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RESEARCH ARTICLE

ACCEPTANCE OF SIMULATION TECHNOLOGY AND THE INFLUENCES FOR USING SIMULATION TECHNOLOGY AMONGST TEACHERS IN HIGHER EDUCATION

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Simulation Technology, Teachers, Education, Usage, Influences, Benefits and Challenges

Abstract

Acceptance of simulation technology and the influences for using simulation technology amongst teachers in higher education. The research study was conducted to study the effect of technology support for simulation education based on teacher's involvement with and usage of simulation. Previous literature reviews discuss challenges teachers face with using simulation technology such as teachers' lack of training, intentions, attitudes, and behavior such as resentment about using simulation technology. The research study conducted can help one identify factors and learning challenges that teachers face when it comes to learning technology. Simulation technology is a new way of learning and is used more frequently for learning purposes. Therefore, to study in depth factors concerning teachers challenges and influences for using simulation technology research interviews were conducted. Results indicate teachers are influenced and motivated to use simulation technology if they are trained properly and have adequate support. When not supported or trained, one may be resistant to use simulation technology. Teachers admit they will use simulation technology as long as they know how to use the technology properly. Teacher's evaluated display common interest in using the simulation technology and are adamant about using technology if it adds value and enhanced learning to their courses. Teacher's admit that simulation technology seminars and conferences will be utilized for further growth and learning initiatives. Limitations of research are time constraints. Further recommendations for studying the research study are to use a form of triangulation to generalize results for transferability and transparency. Future research needs to be conducted to strengthen the results for precision, reliability, and validity of information. Further research should also be conducted to help close the existing gap in literature about simulation education in the higher education sector.

Introduction:-

Discussion:-

The purpose of the research study was to study the effect of technology support for simulation education based on teacher's involvement and usage with simulation. By conducting the study, the researcheridentifiedchallenges that

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will eventually help close the existing gap in literature. Previous literature reviews discussed factors such as teachers' lack of training, intentions, attitudes, and behavior such as resentment with using simulation technology.

Acknowledgments:-
The research article is presented from the author's doctoral research project of A.T. Still University College of Graduate Health Studies (CGHS) in Arizona. The degree concentration is in health care professions in education.

Declaration of Interest Statement
Simulation in education is advancing the fields of healthcare and technology. By conducting the research study, the gap in existing research pertaining to simulation in higher education can be closed. The research study also helps professionals in the field prepare for the direction that technology is heading in regard to simulation. By integrating simulation technology in diverse fields, the direction of technology changes and advances are applied that reduce costs, promotes efficiency, and streamlines processes. Simulation technology will continue to enhance fields of work and will be a developmental asset to businesses and other areas of professional education. The contributing research study is an additional basis for educational knowledge, continuing education, and the technology sector in both healthcare and business development capstones.

Limitations
The limitations of a researcher are often noticed at the end of the research process. When researching, a researcher is usually researching for a general purpose to further the education in their field of work. For the conducted research studythere were limitations that were faced. The research limitations that were faced were time and system downtime. Time is a limitation that is faced by many researchers due to the constraints required by each research study guidelines and or request. According to Jacobsen (2017) "time for collecting data and analyzing data varies from study to study" (p.38). Therefore, time is of the essence and one will need to prepare and plan to set time to get tasks completed. By using time management strategies, one will be able to better prepare and get tasks done as needed. For the research study time was a limitation due to the recruitment phase for getting individuals to participate. Emails were sent out to participants and responses were not received as fast as expected. Emails and surveys are good qualitative ways to collect data (Merriam &Tisdell, 2016). However, one must be aware of the target population that is selected as well as be familiar with the location of recruitment.

The other limitation for the research study was system downtime. System downtime can be a limitation for other researchers that are using technological systems for data collection. When collecting data, the data was collectedby hand. However, the data was also entered into the system ATLAS.ti. ATLAS.ti is a system used by many qualitative and quantitative researchers. According to Merriam and Tisdell (2016) qualitative systems are used to help organize data and report results. System downtime can impact a researcher due to limited time for using the software. When a system has a failure, one will use a backup plan and work around the system failure. However, once the system is back up and running one can continue their work. Therefore, system downtime can be a constraint because one is not expecting a specific outage. Some system outages are planned and one can prepare to work around those. When there is an unplanned outage, one will have to wait for the system to restore. If not waiting for the system to restore one can use another method to record data however, it may not be their main plan as intended.

System downtime can also be an impact from an environmental standpoint. Environmental factors such as tornadoes, hurricanes, and typhoons can cause systems to have downtime. When environmental factors are an issue one should have a contingency plan. Contingency plans are in place for issues related to environmental issues as well as other issues that may impact one's work. From a researcher's standpoint, one will need to prepare ahead of time for issues that may arise.

When reporting information related to the limitations of the research study one will also need to include the results to show what was actually delivered. The results of the research study showed that teachers often prefer technology support for simulation planned activities and systems. Teacher's show stronger interest for using simulation technology in their classes when they are trained and prepared to use a simulation technology system. Teachers are happier and tech savvy when they are introduced to a technology software earlier versus being thrown into using a new technology software that they are not familiar with.

Recommendations:-

The recommendations for other researchers that are conducting a similar study are to ensure one has the time to conduct a well-rounded research study. By having the time, one will not have to rush their research process. One will also be able to conduct research for a study that will add value to other related studies in their field of work and or research. Value added should be a common goal for researchers that are conducting quality work for educational purposes. The other recommendations that one can state is to ensure one is familiar with the systems that they are planning to use. One will save time by being familiar with specific systems to use. By being familiar with certain systems for usage a researcher can use their time for other tasks that are related to the research process. Merriam and Tisdell (2016) discuss system familiarity to be a good advantage for a researcher planning to use technology software systems. One other recommendation for researcher's planning to conduct a study about the impact of technology support for simulation education based on teachers' involvement and usage with simulation is to use both a qualitative and quantitative method for data collection. By using both methods for data collection, one will be using triangulation for their research study. Triangulation helps to strengthen one's study results and enables one to be able to generalize back to a specific population (Merriam &Tisdell, 2016).

Conclusion:-

The research study conducted depicts the information pertaining to the study effect of technology support for simulation education based on teacher's involvement and usage with simulation. Therefore, researchers are studying how teachers perceive knowledge and how they are influenced to learn simulation technology for usage. Teachers face several challenges when it comes to learning technology. However, simulation technology is a new way of learning and is used more frequently for learning purposes. For research purposes interviews were conducted to gain information. Results indicate teachers are influenced and motivated to use simulation technology if they are trained properly and have support. When not supported or trained teachers may be resistant to use simulation technology.

The study results indicate that teachers are willing to learn if training is offered and support is given. Teachers admitted that they will use simulation technology as long as they know how to use the technology properly. Teachers also admitted that they will continue learning and are supported by a technology person in their institution. Teacher's evaluated display interest in using simulation technologies and are adamant about using technology if it adds value and enhanced learning to their courses. The simulation technology seminars and conferences that are offered will also be utilized by teachers for further growth and learning initiatives.

The aforementioned limitations were time and system downtime. Time was a limitation due to the short period of time to collect valuable information from research participants. The time period from recruitment to actually conducting an interview was longer than expected. If more time was given to recruit participants and conduct an interview one would have more time to conduct a thorough analysis. One would also have the potential to get more pertinent information from participants. On the other hand, system downtime is an issue due to unplanned outages as well as external threats. Therefore, one will have to revert to another process or wait until a system is restored to complete work that needs to be completed using a system software.

The recommendations for future researchers conducting a similar study is to ensure time is available to conduct a thorough research study. Jacobsen (2017) explains that time varies from study to study. Therefore, having adequate time to conduct a research study is an important aspect for validity and reliability. One other recommendation was to ensure one is familiar with the technology one is planning to use to conduct the research study. By being familiar with the technology and or software one will save time from having to learn a new technology software system. Merriam and Tisdell (2016) discuss system familiarity is a good advantage for one planning to use technology software systems. The last recommendation is to use a quantitative research method to help confirm the results of the qualitative research method. By doing such a researcher is using triangulation which helps to strengthen the study's results.

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Appendix

Proposal Title and Introduction

The proposal was to study the impact of technology support for simulation education based on teachers' involvement with simulation. The simulation specific is interactive technology. Interactive simulation allows one to "experience realistic replications" while practicing "a skill without impacting the condition of a live patient" or animal. (Musa et al., 2021, p.1). Shah (2021) explains simulation interactive education as an imitation "model that imitates a real-world process or system" (p.100). The study was reviewed at the higher education level particularly the college level. The disciplines the participants were recruited from were nursing, physician assistant, radiology, and emergency medicine. The idea was to gain an understanding from the faculty's viewpoint.

Purpose Statement

The purpose was to gain an understanding of the impact of technology support for simulation education based on teacher's involvement and usage with simulation. By conducting the study, the researcher can identify challenges that one may face to help close the existing gap in literature. Previous literature reviews discussed factors such as teachers' lack of training, intentions, attitudes, and behavior such as resentment with using simulation technology.

Proposed Research Questions and Hypotheses

The first proposed research question was:what factors influence whether a teacher wants to use interactive technology if the technology is still evolving with new versions or changes added over time? The second proposed question was:how is the technology support impacting one's usage with utilizing simulation in a course? The third research question was: what are some challenges and benefits of using simulation in a course?

Method Overview:-

The research study was qualitative. Purposive sampling was usedto gain an appropriate sample. Surveys and or interviews were conducted to gain information. The faculty for interviewing had to have one year of experience with using interactive simulations and be familiar with technology support in a course. Technology support is how instrumental or vital the help was that one received when using interactive simulation or technology. The disciplines the faculty were recruited from are the physician assistant program at A.T. Still University with interactive video practice or mannequin experience. For the analysis section, information was collected from the data write-ups and recordings. The entire study was approved by the Institutional Review Board of Arizona at A.T. Still University (A.T. Still University, 2020). The study qualified for exempt review due to the study being based on human subjects in an educational setting (A.T. Still University, 2020).

Literature Search:-

A variety of search engines were used to identify peer-reviewed articles for the research study purpose. Some databases that were used are Trip clinical (Turning research into Practice), Academic Search Complete, EBSCOhost, Education Source, Teacher Reference Center, Google Scholar, and A.T. Still Memorial library.

The keywords and descriptors are simulation education,simulation education technology, interactive simulation, interactive learning technology, technology educational activities, educational technology, education gaming applications, technology usage in education, simulation usage, learning workshops for simulation, learning conferences for simulation, learning seminars for simulation, simulation technology training, technology support, simulation support, gaming education, education learning platforms, faculty simulation usage, faculty technology exposure, teaching methods, healthcare technology, and game-based learning.

Literature Review:-

The published literature reviews that are relevant to the proposed research study are the following: reasons associated with preservice teachers' intention to use immersive virtual reality in education by Bower et al. (2020), Current trends in higher education technology: Simulation by Damewood (2016), Medical and surgical education challenges and innovations in the COVID-19 Era: A systematic review by Dedeilia et al. (2020), Education student perceptions of virtual reality as a learning tool by Domingo and Bradley (2018), Simulation scenarios in Korea according to the learning objectives of adult health nursing: A literature review by Jang et al. (2019); and Evaluation of teamwork assessment tools for interprofessional simulation: A systematic literature review by Wooding et al. (2020).

Interactive simulation is used in several education settings. The choice of interactive simulation usage is determined by a variety of factors. For the research proposal, the study focused solely on teachers and how the technology impacts their reasons and beliefs for using or not using simulation in a class. Bower et al. (2020) explain behavioral intentions for teachers to use interactive simulation are access to the technology and favorable support from within the schools. Domingo and Bradley (2018) explain challenges of teachers are not having robust skills and the lack of technology support if the institution does not support the software. Dedeilia et al. (2020) postulates interest for simulation programs have increased due to the COVID-19 pandemic.

In the aforementioned literature reviews relevant to the proposed research study,there are additional research opportunities presented that pertain to interactive simulation. Damewood (2016) reviewed perceptions of simulation. Damewood (2016) asks the following questions in a study to pinpoint the main perceptions of simulation, which is: what value is added to the curriculum by including simulation events and what do students gain from simulation? In the end of the study technology simulation adds value to thecurriculum by allowing one to practice and master skills before entering an actual work environment (Damewood, 2016). However, because technology is changing yearly areas such as training, support, and learning experiences will be introduced and practiced. This technology change leads to new learning opportunities with simulation and other technology advances. Wooding et al. (2020) discussed an additional area for improvement for simulation technology. That area is "a framework for the reporting of studies assessing teamwork in the simulation could improve the methodological quality of future studies and is a possible area for future research" (Wooding et al., 2020, p.171).

Interactive simulation is used in several education settings therefore, research is needed about simulation to improve simulation technology. Zacharia (2003) postulates "the widespread influence of computing has permeated nearly every aspect of life and has especially commanded attention in educational practice" (p.793). This essentiallymeans that computing is expanding and evolving with the ever-changing economy. For the educational aspect, teachers and students are being introduced to new technology concepts such as simulation. For the research study to be conducted the focus is on teachers and how the technology affects their reasons and beliefs for using simulation or not in a class. Previous studies "show little evidence of how the learning gained from a virtual simulation can be transferred to actual professional work-based learning settings" (Thanaraj, 2016, p.96). This evidence leads to further research needing to be conducted to close the existing gap pertaining to how one's skills are transferred; to the actual work setting from the previous virtual simulation learning experience.

Kriek&Stols (2010) explained that teachers' beliefs can make or break the implementation of a technology innovation. The concept needs to be further studied due to existing gaps in the literature on technology education such as simulation used in a class. Kriek&Stols (2010) explain "in order to implement information and computing technology (ICT) in teaching and learning we need a better understanding of the beliefs that influence teachers in deciding to use technology or not" (pp.439-440). Ann Thanaraj (2016) explains that other aspects of additional research need to be investigated pertaining to simulations due to limited triangulated empirical evidence. The lack of triangulated informationrepresents more research needs to be conducted about how teachers, attitudes influence one's need to use technology or not in the learning environment. Thisinformationpresented is vital to use for production of existing and new developments about simulation technology learning.

One example that showed further research needs to be conducted comes from Kriek and Stols (2010). Kriek and Stols (2010) reviewed whether and why physical science teachers do not use technology, in this case interactive simulations, in their classrooms? The sample size was 24 teachers, that is a total of 10 males and 14 females, who represented a variety of cultures. The study was to identify the beliefs that may influence teachers' decision to use Physics Education Technology (PhET) in their classrooms. In the study the researchers concluded that the only reason for not using the Physics Education Technology was due to computer access (Kriek&Stols, 2010).

Simulation technology has become more relevant and widespread (Jang et al., 2019). Due to this shift in the simulation technology sector additional studies need to be conducted about simulation and simulation scenarios. Jang et al. (2019) posits "there is a lack of a literature review of simulation scenarios" (p.14). According to the aforementioned and present studies simulation is used for different purposes. Therefore, universal standards for simulation scenarios are needed to adhere to learning objectives (Jang et al., 2019).

Theoretical framework

The theoretical framework technology acceptance model (TAM) was used for the research project. The technology acceptance model is appropriate for the study because it determines one's acceptance of using technology simulations in a course. The technology acceptance model has been used in several studies as a theoretical framework. Bulut and Del (2021) postulate the use of the technology acceptance model in their study on Turkish and Kazakh teachers concerning their perceptions of online teaching. The authors concluded that the Turkish teachers perceived the technology acceptance model to be a positive and useful perception to online learning while the Kazakh believe the technology acceptance model is hard to use and makes learning un-effective (Bulut& Del, 2021). Cabero-Almenara et al. (2021) explain the use of the model through the use of a flipped classroom method to ensure its an adequate fit for the classroom. The authors concluded the study explaining that most teachers perceived TAM to be a positive method of reinforcement for the classroom. Consequently, Farooq et al. (2021) discuss the same model, and the intention for their study was to use the model for behavioral intention to accept online technology use during the COVID-19 pandemic. It was determined in the study that the TAM model is effective for determining the usefulness of one's behavioral intention to use online learning methods to keep education going while in a pandemic. In closing, Fauzi et al. (2021) postulate the effectiveness of the TAM model when investigating the phenomenon of rather Google Classroom is effective for use during the COVID-19 pandemic. Fauzi et al. (2021) found that the TAM model is a successful model to implement to examinewhether the Google Classroom platform is a good replacement to use in times of the pandemic.

Research design

Phenomenology is the research study methodology. "Phenomenology focuses on fact cases, which we are aware of in our daily lives but do not have in-depth and detailed knowledge" (Yildiz, 2020). When a researcher takes a phenomenologist position, one is interested in lived experiences (Merriam &Tisdell, 2016). One concern and limitation of the study was site availability. Sites can be limited depending on accessibility. To prevent limitation the use of multiple sites was utilized. The use of multiple site locations gave the researcher better options to recruit potential candidates to obtain information from. The use of multiple sites also helped the researcher strengthen the study's validity and reliability. The criteria set for the potential candidates was listed on an adapted checklist. Korb (n.d.) states when a researcher adapts a checklist the researcher "follows the general design of another instrument but adds items, removes items, and/or substantially changes the content of each item" (para.10). The checklist was clearly written for one's ease of understanding. In the checklist of items one main area will be dedicated for data collection directly about the subject's experiences. The research checklist to be adapted came from Neil Jarrett (2017), which has questions pertaining to the impact of innovative technology in a course. The checklist included ethical requirements, privacy disclosures, and informed consent information to ensure participants meet all criteria.

Sampling Process

The qualitative study sampling process was purposive sample. The sample was obtainedfrom a college that was deemed necessary and appropriate for the study's purpose. The sample population were faculty who had previous experience using interactive simulation in a course for at least one year. Interactive simulation is the hands-on learning experience one encounters for actual experience of a phenomenon. The faculty was recruited from a variety of multiple disciplines such as nursing, physician assistant, radiology, and emergency medicine. There was no limitation on departments as long as one met the requirement of 1 year experience with using interactive simulation technology.

The sample was 15 individuals. The participants were interviewed until saturation was reached. The sample size of 15 participants was selected in case of unforeseen circumstances, while saturation was intended to be met earlier on. Saturation is satisfied once information is steadily consistent and no new information is being stated then the interviews can be concluded. For example, "as you continue to interview you begin to realize that you are hearing the same things you've heard earlier, no new information is forthcoming" (Merriam &Tisdell, 2016, p.199). One similar example from the past on reaching saturation comes from an article by Guest et al. (2020) which explains a researcher named Morgan conducted a pioneer methodological study using data collected on environmental risks. Morgan and the other researchers in the study "found that the first five to six interviews produced the majority of new information in the dataset, and that little new information was gained as the sample size approached 20 interviews" (p.2).

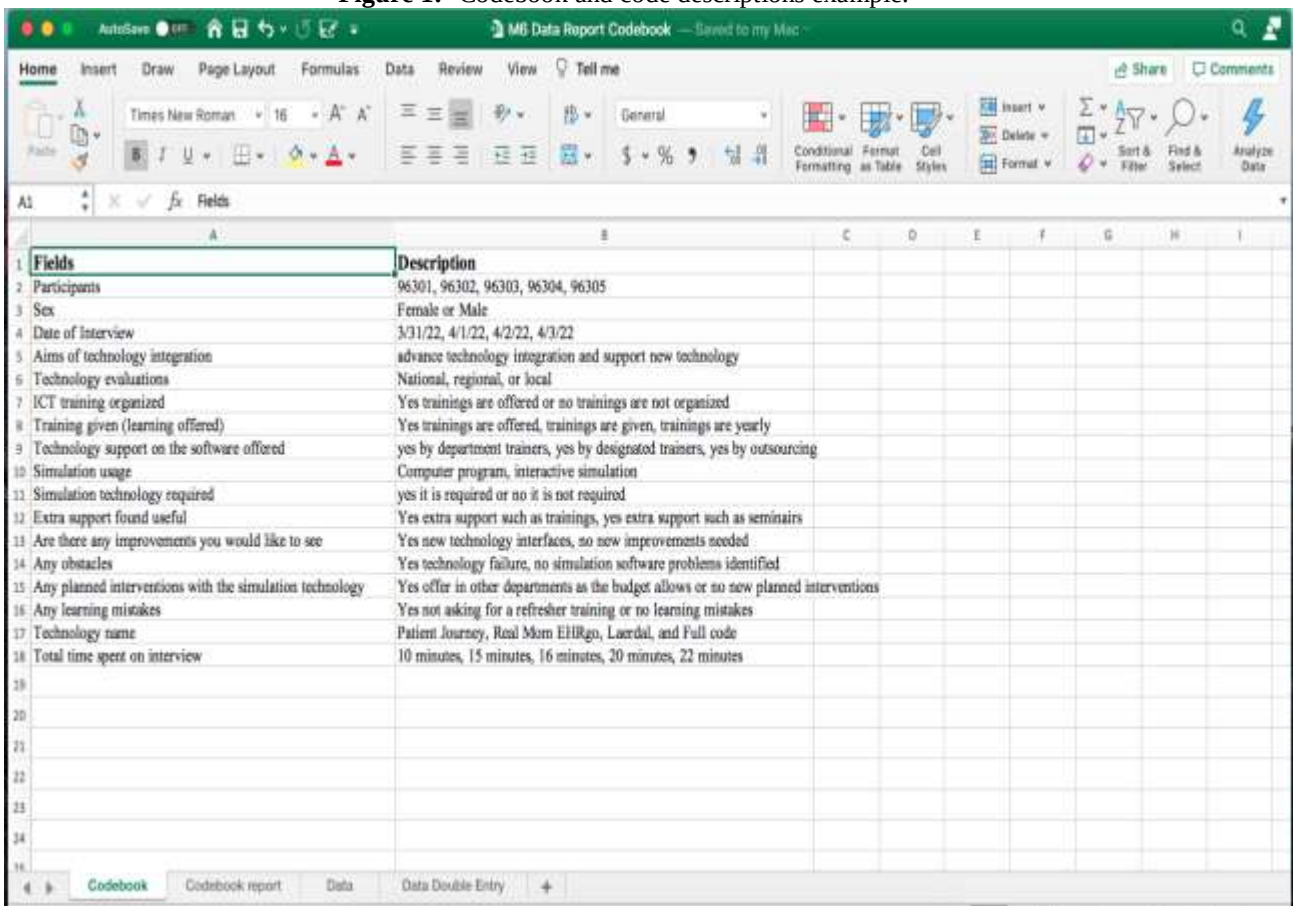
Saturation is the level of completion when no new facts and information is being generated or produced. Guest et al. (2020) postulate several ways to reach saturation. However, the way to ensure saturation for the proposed study to

be conducted is to use run lengths and the new information thresholds. Guest et al. (2020) posit a run length is "the number of interviews within which we look for, and calculate, new information" (p.6).For example, researchers can consider runs of three data collection events each time they (re)assess the number of new themes for the numerator (p.6). For the new information thresholds, no previous theme prevalence knowledge has to be considered and no statistical expertise or no random sample is required. According to Guest et al. (2020), "initially two levels of new information that represent the proportion of new information" will be accepted "as evidence that saturation has been reached at a given point in data collection: ≤5% new information and no (0%) new information" (p.6). The method of importance to obtain information was interviews. For the analysis section the information collected from the interviews was used for comparison of themes.

Data Collection:-

The data analysis method will be interpretational. Merriam and Tisdell (2016) explain "interpretation speaks to meanings, in other words, what does it all mean" (p.230)? Interpretational analysis usage can help the researcher gain an understanding of faculty's experiences, and perceptions of interactive simulation technology and the support offered for the simulated learning technology. The information was recorded by both audio and video via the Zoom platform. The information collected was expected to be specifically about one's first-hand experience or point of view. The Zoom platform also provided a software transcript that can be downloaded for one's review needs. There was expected to be two researchers to obtain the information and do the interpretation analysis. The second researcher was needed to review data only for interpretation analysis after every third person is interviewed. However, one person was used to do all of the analysis and interpretation.

Figure 1:- Codebook and code descriptions example.



Fields	Description
Participants	96301, 96302, 96303, 96304, 96305
Sex	Female or Male
Date of Interview	3/31/22, 4/1/22, 4/2/22, 4/3/22
Aims of technology integration	advance technology integration and support new technology
Technology evaluations	National, regional, or local
ICT training organized	Yes trainings are offered or no trainings are not organized
Training given (learning offered)	Yes trainings are offered, trainings are given, trainings are yearly
Technology support on the software offered	yes by department trainers, yes by designated trainers, yes by outsourcing
Simulation usage	Computer program, interactive simulation
Simulation technology required	yes it is required or no it is not required
Extra support found useful	Yes extra support such as trainings, yes extra support such as seminairs
Are there any improvements you would like to see	Yes new technology interfaces, no new improvements needed
Any obstacles	Yes technology failure, no simulation software problems identified
Any planned interventions with the simulation technology	Yes offer in other departments as the budget allows or no new planned interventions
Any learning mistakes	Yes not asking for a refresher training or no learning mistakes
Technology name	Patient Journey, Real Mom EHRgo, Laerdal, and Full code
Total time spent on interview	10 minutes, 15 minutes, 16 minutes, 20 minutes, 22 minutes

Note. The Codebook is listed at the bottom of the Microsoft Excel file in the tab labeled Codebook. The codes for the Codebook are in the Fields column. The Codebook Description column is how each code can be answered for coding in Atlas.ti.

Data Analysis

Themes were coded and then sorted for analysis purposes via ATLAS. The themes and codes were sorted into categories. Merriam and Tisdell (2016) posit "categories should be responsive to the purpose of the research" (p.212). Thematic analysis was used for data collection. Thematic analysis is used to "capture the main components of the knowledge transfer process" (Ward, House, & Hamer, 2009, p.4).

Ethical Considerations

The participants were given disclosures, privacy statements, and informed consents at the beginning of the study. All information pertaining to any associated risks was disclosed. All information was clearly stated for ease of understanding. If participants had any questions or concerns, one was able to ask questions for clarity before signing consent statements. The participants were not binned to the research study and were able to withdraw at any given time from the research study. The participants information was de-identified as a safety protection measure. The known risks that may be associated are unemotional stability, psychological distress and embarrassment. The participants were provided with the number of a crisis hotline if any help was needed during or after the study for any risks associated. The crisis hotline number is 1-800-273-8255 (National Suicide Prevention Lifeline, n.d.).

Table 1:- Data collection table.

Code-Document Table — New

	1 1st interview	2 2nd interview	3 3rd interview
	16	16	16
Aims of technology integ... 3	1	1	1
Any learning mistakes 0			
Any obstacles 3	1	1	1
Any planned intervention... 3	1	1	1
Are there any improveme... 4	2	1	1
Date of Interview 3	1	1	1
Extra support found useful 3	1	1	1
ICT training organized 3	1	1	1
Participants 3	1	1	1
Sex 3	1	1	1
Simulation technology re... 3	1	1	1
Simulation usage 3	1	1	1
Technology evaluations 3	1	1	1
Technology name 3	1	1	1
Technology support on t... 3	1	1	1
Total time spent on interv... 3	1	1	1
Training given (learning o... 3	1	1	1
Totals	17	16	16

Quotations of Code (null) in Document Group (null)

Search Quotations

1:4 ¶1 in *1st interview* 1 coding

Female Sex

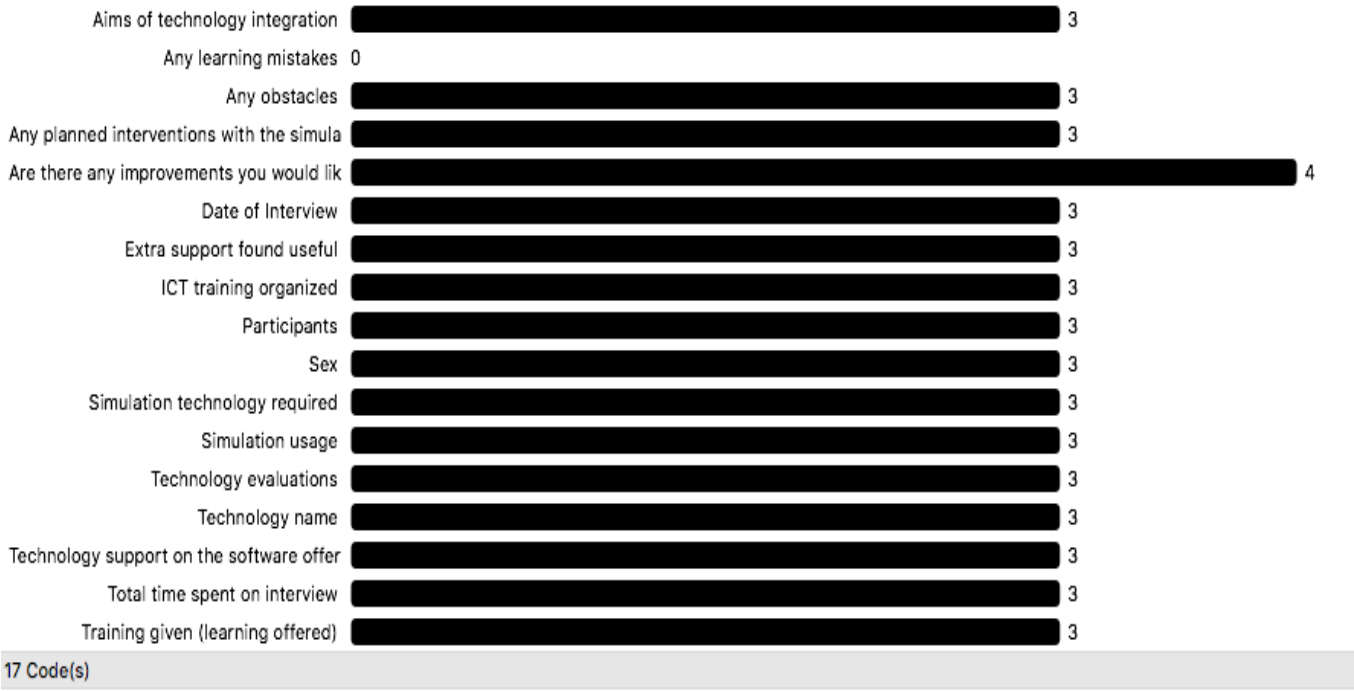
1 Quotation(s)

Note. The data collection table shows how many of each code is coded on each document. The documents are listed by interviews in chronological order. The documents are coded with how many times a field is answered. When selecting each coded number, a document comment displays in the right corner showing as quotations of code.

Table 2:- Data word cloud.

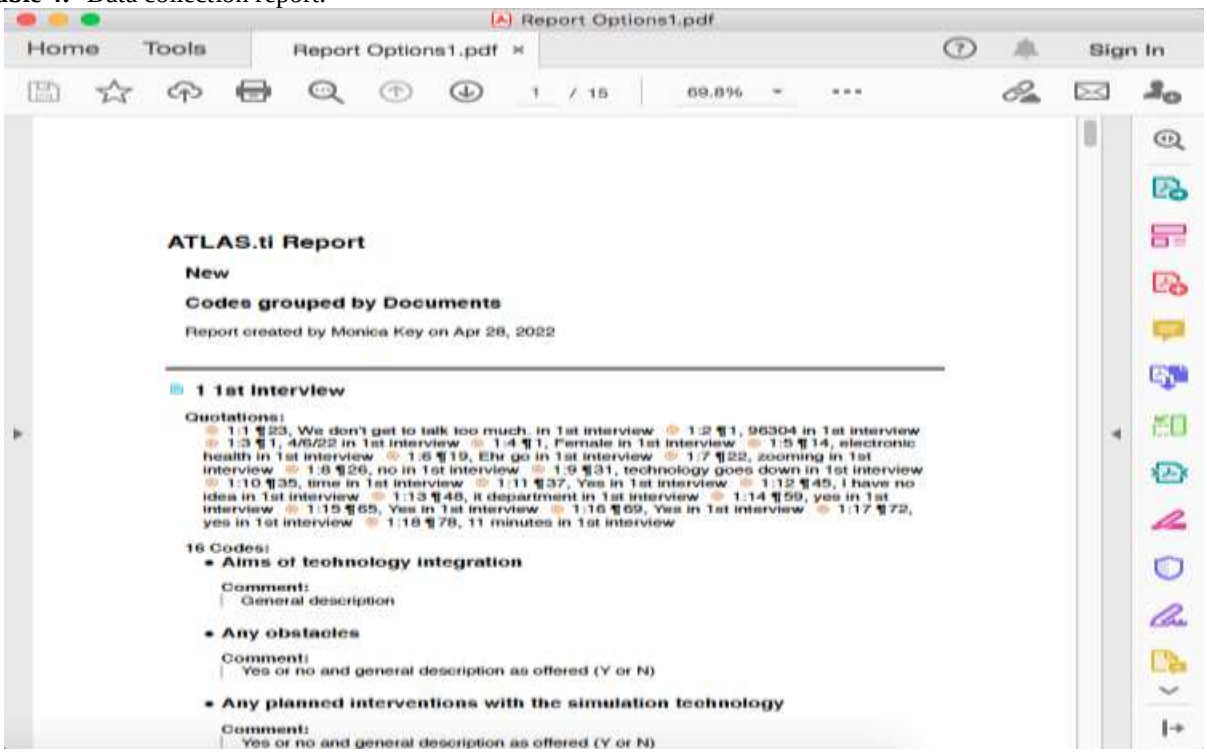
Note. The data word cloud shows the different words that have been collected as codes are entered into the data collection system. The word cloud has words such as Zoom, mannequin, and training which is indicated of the different types of ways simulation is used.

Table 3:- Data bar chart.



Note. The data bar chart displays different codes and how many times a description field has been coded. This bar chart is based on three different interviews. The codes are consistent except for the any learning mistake code.

Table 4:- Data collection report.

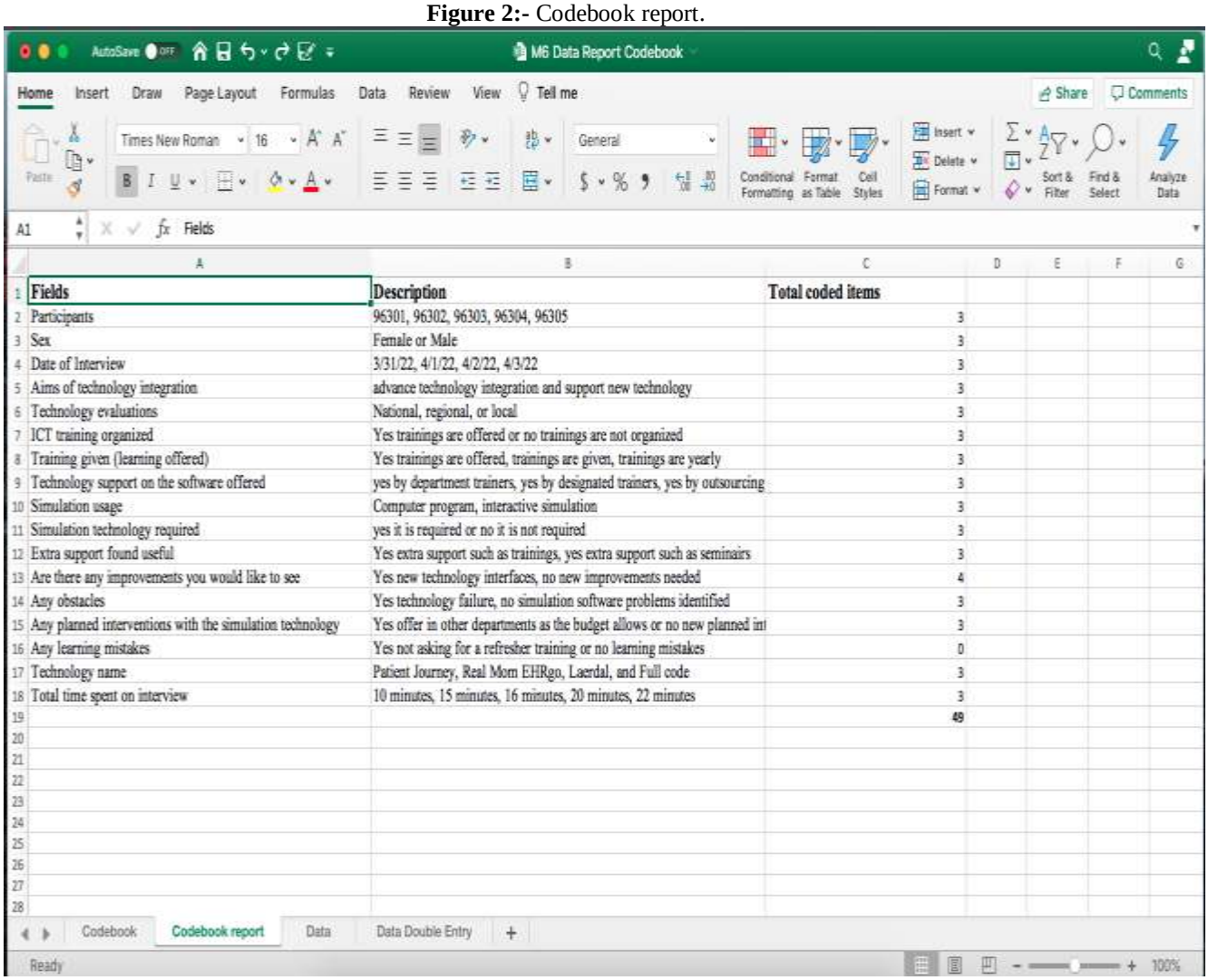


Note. The Atlas.ti report is one page of the codes that are coded. The first code on this report is the aims of technology integration code. From the different interviews coded the quotations state the different aims of technology integration discussed from the different interviews.

Table 5:- Thematic Analysis phases.

Phases of thematic analysis	• Means of establishing trustworthiness
Phase 1. Getting familiar with the data	• Prolong engagement • Keeping records of all transcripts • Storing data in an archivable file
Phase 2. Creating initial codes	• Codebook example • Audit trail log of the codes
Phase 3. Theme search and reviewing themes	• Looking for theme connections from all data collected
Phase 4. Reporting the data	• Describing the process of the coding an analysis • Auditing the log • Thick descriptions of the coding context and findings

Figure 2:- Codebook report.



M6 Data Report Codebook

Fields	Description	Total coded items
Participants	96301, 96302, 96303, 96304, 96305	3
Sex	Female or Male	3
Date of Interview	3/31/22, 4/1/22, 4/2/22, 4/3/22	3
Aims of technology integration	advance technology integration and support new technology	3
Technology evaluations	National, regional, or local	3
ICT training organized	Yes trainings are offered or no trainings are not organized	3
Training given (learning offered)	Yes trainings are offered, trainings are given, trainings are yearly	3
Technology support on the software offered	yes by department trainers, yes by designated trainers, yes by outsourcing	3
Simulation usage	Computer program, interactive simulation	3
Simulation technology required	yes it is required or no it is not required	3
Extra support found useful	Yes extra support such as trainings, yes extra support such as seminairs	3
Are there any improvements you would like to see	Yes new technology interfaces, no new improvements needed	4
Any obstacles	Yes technology failure, no simulation software problems identified	3
Any planned interventions with the simulation technology	Yes offer in other departments as the budget allows or no new planned int	3
Any learning mistakes	Yes not asking for a refresher training or no learning mistakes	0
Technology name	Patient Journey, Real Mom EHRgo, Laerdal, and Full code	3
Total time spent on interview	10 minutes, 15 minutes, 16 minutes, 20 minutes, 22 minutes	3
		49

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