Research Article

E-Learning Competencies for Elementary School Teachers in Botolan, Zambales, Philippines

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ABSTRACT

Teachers' communication has been forced online due to the spread of COVID-19. Although technology advancement has made many things possible, the transition to online learning isn't simple. This descriptive study measured the level and challenges encountered in E-learning among one hundred fifty elementary school teachers. This study investigated the level and challenges of E-learning among 150 elementary school teachers. The research measured competencies such as individual media competence, critical media competence, and educational design competence using a survey questionnaire. The majority of respondents were female teachers in the adult stage, with teaching experience and educational qualifications. The teachers considered themselves competent in E-learning and disagreed with the presence of challenges. However, there was a significant difference in challenges based on the highest educational attainment. An online training program was proposed to enhance E-learning competencies, and collaboration with agencies and software companies was suggested for technical assistance. Adequate technical and peer support during E-learning implementation were recommended. School heads were advised to focus on professional development emphasizing technology integration, and teachers were encouraged to utilize visualization tools. Collaboration between school heads and teachers was emphasized for the proposed training program and strategies to address challenges.

Keywords: *Critical media competence, Educational design competence, e-learning competencies, Individual media competence*

Introduction

The COVID-19 virus is a pandemic that has caused the change in the life of the people and in the operations of the business, industry and specifically the education sector. To ensure continuity in the services provided by the education sector, there was a change in the delivery of learning to the learners. The situation

has significantly affected countries and communities with limited technological infrastructure, access to high-speed internet and smart device penetration, (Azman and Abdullah, 2021, Kummitha, Kolloju, Chittoor, and Madepalli, 2021).

The teachers were then encouraged to utilize the blending learning approach to deliver learning to the learners. This approach necessitates the teachers to utilize the technology hence their competencies for E-Learning have to be considered as well.

E-Learning means using information and computer technologies and systems in order to build and design learning experiences (Horton, 2006). E-Learning gained popularity in the Philippines in the early 2000s at the same time when ICT use in government and education was on the rise. The lack of significant ICT infrastructure to support the service was the main hurdle to its early rollout (Galleom, Garcia & dela Cruz, 2019). Today, improved ICT infrastructure and greater internet penetration across the country, even in rural locations, are considered as advantages in supporting and strengthening E-Learning in open and distance learning (ODL). According to (Kemp, 2018), there are already 68 million people in the world. Out of the 105.7 million people in the country, 63 percent utilize the internet or use social media. After a year of Coronavirus Pandemic, the Department of Education, through the Basic Education- Learning Continuity Plan, attempted to use e- learning modality to the public elementary schools on the distance education to continue to deliver the quality of instruction to the learners.

The E-Learning modality requires competencies of teachers to deliver quality learning appropriate to the subject and activities. Malipot (2020) pointed out that teachers share their problems on modular distance learning. The study answered the following guidelines:

1. What is the profile of the teacher respondents in terms of;
   1.1 Sex
   1.2 Age;
   1.3 Position
   1.4 Highest Educational Attainment;
   1.5 Training/ Seminars Attended on E-learning?

2. How is the E- learning competencies for elementary school teachers be described in the following domains:
   2.1 Individual Media Competence
   2.2 Critical Media Competence;
   2.3 Life Long Learning; and
   2.4 Educational Design Competence?
3. How do the teachers perceived the challenges to attain competencies for E-learning as to
   3.1 Individual Media Competence
   3.2 Critical Media Competence;
   3.3 Life Long Learning; and
   3.4 Educational Design Competence?
4. Is there a significant difference on the level of E- learning competencies of elementary school teachers when grouped according to profile variables?
5. Is there a significant difference on the challenges perceived by the teacher- respondents towards the attainment of their E-learning competencies when grouped according to profile variables?
6. Is there a significant difference on the challenges perceived by the teacher- respondents towards the attainment of their E-learning competencies as cited in problem no.3?
7. Is there a significant relationship between the E-learning competencies for teachers and the challenges to attain the competencies?

Conceptual Framework

E-learning is a teaching-learning process that uses digital tools including computers, mobile devices, content management systems, the internet, and other ICT-based technologies. ICT has always benefited every aspect of human interaction. One of the biggest gains from ICT integration in education is that it helps teachers and students across time and location boundaries, particularly in open and distance education (ODE). E-Learning flourished in the beginning of the 20th century with the introduction of online and virtual learning systems (Arinto, 2013) integrating various types of media including images, user interfaces, text, videos, hypertext, hypermedia, animations.

Mackenzie-Robb (2004) emphasized that E-Learning and changes to an organization

must be seen against a broader background of often conflicting issues and dynamics. Addressing individual needs throughout the start, execution, and institutionalization of change in an organization can be seen as evidence that an organization does not change just by executing the change as E-Learning lessons do.

E-learning substitutes traditional classroom instruction so that learning is no longer location-specific and may instead be done anywhere outside of the classroom. The ultimate purpose of learning is to improve performance and behavior in order to accomplish the goal of creating value to an organization or an individual. Learning is concerned with attitudes, values, abilities, and knowledge. The true potential of online learning or E-learning is primarily found in its capacity to offer on-demand learning that is accessible whenever, anywhere, and with the required network to support collaboration. E-Learning can be a force or enabler for changing the process of teaching and learning, Al-Shabatat,(2014).
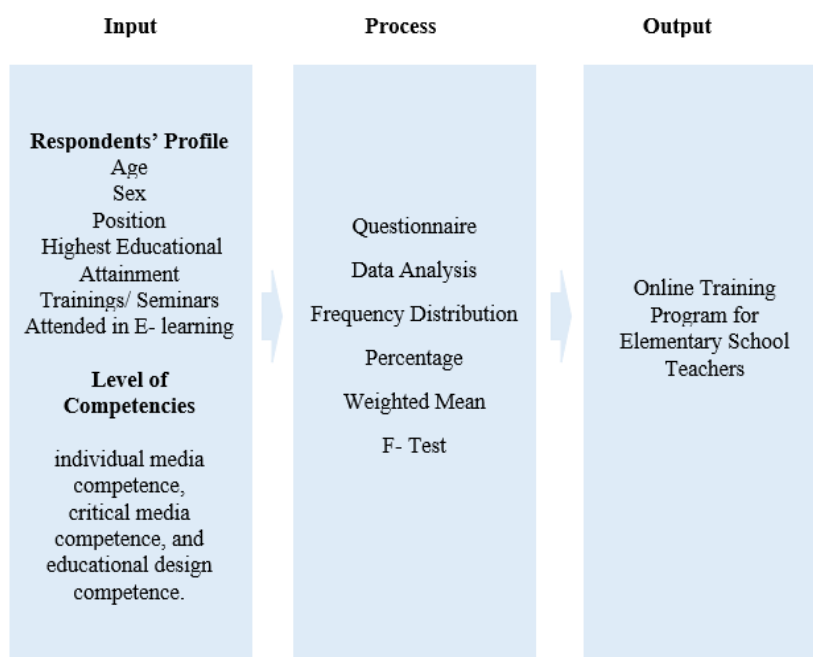

Input	Process	Output
Respondents' Profile Age Sex Position Highest Educational Attainment Trainings/ Seminars Attended in E- learning **Level of Competencies** individual media competence, critical media competence, and educational design competence.	Questionnaire Data Analysis Frequency Distribution Percentage Weighted Mean F- Test	Online Training Program for Elementary School Teachers

Figure 1. Paradigm of the Study

Methodology
Research Design
The descriptive survey research design was employed in this study. A survey questionnaire was used in the data collection consisting of the profile of the respondents and the level of competencies and the challenges on e- learning of the elementary school teachers. Bhat (2019) defined the descriptive research as a research method that describes the characteristics of the population or phenomenon that is being studied.

Respondents and Location
The elementary school teachers were the respondents of the study. These respondents are using E-Learning in the delivery of instruction. Purposive- universal sampling technique was used in this study. The study was conducted at the Botolan District, Division of Zambales. There were a total of 150 respondents in the district of Botolan, Schools Division of Zambales.

Instruments
The instrument used in this study is a researcher- made questionnaire. The researcher made a literature review on the competencies for the e- learning of the teachers. After reading several literature and studies the researcher was able to construct the data gathering tool. The instrument has two (2) parts. Part 1 refers to the profile of the respondents as to age, sex, position, highest educational attainment and

length of years in service. Part 2 is the level of competencies for the e- learning of elementary school teachers as to the following domains: individual media competence, critical media competence, and educational design competence. A 4- point Likert scale was used to determine the responses of the respondents on the level of competencies and challenges for e-learning.

The researcher was able to retrieve the one hundred percent of the questionnaire from the respondents.

Data Analysis

The Statistical Package for Social Sciences (SPSS) computer software Version 20 and MS Excel were used for the computations and interpretations of data.

1. Frequency Distribution. This was employed to determine the frequency counts and percentage distribution of personal related variables of the respondents.

2. Mean. This was utilized to measure the responses on the E-Learning competencies of elementary school teachers as to individual media competence, critical media competence and educational design competence; and the challenges encountered in E-Learning by the

3. elementary school teachers as to individual media competence, critical media competence and educational design competence.

4. **Likert Scale**. The following scale was used for the extent/degree on the level of competencies and challenges in E-Learning among elementary school teachers.

5. **Analysis of Variance (ANOVA)**. In testing the significant difference of the responses when respondents were grouped according profile variables, the one-way analysis of variance (ANOVA) was used. This was used to test the significant difference on the level and challenges encountered by teacher-respondents on E-Learning when they are grouped according to profile variables.

Table 1. Distribution of Respondents as to School

District in Zambales	Frequency	Percentage
1. Botolan District	150	100.00
Total	**150**	**100.00**

Result and Discussion
1. Level of E-Learning Competencies among Elementary School Teachers
Table 2. Level of E-Learning competencies among elementary shool teachers

	E-Learning Competencies	Overall Weighted Mean	Descriptive Equivalent	Rank
1	Individual Media Competence	3.10	Competent	2
2	Critical Media Competence	3.08	Competent	3
3	Educational Design Competence	3.14	Competent	1
	Grand Mean	**3.11**	**Competent**	

It can be noted that the teacher-respondents were "Competent" in E-Learning in terms of "Educational Design" as manifested w ith the highest overall weighted mean of 3.14 (rank 1); followed by "Individual Media", with an overall weighted mean of 3.10 (rank 2); and "Critical Media" with the lowest computed overall weighted mean of 3.08 (rank 3).

The grand mean on the level of E-Learning competencies among elementary school teachers was 3.11, with qualitative interpretation of "Competent".

The result manifest that the teacher-respondents posses competency in E-Learning in terms of using E-Learning tools in order to deliver the subject contents and activities while

needing attention on creating and integrating videos to online classroom.

According to Jans & Awouters (2009) that teaching and learning with ICT requires specific competencies for teachers and lectures. The technology features drew far too much attention. Teachers acquired computer and software skills. E-learning and blended learning are too demanding for teachers to learn how to utilize them alone via trial and error. It is true that E-Learning competencies for teachers require a longer time to develop and master.

2. Challenges Encountered to attain E-Learning competency among Elementary School Teachers

The summary on the challenges encountered in E-Learning among elementary shool teachers is presented in Table 3.

It can be noted that the teacher-respondents disagreed on the challenge of "Individual Media Competence" as manifested with the highest overall weighted mean of 2.48 (rank 1); followed by "Critical Media Competence" with an overall weighted mean of 2.34 (rank 2); and "Educational Design Competence" with the lowest computed overall weighted mean of 2.25 (rank 3).

Table 3. Challenges Encountered to attain E-Learning competency among Elementary School Teachers

	E-Learning Challenges	Overall Weighted Mean	Descriptive Equivalent	Rank
1	Individual Media Competence	2.48	Disagree it is a Challenge	1
2	Critical Media Competence	2.34	Disagree it is a Challenge	2
3	Educational Design Competence	2.25	Disagree it is a Challenge	3
	Grand Mean	**2.36**	**Disagree it is a Challenge**	

The grand mean on the challenges encountered in E-Learning among elementalry school teachers was 2.36, with qualitative interpretation of "Disagree it was a Challenge".

The result manifest that the teacher-respondents were challenged in integrating multimedia, operating the printer and configuring networks in their E-Learning classrooms while using technology to design their E-Learning classrooms were not a hindrance.

As the educational landscape continues to shift towards a technological focus, it is crucial for teachers to adapt and incorporate new technologies into their classrooms. The dominant force influencing the modern educational environment may be technology. Many school districts are demonstrating their support for more technology in the classroom by supplying equipment like tablets and PCs, improving internet access, and putting into place initiatives to boost teacher and student computer literacy. Although most instructors recognize the advantages of educational technology, they frequently find it difficult to integrate new technologies into their classrooms in an efficient and effective way. From acquisition of new technology equipment to adaptation of curricula and teaching techniques to incorporate new educational tools, technology integration presents significant challenges to educators at each level of school systems (Johnson, Jacovina, Russell, & Soto, 2016).

3. Test of Difference on the Level of E-Learning Competencies among Elementary School Teachers when Grouped According to Profile Variables

3.1. Individual Media Competence

Table 4. The analysis of variance to test difference on the level of E-Learning competencies in terms of individual media competence among elementary school teachers when grouped according to profile variables

Sources of Variations		SS	df	MS	F	Sig.	Decision / Interpretation
Sex	Between Groups	0.000	1	0.000	0.000	0.991	Accept Ho Not Significant
	Within Groups	51.260	148	0.346			
	Total	51.260	149				
Age	Between Groups	0.573	4	0.143	0.410	0.801	Accept Ho Not Significant
	Within Groups	50.686	145	0.350			
	Total	51.260	149				
Position	Between Groups	0.562	4	0.140	0.402	0.807	Accept Ho Not Significant
	Within Groups	50.698	145	0.350			
	Total	51.260	149				
Highest Educational Attainment	Between Groups	0.535	4	0.134	0.382	0.821	Accept Ho Not Significant
	Within Groups	50.725	145	0.350			
	Total	51.260	149				
No. of Years in Service	Between Groups	00.906	7	0.129	0.365	0.921	Accept Ho Not Significant
	Within Groups	50.354	142	0.355			
	Total	51.260	149				

The computed P-value for sex (0.991), age (0.801), position (0.807), highest educational attainment (0.821) and no. of years in service (0.921) were greater ($>$) than 0.05 Alpha Level of Significance, hence the Null Hypothesis is accepted. Therefore, there is no significant difference on the level of E-Learning competencies in terms of individual media competence among elementary school teachers when they are grouped according to sex, age, position, highest educational attainment and no. of years in service.

The findings is supported by the study of Bigatel, Ragan, Kennan, May, & Redmond (2016) that to understand why highly rated teaching tasks did not fall (load onto) any factor, more analysis of their results is necessary. Results of the tasks' significance will serve as the foundation for faculty development initiatives intended to give faculty professional development in vital abilities to ensure the success of online teaching.

3.2. Critical Media Competence

Table 5. Analysis of variance to test difference on the level of E-Learning competencies in terms of critical media competence among elementary school teachers when grouped according to profile variables.

Sources of Variations		SS	df	MS	F	Sig.	Decision / Interpretation
Sex	Between Groups	0.124	1	0.124	0.323	0.571	Accept Ho Not Significant
	Within Groups	56.924	148	0.385			
	Total	57.048	149				
Age	Between Groups	0.838	4	0.210	0.540	0.706	Accept Ho Not Significant
	Within Groups	56.210	145	0.388			
	Total	57.048	149				
Position	Between Groups	2.101	4	0.525	1.386	0.242	Accept Ho Not Significant
	Within Groups	54.947	145	0.379			
	Total	57.048	149				
Highest Educational Attainment	Between Groups	2.380	4	0.595	1.578	0.183	Accept Ho Not Significant
	Within Groups	54.668	145	0.377			
	Total	57.048	149				
No. of Years in Service	Between Groups	0.892	7	0.127	0.322	0.943	Accept Ho Not Significant
	Within Groups	56.156	142	0.395			
	Total	57.048	149				

The computed P-value for sex (0.571), age (0.706), position (0.242), highest educational attainment (0.183) and no. of years in service (0.943) were greater (>) than 0.05 Alpha Level of Significance, hence the Null Hypothesis is accepted. Therefore, there is no significant difference on the level of E-Learning competencies in terms of critical media competence among elementary school teachers when they are grouped according to sex, age, position, highest educational attainment and no. of years in service.

The result implies that there is no statistically detected difference on the level of E-Learning competencies of elementary school teachers in terms of critical media competence as to their sex, age, position, highest educational attainment and no. of years in service.

This conclusion is supported by the study's findings, which show that teachers must prepare learning activities that take into account students' e-competencies for E-Learning regardless of the students' individual characteristics. Students' capacity for adapting to online learning may also vary by academic discipline, as online courses may be more effective or engaging in some subject areas than in others. To give an example, it could be more challenging to develop efficient online materials, activities, or assignments in subjects that demand a lot of hands-on practice and demonstration, intense instructor-student engagement, or quick tailored feedback. In support of the notion that the effectiveness of online learning may differ across subject areas, a recent qualitative study (Jaggars, 2012).

4.3. Educational Design Competence

Table 6. The analysis of variance to test difference on the level of E-Learning competencies in terms of educational design competence among elementary school teachers when grouped according to profile variables

Sources of Variations		SS	df	MS	F	Sig.	Decision / Interpretation
Sex	Between Groups	0.047	1	0.047	0.143	0.706	Accept Ho Not Significant
	Within Groups	48.293	148	0.326			
	Total	48.340	149				
Age	Between Groups	0.588	4	0.147	0.446	0.775	Accept Ho Not Significant
	Within Groups	47.752	145	0.329			
	Total	48.340	149				
Position	Between Groups	0.254	4	0.063	0.191	0.943	Accept Ho Not Significant
	Within Groups	48.086	145	0.332			
	Total	48.340	149				
Highest Educational Attainment	Between Groups	1.311	4	0.328	1.011	0.404	Accept Ho Not Significant
	Within Groups	47.029	145	0.324			
	Total	48.340	149				
No. of Years in Service	Between Groups	1.472	7	0.210	0.637	0.724	Accept Ho Not Significant
	Within Groups	46.868	142	0.330			
	Total	48.340	149				

The computed P-value for sex (0.706), age (0.775), position (0.943), highest educational attainment (0.404) and no. of years in service (0.724) were greater (>) than 0.05 Alpha Level of Significance, hence the Null Hypothesis is accepted. Therefore, there is no significant difference on the level of E-Learning competencies in terms of educational design competence among elementary school teachers when they are grouped according to sex, age, position, highest educational attainment and no. of years in service.

The result implies that there is no statistically detected difference on the level of E-Learning competencies of elementary school teachers in terms of educational design competence as to their sex, age, position, highest educational attainment and no. of years in service.

Some reported benefits of online learning for the learners include offering more flexible learning experiences, opening channels for synchronous and asynchronous communication and interaction, allowing for more collaboration and interaction with peers, providing access to learning resources in various formats, and promoting authentic and situated learning (Fuller & Yu, 2014).

5. **Test of Difference on the Challenges Encountered in E-Learning among Elementary School Teachers when Grouped According to Profile Variables**

5.1. Individual Media Competence

Table 7. The analysis of variance to test difference on the challenges encountered in E-Learning as to individual media competence among elementary school teachers when grouped according to profile variables

Sources of Variations		SS	df	MS	F	Sig.	Decision / Interpretation
Sex	Between Groups	0.472	1	0.472	0.857	0.356	Accept Ho Not Significant
	Within Groups	81.529	148	0.551			
	Total	82.001	149				
Age	Between Groups	4.622	4	1.156	2.165	0.076	Accept Ho Not Significant
	Within Groups	77.379	145	0.534			
	Total	82.001	149				
Position	Between Groups	3.333	4	0.833	1.536	0.195	Accept Ho Not Significant
	Within Groups	78.668	145	0.543			
	Total	82.001	149				
Highest Educational Attainment	Between Groups	5.434	4	1.359	2.573	0.040	**Reject Ho Significant**
	Within Groups	76.567	145	0.528			
	Total	82.001	149				
No. of Years in Service	Between Groups	2.690	7	0.384	0.688	0.682	Accept Ho Not Significant
	Within Groups	79.311	142	0.559			
	Total	82.001	149				

The computed P-value for sex (0.356), age (0.076), position (0.195) and no. of years in service (0.682) were greater (>) than 0.05 Alpha Level of Significance, hence the Null Hypothesis is accepted. Therefore, there is no significant difference on the challenges encountered in E-Learning as to individual media competence among elementary school teachers when they are grouped according to sex, age, position and no. of years in service.

On the other hand, the P-value for highest educational attainment (0.040) was lower than (<) 0.05 Alpha Level of Significance, therefore the Null Hypothesis is rejected and that there is a significant difference on the challenges encountered in E-Learning as to individual media competence among elementary school teachers when they are grouped according to highest educational attainment.

The result implies that the challenges encountered in E-Learning as to individual media competence among elementary school teachers differs in terms of their highest educational attainment. Furthermore, there is no statistically detected difference on the challenges encountered in E-Learning as to individual media competence among elementary school teachers in terms of their sex, age, position and no. of years in service.

Higher education institutions are moving to offer a variety of opportunities for students' engagement as they become more conscious of the diversity of their existing and potential students. Students at universities now have access to a variety of delivery methods that offer them more chances to pursue their education further. It's common to take a one-size-fits-all strategy when switching between and between modes. In other words, internal content is transformed into a format judged appropriate for distribution to a third party. The one-size-fits-all strategy has a serious issue with external students who feel or experience isolation, though. These students frequently encounter a variety of obstacles to their complete involvement in coursework courses, as opposed to their internal counterparts. This presents a different sort of learner to take into account in the development and implementation of learning activities online since these barriers might not be experienced by students enrolled in the same units in face-to-face or blended

enrolment modes. Participation barriers stand out in particular during groupwork exercises. For many academic personnel, who are required to have higher levels of technological skill and expertise on top of their regular academic burden, the online environment also poses challenges. Drawing on reflections of several years of facilitating student learning online, this paper provides one lecturer's perspective and critical commentary on some of the challenges faced by external students and the implications of an increasingly online delivery framework for practice (Swan, 2017).

5.2. Critical Media Competence

Table 8 presents the analysis of variance to test difference on the challenges encountered in E-Learning as to critical media competence among elementary school teachers when grouped according to profile variables.

The computed P-value for sex (0.926), age (0.075), position (0.205) and no. of years in service (0.503) were greater (>) than 0.05 Alpha Level of Significance, hence the Null Hypothesis is accepted. Therefore, there is no significant difference on the challenges encountered in E-Learning as to critical media competence among elementary school teachers when they are grouped according to sex, age, position and no. of years in service.

On the other hand, the P-value for highest educational attainment (0.016) was lower than (<) 0.05 Alpha Level of Significance, therefore the Null Hypothesis is rejected and that there is a significant difference on the challenges encountered in E-Learning as to critical media competence among elementary school teachers when they are grouped according to highest educational attainment.

Table 8. Analysis of variance to test difference on the challenges encountered in E-Learning as to critical media competence among elementary school teachers when grouped according to profile variables.

Sources of Variations		SS	df	MS	F	Sig.	Decision / Interpretation
Sex	Between Groups	0.005	1	0.005	0.009	0.926	Accept Ho Not Significant
	Within Groups	89.175	148	0.603			
	Total	89.180	149				
Age	Between Groups	5.044	4	1.261	2.173	0.075	Accept Ho Not Significant
	Within Groups	84.136	145	0.580			
	Total	89.180	149				
Position	Between Groups	3.547	4	0.887	1.501	0.205	Accept Ho Not Significant
	Within Groups	85.633	145	0.591			
	Total	89.180	149				
Highest Educational Attainment	Between Groups	7.170	4	1.793	3.169	0.016	**Reject Ho Significant**
	Within Groups	82.010	145	0.566			
	Total	89.180	149				
No. of Years in Service	Between Groups	3.814	7	0.545	0.906	0.503	Accept Ho Not Significant
	Within Groups	85.366	142	0.601			
	Total	89.180	149				

The result implies that the challenges encountered in E-Learning as to critical media competence among elementary school teachers differs in terms of their highest educational attainment. Furthermore, there is no statistically detected difference on the challenges encountered in E-Learning as to critical media competence among elementary school teachers in terms of their sex, age, position and no. of years in service.

During the COVID-19 pandemic, many universities are finding that providing and utilizing online and E-Learning systems is their biggest issue. There are numerous wonderful functions in e-learning platforms like Blackboard that would be helpful to have during the

COVID-19 pandemic. However, recognizing the adoption factors as well as the primary difficulties that the present E-Learning systems confront is essential for effective use of the system. Uncertainty exists regarding the crucial issues and elements that influence the effective application of e-learning systems during the COVID-19 pandemic; as a result, there is a glaring knowledge gap regarding these issues and elements. As a result, this study intends to investigate the major variables that encourage the use of E-Learning systems during the COVID-19 pandemic as well as the significant challenges that face the existing E-Learning systems. This study used the interview method and NVivo software for thematic analysis. Thirty students and thirty-one experts in e-learning systems from six universities in Jordan and Saudi Arabia participated in the interview. The results of this study provide policy-makers, designers, developers, and researchers with helpful recommendations that will help them become more familiar with the essential elements of successfully using an e-learning system during the COVID-19 pandemic.

5.3. Educational Design Competence

Table 9. The analysis of variance to test difference on the challenges encountered in E-Learning as to educational design competence among elementary school teachers when grouped according to profile variables

Sources of Variations		SS	df	MS	F	Sig.	Decision / Interpretation
Sex	Between Groups	0.056	1	0.056	0.104	0.748	Accept Ho Not Significant
	Within Groups	79.919	148	0.540			
	Total	79.975	149				
Age	Between Groups	2.966	4	0.741	1.396	0.238	Accept Ho Not Significant
	Within Groups	77.009	145	0.531			
	Total	79.975	149				
Position	Between Groups	4.471	4	1.118	2.147	0.078	Accept Ho Not Significant
	Within Groups	75.504	145	0.521			
	Total	79.975	149				
Highest Educational Attainment	Between Groups	4.703	4	1.176	2.265	0.065	Accept Ho Not Significant
	Within Groups	75.272	145	0.519			
	Total	79.975	149				
No. of Years in Service	Between Groups	3.735	7	0.534	0.994	0.438	Accept Ho Not Significant
	Within Groups	76.240	142	0.537			
	Total	79.975	149				

The computed P-value for sex (0.748), age (0.238), position (0.078), highest educational attainment (0.065) and no. of years in service (0.438) were greater (>) than 0.05 Alpha Level of Significance, hence the Null Hypothesis is accepted. Therefore, there is no significant difference on the challenges encountered in E-Learning as to educational design competence among elementary school teachers when they are grouped according to sex, age, position, highest educational attainment, and no. of years in service.

The result implies that there is no statistically detected difference on the challenges encountered in E-Learning as to educational design competence among elementary school teachers in terms of their sex, age, position, highest educational attainment and no. of years in service.

Since flexibility is a major factor in why students choose online learning, its advantages in online courses cannot be stressed. Students can complete their assignments at a time and location that suit their needs for learning thanks to online learning. A number of instructors and students commented on their ability to focus more of their attention on the content of the course and less on issues such as parking, traffic, and other problems that may arise when attending a traditional class environment (Thomson, 2010).

6. Test of Relationship on the Level of E-Learning Competencies and Challenges Encountered to attain E-Learning competency among Elementary School Teachers

Table 10. Pearson product moment coefficient of correlation to determine relationship between the level of E-Learning competencies and challenges encountered in E-Learning among elementary school teachers.

Sources of Correlations		Level of Competencies	Challenges	Decision / Interpretation
Level of Competencies	Pearson Correlation	1	-.214**	Very Low Negative Correlation Reject Ho
	Sig. (2-tailed)		0.009	
	N	150	150	
Challenges	Pearson Correlation	-.214**	1	
	Sig. (2-tailed)	0.000		
	N	150	150	
**. Correlation is significant at the 0.01 level (2-tailed).				

The computed Pearson r value of -.214 denotes very low negative correlation between the level of E-Learning competencies and challenges encountered in E-Learning among elementary school teachers. The computed P-value 0.009 is less than (<) 0.01 level of significance, therefore the null hypothesis was rejected. The result signifies that there was significant relationship between the level of E-Learning competencies and challenges encountered in E-Learning among elementary school teachers.

The findings signify that as the level of competencies in E-Learning of elementary school teachers increases, there is a very low tendency that the challenges they will encounter in E-Learning decreases.

It is essential that teachers pay attention to the issue of achieving teacher proficiency in teaching platforms utilized for distance learning. While determining these competencies, the pedagogical competencies of online instructors (Machynska & Dzikovska, 2020), their ability to prepare themselves and students for online education, to choose the right tools with appropriate teaching methods and techniques, to facilitate learning, and to manage online courses should also be taken into consideration (Wang, Wang, Stein, Liu, and Chen, 2019).

Conclusions

Based on the foregoing results of the study, the researcher concluded that:

1. The majority of the teacher-respondents are female, in their adulthood stage, a Teacher I, earned units in MS / MA and with adequate years in teaching service.
2. The teacher-respondents were competent for E-Learning.
3. The teacher-respondents disagreed there are challenges encountered for E-Learning.
4. There was no significant difference on the Level of E-Learning Competencies for teachers as to individual media competence, critical media competence and educational design competence when they are grouped according to profile variables.
5. There was a significant difference on the challenges encountered for E-Learning as to individual media competence and critical media competence among Elementary School Teachers when they are grouped according to highest educational attainment.
6. There was significant relationship between the level for E-Learning competencies and challenges encountered for E-Learning among elementary school teachers.
7. The proposed online training program to enhance the E-Learning competencies among elementary school teachers as to individual media competence, critical media competence, and educational design competence is developed.

Recommendations

In view of the conclusions arrived at of the study, the following are recommended.

1. The School Heads may establish collaboration for technical assistance to enhance e-

learning competencies for teachers with agencies and software companies.
2. The school heads could help to ensure that teachers have access to enough technical, administrative, and peer assistance during the implementation of the E-Learning workshop. The removal of internal, second-order impediments to technological integration. They might also think about concentrating their professional development efforts on those that place a strong emphasis on using technology in the classroom.Classroom teachers may include visualization tools in learners tracking technologies.
3. The school heads and teachers shall work together on the proposed training program to enhance the E-Learning competencies for teachers.

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