

Discovering Digital Technology Training Challenges for Future-Ready Educator: A Preliminary Study from Trainer Perspective

Farah Zeehan^{1,*}, Rose Alinda Alias², Zaidatun Tasir³

¹Scholarship and Sponsorship Division, Ministry of Education, Indonesia

²School of Azman Hashim International Business, Universiti Teknologi Malaysia, Malaysia

³Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, Malaysia

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Abstract Currently, education globally is very challenging and experiencing rapid development that requires the educator to transform the way of teaching. Few empirical studies show that educator have yet to optimize the use of digital technologies in their educational practice, although a lot of training initiatives had been done. Therefore, the aim of this study is to explore whether there are any issues with digital technology training specifically in a post-secondary education institution of Malaysia. A qualitative approach using comparable case selection under general sampling strategies was implemented to scrutinize challenges of digital technology training based on trainer perceptions. Five interviews data were collected, four of them, right after digital technology training took place and the other one was a representative from the ministry, which data is used to support the information. A thematic analysis using thematic map technique was used to produce the related theme. The results from open coding showed 48 codes were analyzed to form ten categories. Ten categories were classified based on Social Cognitive Theory (SCT) lens then organized into personal, behavior and environmental factor that work reciprocally. Saturated themes were found from frequency table help to developed a conceptual framework of digital technology training. The finding of this study gives meaningful insights for future investigation developing a digital technology training framework for future-ready educators.

Keywords Digital Technology Training; Digital Technology; Preliminary Investigation, Educator Training

1. Introduction

Digital revolution brings more disruption where a lot of

radical changes occur simultaneously, the speed is faster than ever, the breath and the depth are wider and deeper (Shwab, 2016). Education is one of the crucial fields that had been discussed in numerous studies and debates by the leaders and decision-makers. Time constraint, cost, technical support and limitation of infrastructure for the educator applying digital technology in their teaching and learning had been discussed decades ago (Haydn and Barton, 2008; Firmin and Genesi, 2013). However, as educators in order to become more technically competent, the shift towards flexible (Firmin and Genesi, 2013) digital training opportunities (Y. Qismullah et al., 2015) is necessary. This is due to the evolvement of a cyber-physical era that affects education tremendously. Educators must be prepared to face challenges in future education and digital technology shift. Most studies including World Economic Forum emphasize reskilling relearning in order for educators to equipping themselves with better digital technology skills (WEF, 2017). Some said educators are unable to impart foundational literacy skills knowledge and literacy education techniques to the future generation when they themselves have not received adequate training (Barnes *et al.*, 2018).

Malaysia as a fast-growth developing country showing the serious commitment to position Malaysia as a high-performing education system in thirteen years by implementing Malaysia Education Blueprint 2013-2025 (MEB 2013-2025) to improve the quality of education and provide support to overall system (MEB Annual Report, 2015) including training. Although extensive endeavor had been done by the ministry, the performance for 5 years (2013 – 2017) seems to be slow. Educators are failing to take advantage of the opportunities presented by digital technology around them for their professional development (Chao, 2015). Umar & Hassan (2015) said the integration

of digital technology among Malaysian educators is still low while this fact also agreed by (Gil-Flores et. al, 2017). Despite the facts that many developed countries had provided the best digital technological infrastructure, digital technology policies and collaboration with private industries (Gil-Flores, Rodríguez-Santero, and Torres-Gordillo, 2017), but to sustain the utilization of digital technology into teaching and learning is still low (Dhir, 2019; Igwe et. al, 2019). Educators still think that training is needed to improve their knowledge and skills also to build their confidence (Cheok et. al, 2017).

Most of the studies on challenges of digital technology training were concentrate on specific software or hardware or tools that they use in assisting their teaching practice such as Learning Management System (LMS) (Adinugroho et. al, 2015; Sriprasertpap, 2015; Cheng & Yuen, 2018), Massive Open Online Courses (MOOC) (Ramírez-Montoya et. al, 2015; Kaveri et. al, 2016) and online learning (Cheok, Wong and Ahmad Fauzi Ayub, 2017; Christensen and Knezek, 2017). However, this study will discover the general challenges of a trainee who training in using digital technology from trainer perspective right after the training occurred. This is to collect authentic reason arise during specific digital technology training.

1.1. Objectives

The aim of the study is to explore whether is there any issue with digital technology training in post-secondary education institution of Malaysia. Focusing on the main purpose, two objectives had been constructed for this study, (1) Identify the challenges of digital technology training for an educator (2) to identify the most suitable theory driven by the attributes. The answers may contribute to future studies. There may be some other useful information derive from the result, it may be collected as supportive information for the research.

1.2. Research Questions

There are 3 research questions that help this study.

- What are the challenges in training educators for digital technology?
- What is the most suitable theory that can derive based on the categories or themes?

- What framework can assist in future research?

2. Literature Review

Digital technology in this research defined as any use of computer and technology include software, hardware, digital tools and applications, also digital media such as digital video audio, video game, web pages, and websites and including social media, data and databases, and electronic books that were used to assist strategies to support teaching and learning. (ZhiMin Xiao & Maria Katsipataki, 2012, Report by Education Endowment Foundation, 2019).

Most of the previous studies emphasize on how digital technology can help to teach and learn such as effectiveness of the tools used (Aebersold et al., 2018; Karyotaki & Drigas, 2016; Scholtz, et al., 2016), teaching strategy using digital tools (Andersen et al., 2018; Torres, 2018; Hauge, 2017; Heitink et al., 2016). A lot of studies mention that training (Aebersold et al., 2018; Bilal, Guraya, & Chen, 2017; Gandomani et. al, 2015) is one of the crucial factors to make sure educators are on track in developing or upgrading their digital competence, knowledge, and skill in digital. However, the integration of digital technology into teaching and learning are still out of numbers (Cheok, Wong, & Ahmad Fauzi Ayub, 2017; Zhang et. al, 2017; Instefjord & Munthe, 2017; Kimiloglu et. al, 2017; Domingo & Garganté, 2016; Baş et. al, 2016; Paraskevas et. al, 2015). Some of the studies suggested integrating a robot or artificial intelligent (AI) in training (Kimiloglu et. al, 2017; Paraskevas et. al, 2015).

Stoffregen et al., (2016) suggest doing more research had to be done on discovering challenges digital technology training. While Kimiloglu et. al, (2017) recommends constructing qualitative research to delve deeper into perceptual issues, especially resistance barriers to find out ways to overcome them. Therefore, in providing insight into the current issue in educators' digital technology training, a qualitative interview had been done to gain momentum as a mode of inquiry. This study focus showing step by step how the qualitative interview being analyzed. The process of data analysis was important to this study as it is used to identify the problem in digital technology training. In this section, research reveals the technique used in this study.

Table1. Seven Steps of Research Interview (Adapted Braun & Virginia, 2006)

	Phase	Description of the process
1	Thematising	It refers to the formation of research questions as well as the theoretical determination of research.
2	Designing	It involves planning on methods and techniques on how the interviews can be done. – Research Operational Planning
3	Interviewing	It refers to the type of interview that will be used in the interview process. In this study, researchers used semi-structured interviews
4	Transcribing	It involves the process of preparation of materials for analysis purposes. The Interview material needs to be converted into writing. In this research, oTranscribe used for this process.
5	Analyzing	The interview material was analyzed based on the objectives and theories in the study. Research once again will use NVIVO 12 for this purpose
6	Verifying	Analysis data need to be verified through validity and reliability procedures
7	Reporting	Reporting on the findings on content analysis techniques in interviews.

Table2. Phases of Thematic Analysis (Braun and Clarke, 2006)

	Phase	Description of the process
1	Familiarizing yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2	Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3	Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4	Reviewing themes:	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic ‘map’ of the analysis.
5	Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6	Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, the final analysis of selected extracts, relating back of the analysis to the research

2.2. Thematic Analysis

Thematic analysis is not just a collection of extracts strung together with little or no analytic narrative (Braun and Clarke, 2006). Table 2 shows the phase of thematic analysis used in this research that will elaborate in section 4 with more details. Braun & Clarke (2006). The thematic analysis defines as locating in relation to other qualitative analytic methods that search for themes or patterns, and in relation to different epistemological and ontological positions. They also argue that thematic analysis is a flexible analysis that should be considered as a method in its own right.

2.3. Future Ready Educator

The word of “Future Ready” is a free, bold word to represent new efforts to maximize digital learning opportunities. It was formally introduced by a combination work from Digital Learning Specialist, Washington County School District (UT) Future Ready Schools (<https://futureready.org>). In order to prepare the future generation to be a life-long learner, as a role model, educators must first become them (a life-long learner). Educators must have the innovative, positive and flexible mindset (Chua & Chua, 2017; Tarabasz, et al., 2018; Fiford, 2018), adaptable attitude and agile response to change (Aanestad, 2016; Dikert et al., 2016; Longmuß & Höhne, 2017) to support a flexible education environment

In this research, Future Ready Educator define as an educator who is ready and fit to produce future generation, being flexible adapting future changes in preparing themselves to foster 21 centuries, cyber-physical future world and also sustaining their knowledge and skills in developing students who are ready to face the fourth industrial revolutions.

3. Methodology

The use of qualitative interviews is a well-established approach in information systems, psychological, management, and other social science studies. Qualitative process in this research involves three main steps namely (1) Planning (2) Data collection (3) Data analysis. Research planning is important to identify who are our best samples to become our informant; that can give a better answer to what we are searching for.

The research involved one of the post-secondary or pre-tertiary institutes in Malaysia where digital technology training was held. On top of that, we also interview one representative from the organization responsible for the training in the ministry. As for the preliminary investigation, the study wants to investigate the challenges of digital technology training, therefore all possible answers were recorded and the theme that saturated will be chosen as factors to build the initial framework. Figure 1 shows how the qualitative approach was implemented to

meet the purpose of the research investigation.

3.1. Samples

The main reason the researcher chooses only one institution because we only want to explore either there are any issues in digital technology training that exist in that particular organization. A researcher wants to understand deeply what are the challenges that cause digital technology training issues. There are various sampling strategies available in the qualitative approach. In this study, researchers focus on one institution using comparable case selection under general sampling strategies (Matthew B. Miles, 2014); where the researcher chooses the only trainer as our informant. Comparable case selection emphasized in choosing informants with the same relevant characteristic. They are all trainers who trained the educators during the digital technology training course held in that particular institution. Although in this study we only focus on the trainer, the researcher decided to have another representative from the training management in the ministry to get supportive information. The trainers were the one who handles the training.

3.2. Material

The qualitative approach offers an effective way of understanding the current situation. The material used in this study was an interview protocol. Two types of interview questions we developed to organize two different interview sessions. One used for the trainers while the other used for a representative from an organization that responsible for providing digital technology training to educators.

3.3. Defining the Case

Miles & Huberman (1994), emphasize the main focus and set the case boundaries as sampling, setting focus a particular institution which handling the digital technology training course. The research interview was done specifically after the end of the training session. This helped in providing actual feedback from a specific event.

3.4. Data Collection

The interview was conducted in the native language (Malay Language) as it makes the communication between both parties easier and more comfortable for both the informant and the researcher. To strengthen the precision, validity, stability, and trustworthiness of the finding, the researcher had done the member check to reconfirm the words coded are a match with what the informants mean. After a member check was done, then the researcher started with data analysis using thematic analysis assisted by NVIVO 12 as the tool.

3.5. Research Operational Plan

Creating a research operation plan helped in making the qualitative approach smoothly implemented. The idea came across when Miles & Huberman (2014) emphasize building a conceptual framework. The aim of this preliminary study is just to get the initial idea for future research, a conceptual framework is not necessary, however, the research operation plan may do the same function. Figure 1 shows the flow of an operational research plan where the first step is to produce the main objective. A semi-structured interview question was created as a guideline towards achieving the objective. Theoretical Data Sampling is a very good strategy for validity and trustworthiness (Matthew B. Miles, 2014). This research focus on the feedback of a specific digital technology training from a trainer's perspective, the steps of adding a question or getting extra information is after transcribing took place.

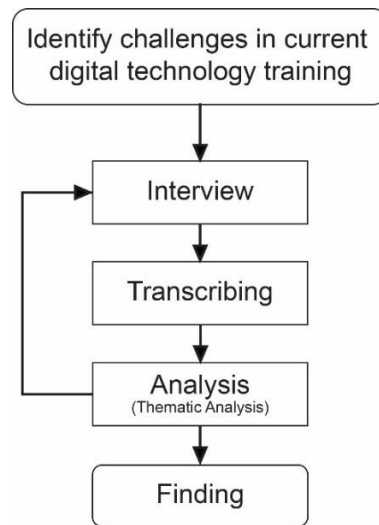


Figure 1. Research Operational Planning

Figure 1 shows how this study was conducted. Four trainers who directly involved with digital technology training were interviewed. Then the process of transcribing using otranscribe (<https://otranscribe.com/>), an easy and free transcribing website. After transcribing, reading and reread the whole transcript helped to get ideas in coding. Then thematic analysis was used to analyze all four transcripts. The thematic analysis was driven by this particular research question mention in 1.2. A member check was done as informant feedback or validation. This is a technique used to help improve the accuracy, credibility, validity, and trustworthiness of a study. In this study, the researcher has two loops of collecting interview data. From the first analysis, the researcher got from trainers interview, the researcher then constructed another interview questions for a representative from the training department in ministry. This process is shown as an arrow up on the left in figure 1. The interview's purpose was to

extract supportive information about digital technology training after the first interview set. Then the result for both analysis act as our final finding.

4. Results and Findings

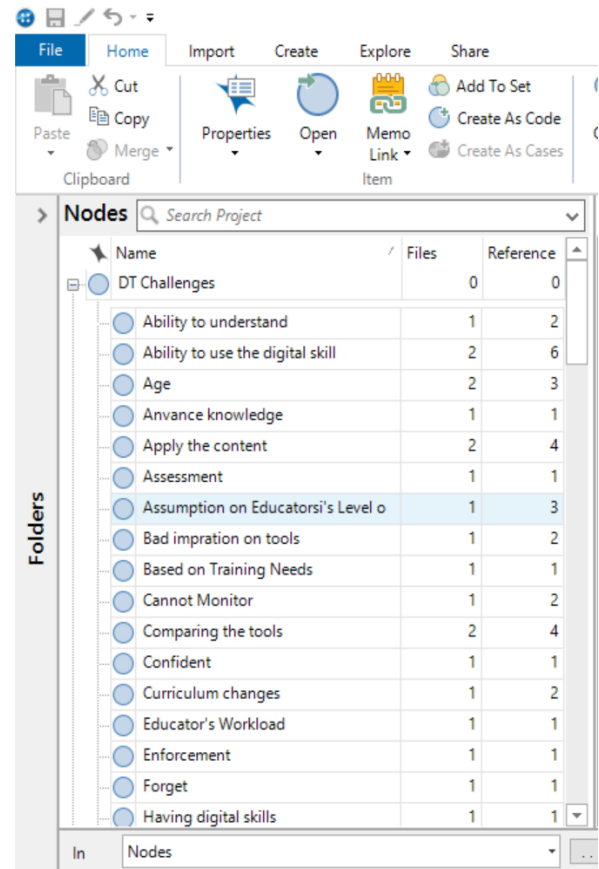
After transcribing the voice recording material and convert the audio data into text data. Then only the analysis process took place. The researcher applies thematic analysis introduced by Braun & Virginia (2006) where there are 6 phases should be followed (Table 2.1) to define suitable theme related to our research objectives based on research questions.

4.1. Phase 1: Familiarizing yourself with your data

At this phase, the researcher focus on what we are going to identify. Immersion usually involves 'repeated reading' of the data, and reading the data in an active way. Searching for meanings, patterns and so on. In this research, during the process of transcription, although it is time-consuming, frustrating, and at times boring, the process is one of the ways to start familiarizing with the data (Riessman, 1993). Then, read through the entire data set at least once before begin coding, as ideas and identification of possible patterns will be shaped as you read through. This phase is very important to get ideas and a pattern of the transcripts that we were reading.

4.2. Phase 2: Generating Initial Codes

In this phase, the researcher familiarized herself and an initial list of ideas on the challenges of digital technology training. This phase then involves the production of initial codes from the data. The basic idea of the code also comes from the previous information from the literature review. The research found some similarities between the pattern in the transcript and identified factors from the earlier literature. This helped the process of coding. This study using NVIVO 12 as a tool to generate codes. Besides, factors of digital technology training in previous studies, data were coded based on the research questions as mention in 1.2. Forty-eight (48) codes were first produced on challenges of digital technology training. These codes were literally interpreted directly from the transcript.



The screenshot shows the NVIVO 12 interface with a list of nodes. The 'Nodes' panel is open, displaying a table with columns for Name, Files, and Reference. The nodes are listed under a 'Folders' sidebar. The node 'Assumption on Educators's Level o' is highlighted.

Name	Files	Reference
DT Challenges	0	0
Ability to understand	1	2
Ability to use the digital skill	2	6
Age	2	3
Anvance knowledge	1	1
Apply the content	2	4
Assessment	1	1
Assumption on Educators's Level o	1	3
Bad impration on tools	1	2
Based on Training Needs	1	1
Cannot Monitor	1	2
Comparing the tools	2	4
Confident	1	1
Curriculum changes	1	2
Educator's Workload	1	1
Enforcement	1	1
Forget	1	1
Having digital skills	1	1

Figure 2. Example of how data being coded into nodes in NVIVO12

4.3. Phase 3: Searching for Themes

The steps begin when all data have been initially coded and collated, have a long list of the different codes that you have identified across the data set. This phase, refocuses the analysis at the broader level of categories, rather than codes, involves sorting the different codes into a potential category, and collating all the relevant coded data extracts within the identified themes. Followed by an initial map being drawn to capture the initial theme. In this study, all (48) initial codes again being analyzed into a set of categories. Braun & Clarke (2006) explained, to make it look simple and easy to understand, the categories simplify and represent a map. Figure 3 shows the Thematic Analysis Initial Map for the challenges of digital technology training for educators.

Figure 3 shows the initial thematic map developed using NVIVO 12 using the initial coding process. There are 10 categories represent the challenges that occur in particular digital technology training implemented by a group of trainers in a specific post-secondary institution in Malaysia. From 48 initial codes, 10 categories were constructed by combining codes according to their similarity. Ten categories showed a rectangular shape in the diagram. The 10 categories are (1) infrastructure, (2) Mindset, (3) Negative Attitude, (4) Trainers Competency, (5) Training Strategy, (6) Assessment, (7) Professionalism, (8) Motivation, (9) Poor of Training Development and (10)

Level of Digital Competency. Some of the categories are also a code but some of them are not. After generating the initial thematic map three (3) codes were eliminated, as we go through again thematic analysis only based on the research questions. The three eliminated codes were not representing the challenges of digital technology training. The three eliminated codes were self-learning, curriculum change, and type of training. Beside authentic challenges, any other words mentioned in the interview interpreted as threats coded as other supporting information. These codes may help in formularizing attributes to build the initial framework.

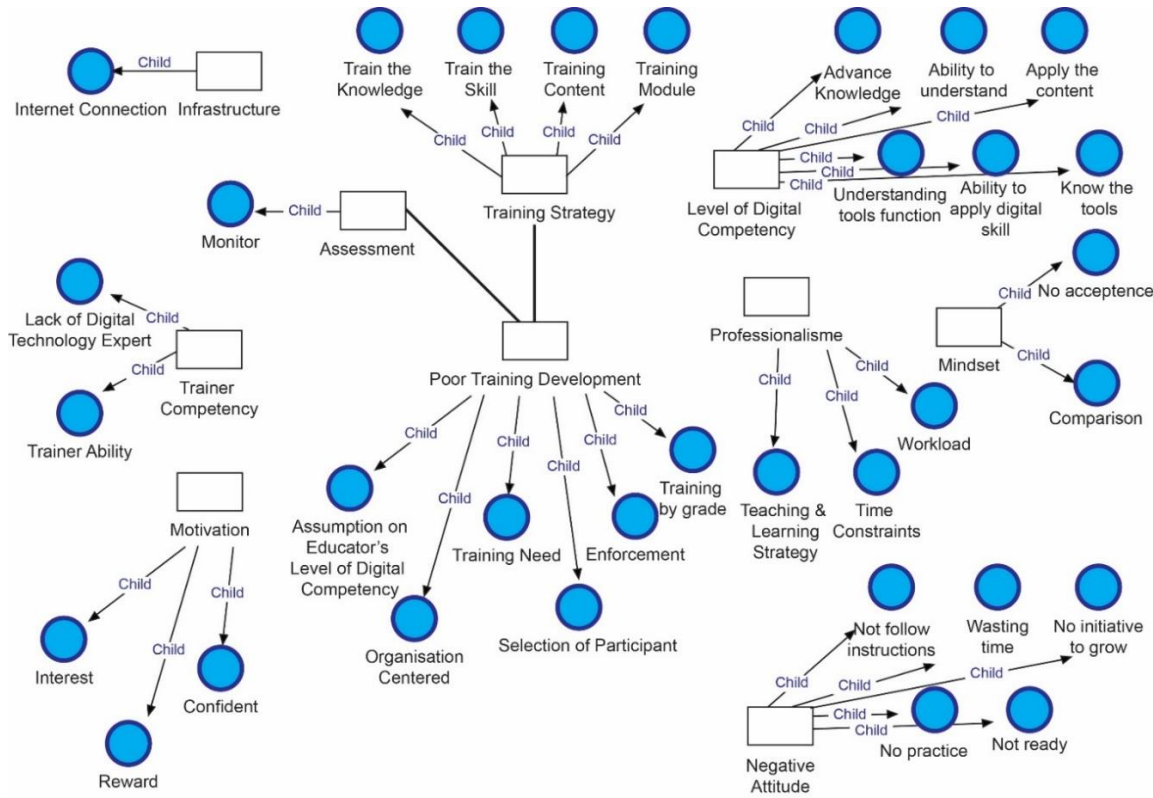


Figure 3. Initial Thematic Map for Challenges of Digital Technology Training for Educator.

Table 3. Frequency Table according to Challenges in Digital Technology Educators Training

Informant	Categories	O1	T1	T2	T3	T4	Total Frequency
	Assessment	1	4	1	1	1	8
	Infrastructure	1			1		2
	Level of Digital Competency	1	9	9	7	3	29
	Mindset		2		3		5
	Motivation		8		1		9
	Negative Attitude	1	3	2	8	1	15
	Poor Training Development	9				1	10
	Professionalism	1	4	1	1	2	9
	Trainer Competency	3		1		1	5
	Training Strategy		2		2		4

Total numbers frequency coded 96

A table of analysis has been subjected to considerable to clarify themes according to the participant (Görke *et al.*, 2017). Table 3 shows a framework matrix done in NVIVO 12, view as a frequency table for challenges of digital technology training said by the informant.

Table 3 shows a number of frequency sentences being coded for every informant. What stands out in the table is the Level of Digital Competency for educators to be the most frequent issue that been highlighted, followed by a Negative Attitude and Poor Training Development. The frequency shows the number of codes being said or mention for each informant. Some of the codes mention by certain informants repeatedly. The level of Digital Competency shows the most important factor to be a challenge to digital technology training. This means it is crucial for educators to know their level of digital competency before attending any digital technology training. Therefore the appropriate training will be facilitating the appropriate audience (trainee).

Obviously, Poor Training Development said repeatedly 9 times by the representative from the training department in the ministry. The department is responsible for planning and developing educators' training. As the implementation took place they reflect and realize the impact of training development may be the factors of training challenges. Referring to Figure 3 and Table 1, what is stated in Poor Training Development, the educator was chosen by grade in their service. However, the potential to adapt knowledge of digital technology can not only be determined by the experience in teaching (Kalogiannakis, 2010). Other than that, trainee also is chosen by subject, referring which subject need to use digital technology in their syllabi such as Computer Science, Science, English, ICT, and Technology Design (*Rekabentuk Teknologi*). The impact of improper selection of the trainee among the educators may lead to a few challenges; that are negative attitude, do not have to believe in using digital technology, lack of digital technology competency, and lack of knowledge (Morris, 2010; Bindon, 2017; Kimiloglu, Ozturan and Kutlu, 2017). Without a specific guideline in choosing participant of the training, transfer of training process must be difficult, hence the objective of the training may not be achieved (Ma *et al.*, 2018). As a result, there still educators who felt uncomfortable using digital technology as their teaching aid. Therefore, Poor Training Development category reciprocal to Mindset and Negative Attitude.

The least frequency being highlighted is the Infrastructure and Training Strategy. Although a few studies argued the importance of infrastructure training digital technology (Gil-Flores *et al.*, 2017), however in this study, infrastructure does not give important insight. This may be the trainer who is the informant told their perspective relates only to the particular training that they just involved in.

Another interesting about the data in Table 3 is there are four (4) categories highlighted by all the informants. This

considers the point of saturation that had been met. Those four categories are Assessment, Level of Digital Competency, Negative Attitude, and Professionalism. These are the categories act as the biggest challenges in digital technology training for the course arranged by the particular training. These attributes are not generalized for every challenge of digital technology training. These categories also will be chosen as an attribute to build a conceptual framework.

4.4. Phase 4: Reviewing Theme

According to Braun, Virginia, (2006), some initial codes may form main themes, whereas others may form sub-themes, and others still may be discarded following what being subject of interest for the research. At this point, we started to have a sense of the significance of individual themes. This will be discussed in phase 5, after explanation on relationship cause and effect is drawn in figure 3.

Four trainers were interviewed right after a digital technology training session was held. The other participant was from the organization that responsible for providing digital technology training generally to the educators. There is a slightly different set of structured questions given to organizations' representatives and the trainers. Challenges of digital technology training are the main questions for the trainers and, a few further questions to formulate the training strategy had been asked to organizations' representatives. Figure 4 is showing categories that related to one another. The number is shown what is the similarity of those categories. Current Digital Technology Training has no guidelines in choosing their participants to be a trainee. Educator was chosen by grade in their service. However, the potential to adapt knowledge of digital technology can not only be determined by the experience in teaching (Kalogiannakis, 2010). Other than that, trainee also is chosen by subject, referring which subject need to use digital technology in their syllabi such as Computer Science, Science, English, ICT, and Technology Design (*Rekabentuk Teknologi*). As a result, there still educators who felt uncomfortable using digital technology as their teaching aid.

No Assessment or evaluation from the management may lead to no continually using digital technology in educational practice. As we are aware that digital technology changes super fast. Furthermore, the organization may not put any effort to organize a continually training; administer may assume educators are well equipped themselves with digital competency. The main problem here is, digital technology is exponentially changed. We may need a sustainable training to improve digital technology competency from time to time (Paper, 2017). However, without a specific training framework may affect the readiness of the educator in changing themselves into better behavior to be future-proof educators.

Challenges occur in the current digital technology training were coded. The codes were identified based on the participants' responses. Referring to figure 3, ability to understand, understanding the function of tools, ability to use the digital skill, advance knowledge had been embedded in lack of competency as according to (Wood and Bandura, 1989) competency is a combination of knowledge and skills that lead to the ability to do work efficiently. According to the management field, knowledge, skills, and attitude (KSA) combine as competency (P. Nick Blanchard, 2013).

4.5. Phase 5: Defining and Naming Themes

The challenges were identified to improve training to equipped current educators to become future-ready educators. Then the new thematic map which eliminates a few items based on the suitable theory that match. Social

Cognitive Theory (SCT) was used as a basic lens in this study. Figures 4 show the process of numbering the categories into a new theme.

The three designated themes also supported based on Social Cognitive Theory (SCT) (Bandura, 2001) were personal, behavior and environment factors. From the analysis, after numbering on the categories, the new theme. Number (1) shows personal factors, number (2) shows behavior factors and (3) is for environmental factors. These categories are arranged according to suitable theory is for a guideline for future research. A reciprocal determination diagram was drawn, and the element arranged accordingly. In this research, we decided the most suitable theory for determining the challenges of digital technology training was the best match with Social Cognitive Theory(SCT) by Albert Bandura (Bandura, 1991; Bolt et.al, 2001). Figure 5 shows the arrangement of the theme onto three (3) major factors in SCT.

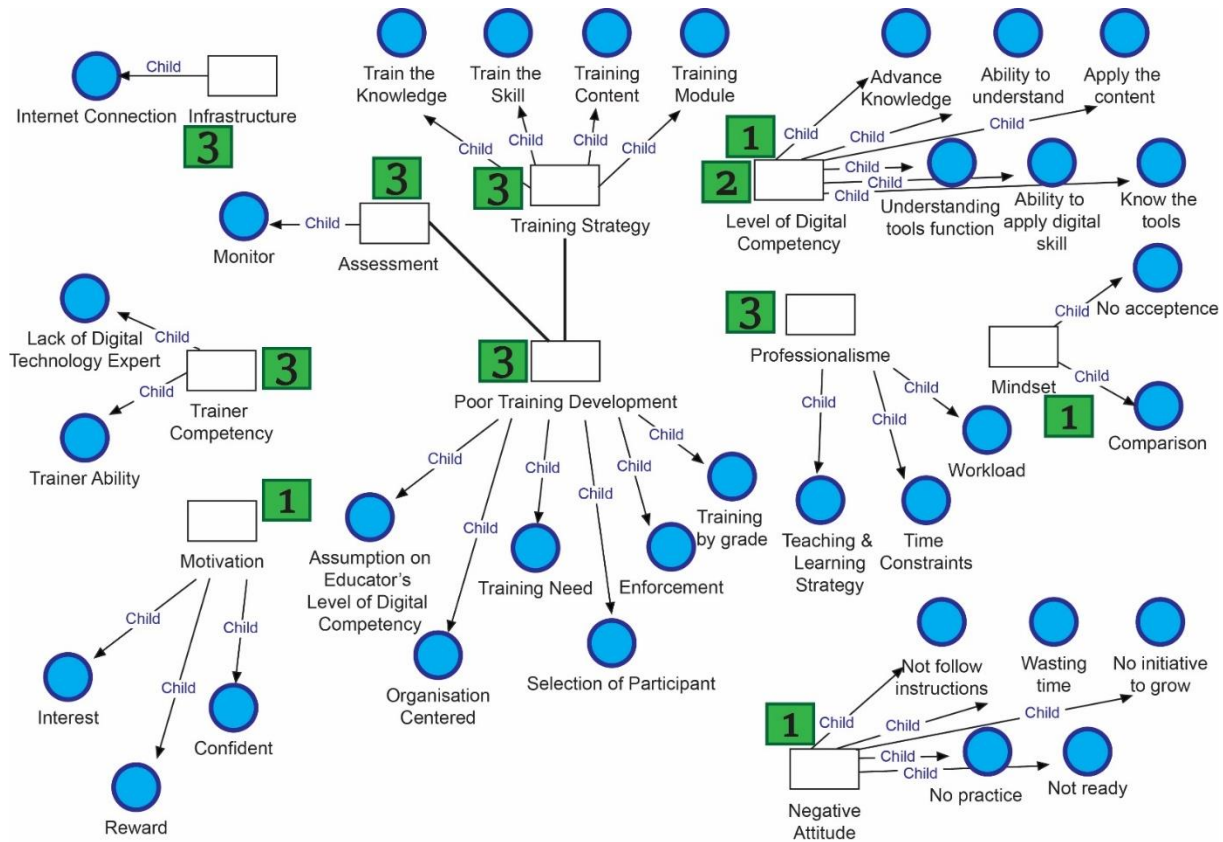


Figure 4. Cause and Effect Thematic Analysis Map

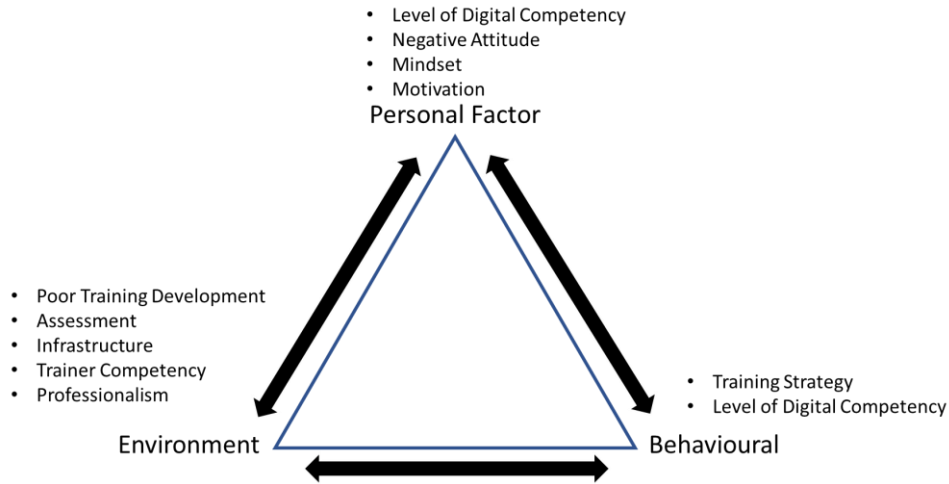


Figure 5. Social Cognitive Theory Reciprocal Determinism for Challenges in Digital Technology Training for Educators

Figure 5 shows the organization of the themes into Social Cognitive Theory. The collection of related categories forms a suitable theme. This technique was referred to as Matthew B Miles, (1994). In information systems studies, there are arguments that look at digital technology training in different theoretical perspectives (Author et al., 1999). In recent Information System (IS) studies of digital technology training, researchers are debating on Technology Acceptance Model (TAM) (Cheng & Yuen, 2018), Unified Theory of Acceptance Use of Technology (UTAUT) (Gil-Flores et al., 2017), DeLone and McLean IS Success Model (Kimiloglu et al., 2017) that focus on quality satisfaction, Situated Learning Theory (SLT) (Aebersold et al., 2018) for actual gamification training, Constructivist Learning (Alt, 2018; Zhang, Liu, Chen, Wang, & Huang, 2017). Nevertheless, in this study, we organized the identified theme into common criteria for Triadic Reciprocal Determinism factors as shown in Figure 5. What stands out is the Level of Digital Competency has to be in both personal and behavioral factors.

Although we had categorized the identified theme into Triadic Reciprocal Determinism, what will be used as insight for future study were the themes that had reached saturation criteria from all the informants as shown in Table 4. The four (4) highlighted themes considered as a component of digital technology training in future research. Those themes were then formulated a conceptual framework shown in Figure 6.

Table 4. Frequency Table according to Challenges in Digital Technology Educators Training

Informant	Categories						Total
		O1	T1	T2	T3	T4	Frequency
Assessment		1	4	1	1	1	8 ✓
Infrastructure		1			1		2
Level of Digital Competency		1	9	9	7	3	29 ✓
Mindset			2		3		5
Motivation			8		1		9
Negative Attitude		1	3	2	8	1	15 ✓
Poor Training Development		9				1	10
Professionalism		1	4	1	1	2	9 ✓
Trainer Competency		3		1		1	5
Training Strategy			2		2		4
Total numbers frequency coded							96

Challenges of Digital Technology Training for Educators

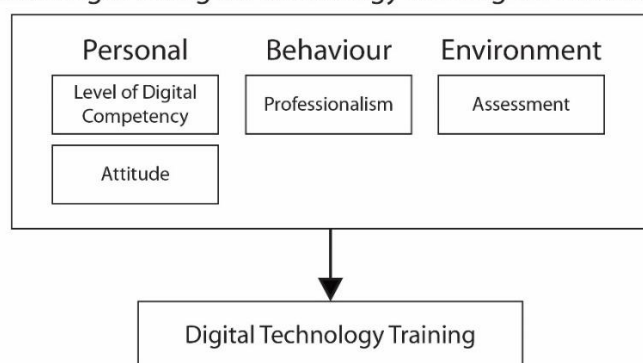


Figure 6. Conceptual Framework for Digital Technology Training.

4.6. Discussion

As a discussion from the result of thematic analysis, research had to draft a conceptual framework that draws the issue found in discovering attributes needed to train future-ready educators. According to (Braun, Virginia, 2006), phase 6 is producing a report that will be done in this discussion section. According to Bandura, (2001), there were three main factors that reciprocal to each other which then influence new behavior. As thematic analysis is a flexible method, you also need to be clear and explicit about what you are doing, and what you say you are doing needs to match up with what you actually do. As we have shown throughout this paper, thematic analysis is not a complex method. By using 15 check-list of thematic analysis (Braun, Virginia, 2006), we manage to construct a final conceptual map based on social cognitive theory as shown in Figure 6.

5. Conclusions

In conclusion, this study is a preliminary study to find out the existence of authentic issue related challenges of digital technology training for educators. A qualitative interview used as the main method to gather data related to challenges of current digital technology training and any supportive problem that can be input for future research. This study was conducted after a certain finding derived from a review of the previous study. Four trainers were interviewed to speak their perspectives on the challenges of digital technology training. After the final finding from those for the trainer, another interview was done to understand some information from a represented from the training department in the ministry. The department is responsible for handling training for educators. Another thematic analysis being done then data from informants which have different roles were combined and form a final finding. The finding reveals 10 categories out of 47 codes. The categories help to match a suitable for future research. Finally, the themes from categories that reach saturation were chosen to be the attribute in building a conceptual

framework. This study is not aiming to do any generalization because it was done a particular post-secondary education institution in Malaysia. The aim was to identify, is there any problem in digital technology training in post-secondary institutions. The final answer showed that the research on digital technology training is good to research for. The process was rigorously done and the step of getting the result was explained. The analysis and the result of this study sought to help in structuring the problem statement for future research.

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