: teachers and learners in a South African Chemistry classroom Experience: translanguaging strategy Results: effects of the 'Experience' as intervention for the 'Population'
(Chindedza, 2017)	Responses to feminist literature: Lecturers' engagement with feminist literary texts at a university in Zimbabwe	Population: lecturers at a university in Zimbabwe Experience: engagement with feminist literary texts Results: views/responses of the 'Population' towards the 'Experience'
Magwa, Makuvaro, and Ngara (2015)	Challenges encountered in scaffolding undergraduate research projects: The case of three universities in Zimbabwe	Population: undergraduate university research students in three universities in Zimbabwe Experience: scaffolding research projects Results: challenges encountered by the 'Population' in the 'Experience' Method: case study
Mareva and Nyota (2012)	Structural or communicative approach: A case study of English Language teaching in Masvingo urban and peri-urban secondary schools	Population: teachers in Masvingo urban and peri-urban secondary schools Experience: structural and communicative approaches to teaching and learning Results: exploration of the preferred 'Experience' by the 'Population' Method: case study
Matsvange, Mudimba, and	Parental perceptions of male early childhood	Population: parents in Khami district, Zimbabwe

Sithole (2021)	development teachers in Khami district, Zimbabwe	Experience: the concept of male early childhood development teachers Results: perceptions of the 'Population' of the 'Experience'
Mlambo, Musimeki, and Machibaya (2020)	Challenges in e-learning for visually impaired secondary school learners during the Covid-19 lockdown period in Masvingo District schools	Population: visually impaired secondary school learners in Masvingo District schools during COVID-19 lockdown period Experience: e-learning mode Results: challenges of the 'Experience' on the 'Population'
(Mpofu, 2021)	Possibilities of translanguaging pedagogy for sustainable education in Africa	Population: learners and teachers in Africa Experience: translanguaging pedagogy Outcomes: Possibilities of the 'Experience' towards sustainable education for the 'Population'
Muyambo and Marashe (2021)	Indigenous knowledge systems and sustainable development: The case of zunde ramambo (isiphala senkosi) as food security in Chipinge, Zimbabwe	Population: people dwelling in Chipinge, Zimbabwe Experience: zunde ramambo (isiphala senkosi) Results: exploration of how 'Experience' is food security for 'Population' Method: case study
Nyoni and Nyoni (2013)	The form and content of children's poetry and game on a kaleidoscopic cultural terrain	Population: form and content of children's poetry and game Experience: the kaleidoscopic cultural terrain Results: analysis for how the 'Population' depicts the 'Experience'
Siyakwazi and Machingura (2021)	Learner-centred approaches to teaching and learning: Implications for Education 5.0 in Zimbabwean universities	Population: lecturers and students in Zimbabwean universities Experience: Learner-centred approaches to teaching and learning Results: Implications of the 'Experience' by 'Population' for Education 5.0
Wrembel, Gut,	The relationship between	Population: young multilinguals

Kopečková, and Balas (2022)	the perception and production of L2 and L3 rhotics in young multilinguals; an exploratory cross-linguistic study	Experiences: perception and production of L2 and L3 rhotics Outcomes: relationship between the two 'Experiences' by the 'Population' Method: exploratory cross-linguistic study
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Developing the PERM framework

Emerging from analysis of published topics in Table 2 is that research topics may contain 3 to 4 main components, which are: Population, Experience(s), Results, and Method birthing the acronym PERM. Comparing the emerging PERM framework to the PEO, the former bears the following components:

P: Population of interest. Usually these are the specific group(s) of people that one intends to research about. Who is the research really about? (Leavy, 2017). In Literature studies research this may also be the text(s) of interest that the researcher is preoccupied with. Thus, the question one can ask themselves is, 'What are the aspects of the study's primary concern?' These could be specific people, specific literature texts or documents, and specific aspects among others. Therefore, instead of the 'Population/Patients', a component which is relevant in health education but not in teacher education, 'Population' is more relevant.

E: Experience(s). This refers to the actual experience/topic/concern/concept/issue/problem that the population is experiencing/involved in/exposed to/threatened by. It is the specific area of concern for the study or the specific problem or phenomenon encountered (Cohen *et al.* 2018). Thus, the question one could ask themselves is, 'What is the actual issue that the study is concerned about or that is being experienced or likely to be experienced by the population above?' Instead of the 'Exposure' which is a health-defined component, 'Experiences' are more relevant in teacher education.

R: Results. These are the very findings/themes/descriptions that should be streamlined to be collected as data (Creswell, 2014). Results are about that area of concern or population that one wants to concentrate on or measure in the study. Thus, the question on results is 'What

relationship between the population and the experience(s) does the study seek to measure?’ In place of ‘Outcomes’ which are health-related, teacher education usually measures ‘Results’.

M: Methodology. At times the research approach or design can be included.

Testing the PERM framework

A handout explaining the PERM framework was given and explained to the students who used it to formulate two questions and their corresponding topics which the researcher analysed. Results of piloting were gathered using the analysis of the two questions and topics that each of the thirteen students formulated together with two focus group discussions. Group interviews enabled participants to openly discuss and explain their experiences with and evaluation of the framework as suggested by Cohen *et al.* (2018). As the researcher was the participants’ research supervisor, supervisees were free to use and evaluate the framework as part of their engagement with research issues. Being face to face, focus group discussions allowed in-depth enquiry into the use and evaluation of the proposed framework as elucidated by Denzin and Lincoln (2018). Group consensus was also reached through group interviewing (Cohen *et al.* 2018). Four general questions were asked and these sought participants’ experiences with and evaluation of the framework. Follow up questions were also enabled by the face-to-face interview (Creswell and Clark, 2018). Each interview session lasted about 35 minutes.

As suggested by (Denzin and Lincoln, 2018), participants’ written out applications of the framework were analysed to further gather findings on the usability of the framework. Each participant had two research questions that they had crafted using the framework and two tweaked topics following the crafted research question. This document analysis examined the success and failure of formulating research questions and subsequently topics using the suggested framework.

Results

Participants

All the thirteen student teachers who participated were from the same university and were majoring in the teaching of English studies. Thus, all their research work was in English Language or Literature in English subject areas. Seven of the thirteen were primary school student teachers and five were secondary school student teachers.

Piloting results

Research topic and research question formulation

The results from both data sets showed that participants were able to craft the research questions and subsequently the topics using the framework. Captured in Table 3 are some results demonstrating the usability of the framework by some of the participants. The participants are coded as 'Student 1' up to 'Student 13'.

Table 3: Examples of research questions and topics formed by students using the PERM framework

The PERM framework	Student 2	Student 3	Student 5	Student 8	Student 11	Student 13
P	Grade Three learners at a selected school	Grade Four learners	Grade Seven learners at three rural primary schools	Form Four learners	Form Four Literature in English learners	Form One learners and teachers of English
E	learning comprehension using WhatsApp	Poor reading of English text	Poor performance in English public examinations	Poor performance in Shakespeare's <i>Romeo and Juliet</i> .	Studying set texts	Using product approach and process approach for informal letter writing skills
R	Experiences of 'Population' when engaging the 'Experience'.	Reading challenges	Factors contributing to the 'Experience' by the 'Population'	Causes of the 'Experience' among the 'Population'	Impact of the 'Experience' on 'Population'	Comparative analysis of the 'Experiences' by the 'Population'
M	Case study	Not stated	Case of three schools	An exploratory study	Not stated	Not stated
Research	What are the	What are the	What factors	What are the	What is the	How do the product

question	experiences of learning English comprehension lessons using WhatsApp among Grade Three learners at a selected school?	challenges faced by Grade Four learners when reading an English text?	contribute to poor English public examinations performance among Grade Seven learners at three rural schools?	causes of poor performance in Shakespeare's <i>Romeo and Juliet</i> by Form Four learners?	impact of studying Literature in English set texts on Form Four learners?	and process approaches compare as methods of teaching and learning informal letter writing at Form One level?
Research topic	Experiences of learning English comprehension lessons using WhatsApp among Grade Three learners at a selected school	Challenges faced by Grade Four learners when reading an English text	Factors contributing to poor English public examinations performance among Grade Seven learners at three rural schools	Causes of poor performance in Shakespeare's <i>Romeo and Juliet</i> by Form Four learners	Impact of Literature in English set texts on Form Four learners	A comparative analysis of the use of product and process pedagogical approaches in informal letter writing at Form One level

Tables 3 above presents the results from some of the research students. Evidently the results show that these students were able to formulate both the research question and the topic using the PERM framework. While some included the method to be used, some did not. Either way, formulations were achieved. This means that the framework user may not always have to include all the four outlined components.

However, two students had challenges in differentiating ‘Experiences’ from the ‘Results’. An example is from Student 7 whose final topic after discussion with other students was ‘Teachers’ experiences in implementing the compressed English Language syllabus at Grade 5 level at one selected school’. Initially, Student 7 had organized responses to the framework as in Table 4 below:

Table 4: PERM framework used by Student 7

Participants	Grade 5 teachers at one school
Experiences	Experiences of the compressed curriculum
Results	Implementing English Language syllabus
Research question	How is the implementation of the English Language compressed syllabus by Grade 5 teachers at one school?
Results	The implementation of the English Language compressed syllabus done by Grade 5 teachers at one school

Student 7 explained that since she wanted to research on experiences, these should be captured under ‘Experiences’ in the PERM framework. While the student was well aware of the population under study, she could not readily identify the Experiences or issues under discussion and the Results. Her resultant question tended to be rather vague and wide. The same challenge was registered with Student 1 as presented in Table 5 below.

Table 5. PERM framework used by Student 1

Participants	Grade 3 teachers
Experiences	Experiences of teaching non-readers
Results	Teaching reading
Research question	<i>Blank</i>
Research topic	<i>Blank</i>

As shown in Table 5 above, Student 1 also totally failed to construct a question or topic and left the slots blank. Prompted to explain why she had managed to formulate the first set of question and topic but failed to formulate the second one, Student 1 said she was confused by the word ‘Experiences’ in the PERM framework since she had wanted to focus on the experiences as well. Thus, after discussion with other students, the Experiences slot was corrected to read ‘Teaching reading in English to non-readers’ and the Results slot was corrected to read ‘Experiences of the Experience by the Population’. The final question was corrected to read ‘What are teachers’ experiences of teaching reading in English to non-readers at Grade 3 level?’. Thus, the piloting results showed that the PERM framework may assist student teachers to formulate research questions and topics.

Benefits of the PERM framework

The study found two main benefits of the PERM framework in the crafting of research questions and/or topics. These are that the framework is comprehensive and user-friendly. Student teachers identified comprehensiveness as a benefit although from an explanatory point. Student 11 said, *‘I initially feared this step (of formulating topics) but when I used the framework, both topics were researchable and well-focused’*. Student 9 said, *‘I managed to narrow down my study as I kept asking myself the questions on the framework’*. Asked to elaborate, Student 9 explained that, *‘I asked myself what actual population, what actual problem is there, and what data about these two do I want to have as my themes.’* The above comments show that students found the PERM framework comprehensive enough to use it to formulate their intended research question/topic.

The comment on comprehensiveness was also evident in the analysis of the documents submitted. Most topics, save for 2 out of 26 that were submitted were well-formulated. These two topics showed students’ lack of understanding of the ‘Experience’ and ‘Results’ part of the framework. However, upon further clarification from other students, the two students managed to align the topics appropriately. Thus, the students who used the framework found it as being comprehensive in formulating research questions and topics.

The other benefit that was identified was that the framework is user-friendly. Student 3 said *‘it is simple to use’* while Student 7 said *‘it is a bit easy to follow’*. While Student 3’s comment shows confidence, Student 7’s connotes a degree of ease and lack of confidence. This degree explains the failure to formulate the second question and topic by the same

student and Student 1. However, another student, Student 8 explained saying, *'I was afraid of the research. I have heard that it is an animal. I am happy I sailed through the first steps without a glitch. I feel confident now'*. Describing research as an animal, Student 8 meant that it is difficult to work on. Her comments, however, prove that she managed to formulate topics without challenges. This success was also echoed by Student 12 who said, *'I followed the steps and explanations and got my topics right'*. This comment explains that Student 12 worked on her own and was able to formulate acceptable topics without major challenges. Thus, these evaluative statements identify one of the benefits of the framework to the student teachers.

Limitations of the PERM framework

Participants noted that the framework has two limitations. The first is that it is usable only by someone who possesses very good grounding in research issues. Discussing reasons for the inappropriate formulations from Student 1 and 7, one observation from Student 5 was that, *'It (the framework) needs one to have a strong background of research issues before using it'*. This lack of grounding, in part, could explain Student 8's reference to the concept of research as an *'animal'*. Illustrating the need for thorough grasp of research knowledge, Student 6 added that, *'One should be sure of the difference between a qualitative and a quantitative study so that s/he does not force the framework into a study that it is not compatible with'*. With these observations, Student 6 was identifying a limitation of the framework's applicability.

Strengths and limitations of the study

While this study managed to craft, pilot and evaluate a framework to be used in teacher education qualitative research, it has some limitations. Using students who were majoring in teaching English studies limited the evaluation by students from other learning areas. Thus, the applicability to other learning areas in teaching was not attempted. Moreover, the experiences depicted in the pilot study were delimited to the thirteen students and their educational settings. This delimitation means that the results should be interpreted with caution.

Discussion

Prompted by the fact that student teachers have challenges in carrying out research work including formulating a researchable topic or main question, this study set out to achieve

three objectives: to propose the PERM framework for research question and topic formulation, to pilot the framework with students, and that students evaluate it. The Collins Dictionary (2022) defines a framework as a specified list of ideas, rules, or beliefs that someone can use when dealing with certain problems or deciding what they can do. Cambridge University Press (2022) denotes that a framework is an arranged system that contains beliefs, ideas or rules that can be used in planning or deciding something. Thus, these definitions insinuate some benefits that the framework should be a systematically arranged set of main ideas that could be used as a tool to solve a specific problem. Adapted from an existing and proven framework, the PERM could also be a sound and systematic set of ideas put together to assist one to deal with the formulation of the qualitative research question and topic.

It is important that the construction of any framework should be guided by the descriptors of that phenomenon it aims to serve. As topic and research question formulation have been previously explained by many writers and expectations clarified although not demonstrated, the benefits of the framework should be aligned to those expectations. In keeping with expectations from Leavy (2017), the framework should craft a topic that not only guides the intended study but also ensures that the study is of benefit or need. Insinuated from Creswell (2007), the framework should craft a topic or research question that introduces and focusses the study. These are some of the benefits found by this preliminary research from both data sets. The criteria outlined by Magwa and Magwa (2013) of having a topic that narrowly and not widely defines the study, is brief, interesting, researchable and intellectual instead of being emotional further suggest that a framework that can be used in crafting topics should produce such results. The findings of the current preliminary study where the evaluation points to the crafted question as being researchable and focussed and admissible to the supervisor all demonstrate the outlined criteria. Thus, the results of the current study further demonstrate the posit by Mattick *et al.* (2018) that the main question is one which the whole research study would have to work towards answering. The implication of the posit is that the framework is expected to craft an answerable and researchable question, as echoed by the demonstrations found in this study.

Conclusion

This preliminary study concludes that the healthcare PEO framework can be adapted and be used as PERM in teacher education research work to formulate research questions and topics.

Although the resultant PERM framework may not always need all the four components to be used, it suffices to give direction and focus the study. However, it is usable only when the user has adequate grounding in research issues.

Recommendations

Having crafted, piloted and evaluated the PERM framework, this study recommends that lecturers and students from teacher education institutions embrace the PERM framework when crafting research questions and/or topics that are qualitative in nature. Of note is that the framework should be used by someone who is already grounded in research and understands the criteria defining a good research topic and question. The framework does not substitute knowledge of research issues but complements the application of that knowledge. This being a preliminary study, it is also important that the framework be subjected to further scrutiny in teacher education research in order to further evaluate its applicability even in other learning areas.

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