Module Three: Research Quality

Ahmad Almufarreh

George Mason University

EDRS 822

Ethical Issues

In my research there are several ethical issues to be careful about. These issues are regarding participants in the study such as the issue of privacy, consent forms, and the possibility of causing harm to participants. In addition, there are some other issues regarding my bias or the inappropriate use of collected data. Therefore, the ethical issues for the study will be reviewed by the Institutional Review Board (IRB) in order to get the ethical approval from them. Moreover, the use of m-learning environment to collect some of the research data requires detailed concerns because it could raise some ethical issues similar to any data collecting research. The consent form will present clearly detailed information about the research nature, methods of collecting data, privacy issues and the participants' rights. According to Marge (2006), the use of virtual methods for collecting data could produce issues that are similar to those in traditional methods of collecting data for research. Thus, observing students' discussions and produced mobile apps will be fully considered.

 Ruane (2007) highlighted the issue of consent forms when stating that the participants' rights to decide for themselves whether they would like to be part of a study or not. In addition, Anderson (1998) stressed that the most essential principles for the informed consent are informing participants with the nature and purpose of the research, and risks and benefits when being part of the study. He also highlighted that participants must consent to participate without coercion. Therefore, participants in the study will be informed about all aspects of the research that could influence their decisions to take part in the study.

In addition, the issue of volunteerism in the research could be raised in the research. Participants could find it hard to reject the participation in the study, as I will be the instructor of

the course. In Saudi culture it is noticed that the issue of power relation could be problematic in

many research. According to Ruane (2007), the institutional setting could involve authority

relationships that are inconsistent with true voluntarism. Therefore, I will stress to students that

the participation in the research is not linked to the course achievement and grades.

Moreover, the first language of participants is Arabic and this leads me to translate all

interviews, questions, and observations checklists from English into Arabic. In order to

overcome the translation errors, all collected data and documents will be reviewed by the office

of English language services in Jazan University in Saudi Arabia.

Challenges

In order to ensure the accuracy in this research, the challenges in Design-Based Research

(DBR) and m-learning environment will be discussed. According to Hoadley (2004), ensuring

the accuracy in DBR requires a strong connection between the findings and interventions in

order to guarantee the alignment between design and theory. He also stated that DBR recognizes

the terms of validity and reliability. In addition, DBR uses the concept replicability instead of

generalizability (Hoadley, 2004). However, the aim of the study is not to involve in a debate over

terms that are used such as validity versus trustworthiness. Therefore, validity in the research

will be addressed through partnerships with students and also the cycle process that increases the

alignment among design, theory, implementation, and practices (Baharom, 2013). Moreover,

Sandoval (2007) highlighted one of the major challenges in DBR, which is the massive collected

data in DBR cycles and the need is just to focus on the right data. Therefore, DBR requires that

researchers' interpretations of results reflect the truth of the theory and topics that are under

examination in order to ensure validity (Baharom, 2013). Besides that, Hoadley (2004) stated

that validity in DBR is occurred when the researcher's interventions for the results are aligned to the presented theory. In addition, DBR encourages researchers to use multiple methods in order to increase the research validity; thus, the use of several methods could help as a checking technique for the research findings.

According to Peterson and Herrington (2005), applying DBR in a real world setting could reduce the researcher control of the study unlike where the study is conducted in a laboratory setting. Therefore, conducting a research in a real world context that has many uncontrollable factors requires the combination with other method such as an action research in this study. Following this further, DBR has also an issue with replicability. According to Collins and Bielaczyc (2004), DBR is contextualized within educational contexts that have uncontrollable factors. This means that the interventions cannot be across all educational settings and researchers cannot make general claims.

Besides the challenges of DBR, the field of m-learning could raise other issues. Participants in the study will use their own smart mobile devices and this leads to increase the complexity of the research setting (Pachler, 2009). In addition, future implications for the study results will be affected by the rapid development of mobile technologies. Smart phones and mobile apps that would be used in the study are likely to become out-of-date quickly. These continuing changings and developments in technology lead to constant adjustments of the learning design. Nevertheless, Traxler and Kukulska-Hulme (2005) stated that in the research of m-learning researchers should focus on evaluation of learning instead of technological stability. Besides the evaluation of students' learning, they also proposed that the evaluation of m-learning research could also focus on social changes or affectives. Social changes or affectives are concerned with students' perspectives regarding the use m-learning technologies in the study. In

addition, social changes could be also evaluated by examining participants' collaboration, reflections, and viewing multiple perspective opinions. Therefore, the research will not emphasize only on mobile technologies but also it will include the capabilities of learning supports of mobile technologies. This shows that the issue of rapid technology changes is not a main issue.

According to O'Donnel (2004), working in a real-world setting could raise some issues in the research methodology particularly when the researcher is also the designer of the learning environment. Researchers can be biased in their observations because they are involved in many tasks in the research process such as documenting, analyzing, providing feedback and making interventions (Kumar, 2007). While I have several roles in the study, I will handle this issue in order to establish trustworthiness of the collected data by arranging many member checks during the research process. One technique to check the data is to take collected data and interpretations back to students who are taking a part in the study (Creswell & Miller, 2000). Besides that, Baharom (2013) highlighted that in a DBR a researcher and participants should collaborate during the research process in order to check the collected information. Therefore, the collaboration between participants and a researcher will confirm the trustworthiness of the presented information.

According to Creswell and Miller (2000), peer review or debriefing which is the review of the collected data and research process by other colleagues who are familiar with the topic or phenomenon being examined is highly recommended. This way of reviewing data can determine the validity of the research. In this research, I will work with another instructor of the course in order to assist me with reviewing the interpretations of collected data for each cycle in the research.

Limitations

The study has two potential limitations. The first one is the sample that will be used is only male participants from Jazan University in one region of Saudi Arabia. Choosing mixed gender students from different universities would enable me to reach a deeper understanding of the design of m-learning environments. The second limitation would be that the findings of the study might have been influenced by students' preferences for the use of mobile technologies for learning. Students might not be familiar with using mobile technologies as a main tool for academic learning purposes and collaboration. Therefore, research results could be affected by preferences of students.

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