

## Preservice teachers' attitude towards the use of electronic portfolio in colleges of education in Oyo state, Nigeria

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### Abstract

This study examines preservice teachers' attitude towards the use of e-portfolio in colleges of education in Oyo State. The sample population consisted of 320 preservice teachers randomly selected from the only two public colleges of education in Oyo State. The instrument used was the researcher's self-developed questionnaire titled 'Preservice Teachers' Attitude Towards the Use of E-portfolio Questionnaire (PTATUEQ). Face and content validity of the research instrument were carried out by two experts in tests and measurement from the Department of Educational Foundation and Counseling Adeyemi Federal University of Education Ondo. The reliability coefficient of 0.84 using Cronbach Alpha technique was obtained and the value was considered substantially high enough to justify the use of the instrument. The data obtained was analyzed using mean score and standard deviation for answering the research questions while Pearson's product moment correlation was used for testing the hypotheses respectively. The findings revealed amongst others that; preservice teachers in colleges of education have positive attitude towards e-portfolio mean rating of 2.76, using 2.45 as the decision rule. It was also revealed in the study that preservice teachers have high level of utilization of e-portfolio with the mean rating of 2.85, using 2.45 as the decision rule. The study also revealed that there was a strong or positive relationship between attitude and utilization of e-portfolio among preservice teachers in colleges of education The study therefore recommends that preservice teachers in colleges of education should be more encouraged to developed positive attitude and use of e-portfolio through appropriate training and worships.

**Key words:** E-portfolio, colleges of education, attitude, utilization.

### 1. Introduction

The emergence and growth of Information and Communication Technology (ICT) has transformed education globally especially in teaching and learning process. In many countries of the world, the use of

technology has shifted the learning pattern from traditional methods of instructions to e-learning modes especially in teacher education programme and particularly in colleges of education.

Colleges of education are tertiary educational institutions established for the training of people who will function as professional and highly qualified classroom teachers in Nigeria.

The objectives of the Federal Government of Nigeria with respect to teacher training is to produce highly motivated, conscientious and efficient classroom teachers for all levels of her educational system FRN, (2013). Furthermore, another objective is to encourage further, the spirit of enquiry and creativity in teachers; to help teachers fit into social life of the community and the society at large. Also, among the objectives is to enhance teachers' commitment to national goals by providing them with the intellectual and professional background adequate for their assignment to help them adapt to changing situations and to enhance their commitment to the teaching profession.

In this digital age, there are many education-based and online learning tools that can be effectively used to make it easier for both students and teachers to access learning resources especially in colleges of education. One of such online learning tools is electronic portfolio (e-portfolio). Denton (2012) referred to e-portfolio as the personal and digital collection of artefacts of an individual including demonstrations, resources, and accomplishments for a variety of contexts and time periods.

Goldsmith (2017) also describes e-portfolio as the product, created by the learner, a collection of digital artefacts articulating experiences, achievements and learning. Usually online, e-portfolios reside either on an institutional portfolio platform, or as a Web 2.0 mash-up. A range of tools and applications is available, enabling the e-portfolio to be used in flexible ways across different curriculum areas. Interactive tools such as blogs, wikis and photo sharing enable students to create a personalised learning experience for themselves.

The use of e-portfolio has become increasingly popular in recent years, and educators are discovering many benefits it offers. One of the most significant benefits of e-portfolio in education is its ability to makes it possible for both teachers to observe a student's learning experiences as a whole rather than as fragmented pieces, as often occurs in traditional approach (Nudelma 2017).

Lin (2008) also avers that e-portfolio develops in students a sense of purpose and focus while they are reflecting because they compare their works to a standard. Sofiah & Pratolo (2020) explains that e-Portfolios in the educational system globally can trigger more student-centered learning, reflective activities, and personalized types of learning among learners with diverse knowledge backgrounds.

E-portfolios make students responsible for organizing and producing material for a specific purpose, evaluating their work, and reflecting on the findings regarding their own learning process, experiences, and skills (Goldsmith, 2007). Nudelman, (2017) was also of the opinion that e-portfolio supports reflective learning, facilitates the transfer of knowledge, and actively involves students who are not active enough in the course. While Barrot (2020), avers that the effective use of visual images and visual tools in the classroom in e-portfolios increases the active participation of teachers and students in the lesson and in-class communication in the learning and teaching process.

Attitude is one of the significant factors affecting educators' decisions about whether to use technologies for instructional delivery. Attitude determines the decision of teachers to apply in teaching and how they prepare to teach with technologies. Asiegbu, Powei & Iruka (2012) claim that attitude is a learned disposition to respond in a consistently favourable or unfavorable manner with respect to a given subject, object or event. Ngman-Wara & Edem, (2016) affirmed that attitudes are

rooted in experience and as such become automatic routine conduct. The authors further submitted that attitude is a state of readiness or a tendency of a person to respond in a certain manner when confronted with a certain stimulus which when positive improves performance but when negative, causes failure or decline in performance. Teachers' use of technology especially online learning platform such as electronic portfolio is influenced by their attitudes (Simion, Ajayi & Gadzama 2022).

According to Abidoeye & Abidoeye (2021), attitudes toward any objects play an extremely important role in influencing subsequent behaviours towards it. Positive attitude towards the use of technologies will lead to high productivity in education while poor attitude of lecturers towards technologies will reduce productivity in education especially at this digital age.

Gender is one of such factors mentioned in the literature to have considerable effects on the use of technology especially e-portfolio for teaching and learning. Aderere & abidoeye (2022), describe gender as the range of physical, biological, mental and behavioural characteristics pertaining to and differentiating between the feminine and masculine (female and male) population.

The importance of examining performance in relation to gender is based primarily on the socio-cultural differences between girls and boys. Abidoeye & Abidoeye(2021) posits that differences existed in gender similarly in both online learning and conventional learning strategies. Hence, males are inquisitive, fully involved in questions, discussions, optimistic, and remain active participants, whereas females were more submissive.

However, the major challenge to the use of technology for instructions is the users' attitude and commitment towards the integration of technology into the teaching-learning setting, thus this task could discourage the utilization among the users (Hassan

(2017)). Therefore, this study examines preservice teachers' attitude towards the use of electronic portfolio in educational technology course in colleges of education in Oyo state.

## 2. Objectives of the study

The general purpose of the study is to find out the Pre-service Teachers' Attitude towards the use of e-portfolio in College of Education in Oyo State, Nigeria. Specifically, the study examines:

1. Preservice teachers' attitude towards the use of e-portfolio in colleges of education.
2. The level of utilization of e-portfolio by the preservice teachers in colleges of education.
3. The relationship between the preservice teachers' attitude and utilization of e-portfolio in colleges of education.

## 3. Research Questions

The following research questions were raised and answered in this study;

1. What is the preservice teachers' attitude towards e-portfolio in colleges of education in Oyo State?
2. What is the preservice teachers' level of utilization of e-portfolio in colleges of education in Oyo State?

## Research Hypothesis

**H<sub>01</sub>:** There is no significant relationship between the preservice teachers' attitude and utilization of e-portfolio in colleges of education in Oyo State?

## 4. Methodology

Descriptive survey research design was adopted in this study. The sample population consisted of 320 preservice teachers randomly selected from two public colleges of education in Oyo State. The schools are; Oyo State College of Education Lanlate and Federal College of Education (special) Oyo. 160

participants were randomly selected in each of the two sampled schools making a total of 320 participants. The instrument for this study was the researcher's self-developed questionnaire titled 'Preservice Teachers' Attitude Towards the Use of E-portfolio Questionnaire (PTATUEQ).

The instrument was divided into three sections A-C. Section A focuses on demographic information covering the participants' gender, school and location. Section B consisted of twelve question items eliciting information on preservice teachers' attitude towards e-portfolio. While section C consisted of 12 question items sought information on preservice teachers' level of utilization of e-portfolio in colleges of education.

A 4-point Likert Scale response modes: Strongly Agree (SA = 4), Agree (A = 3), Disagree (D = 2) and Strongly Disagree (SD = 1) was used. Face and content validation of the instrument was carried out by an expert in test measurement and evaluation from the Department of Educational Foundation and Counselling Adeyemi Federal University of Education Ondo. To ensure that the instrument has the accuracy, appropriateness and completeness for the study. Cronbach Alpha technique was used to determine the level of reliability of the instrument. The reliability coefficient obtained was 0.84 and this was considered to be high enough to justify the use of the instrument. The researcher subjected the data generated for this study to mean score and standard deviation for answering the research questions while Pearson product moment correlation was used in testing the hypothesis. The test for significance was done at 0.05 alpha levels.

#### 4.1 Results

**Research Question 1:** What is the pre-service teachers' attitude towards e-portfolio in colleges of education in Oyo State?

**Table 1:** pre-service teachers' attitude towards the use of e-portfolio in colleges of education, Oyo state.

Pre-service Teachers' Attitude towards the Use of E-Portfolio						
Item	SA	A	D	SD	Mean	Std.D
It takes me a lot of time to compile the e-portfolio	149	106	28	37	3.14	.99
The e-portfolio increases the burden of my study	12	43	157	108	1.87	.77
The goal I originally set up in the e-portfolio is too difficult and I cannot reach it	31	65	117	107	2.06	.96
I feel some practices (like listening or speaking) could not be easily presented in the e-portfolio	32	86	59	143	2.02	1.05
I feel that e-portfolio is not helpful to my learning	40	90	30	160	2.03	1.13
E-portfolio helps me organize and arrange my learning	161	125	16	18	3.34	.81
E-portfolio allows me to choose what I like to read or listen to according to my personal interests.	122	156	28	14	3.20	.77
E-portfolio increases my willingness to learn actively	156	80	49	35	3.11	1.09
E-portfolio allows me to choose how to plan and learn my English according to my learning style	99	111	79	31	2.86	.96
E-portfolio makes me realize that I can learn anytime and anywhere, not just in the classroom	101	151	14	54	2.93	1.01
E-portfolio will be of great help to my future independent learning	161	125	13	21	3.33	.83
When compiling the e-portfolio, I have a chance to reflect on my educational technology courses learning of this semester	119	152	34	15	3.17	.79
Weighted Average					2.76	

Key; SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree

Decision Value: Negative = 0.00-2.44, Positive = 2.45-4.00

Table 1 shows that the pre-service teachers agreed to the following items as follows: it takes them a lot of time to compile the e-portfolio ( $\bar{x} = 3.14$ ), e-portfolio helps them organize and arrange their learning ( $\bar{x} = 3.34$ ), e-portfolio allows them to choose what they like to read or listen to according to their personal interests ( $\bar{x} = 3.20$ ), e-portfolio increases their willingness to learn actively ( $\bar{x} = 3.11$ ), e-portfolio allows them to choose how to plan and learn English according to their learning style ( $\bar{x} = 2.86$ ), e-portfolio makes them realize that they can learn anytime and

anywhere, not just in the classroom ( $\bar{x} = 2.93$ ), e-portfolio will be of great help to their future independent learning ( $\bar{x} = 3.33$ ), and when compiling the e-portfolio, they have a chance to reflect on their educational technology courses learning of this semester ( $\bar{x} = 2.70$ ). Furthermore, the table shows that the pre-service teachers disagreed to the following: e-portfolio increases the burden of their studies ( $\bar{x} = 1.87$ ), the goal they originally set up in the e-portfolio is too difficult and they cannot reach it ( $\bar{x} = 2.06$ ), feel some practices (like listening or speaking) could not be easily presented in the e-portfolio ( $\bar{x} = 2.02$ ) and feel that e-portfolio is not helpful to their learning ( $\bar{x} = 2.03$ ). Meanwhile based on the value of the weighted average (2.76 out of 4.00 maximum value obtainable) which falls within the decision value for positive, it can be inferred that the preservice teachers' attitude towards e-portfolio in colleges of education in Oyo State is positive.

**Research Question 2:** What is the pre-service teachers' level of utilization of e-portfolio in colleges of education in Oyo State?

**Table 2:** pre-service teachers' level of utilization of e-portfolio in colleges of education in Oyo State

*Pre-service Teachers' Utilization of E-Portfolio in Colleges of Education*

Item	SA	A	D	SD	Mean	Std.D
I used e-portfolio to reflect on my learning contents.	181	111	45	111	1.99	1.00
I used e-portfolio to engage on personalized learning activities	204	133	67	44	2.10	.96
I used e-portfolio to bridge communication gap between me and my classmates.	146	110	101	91	2.12	.96
I often used e-portfolio to share learning contents in my courses with my classmates.	119	105	139	85	2.00	1.02
E-portfolio often helps me to actively participates in class activities and transfer of knowledge.	133	135	66	114	2.99	1.19
I use e-portfolio to reduce the burden of paper printing.	160	178	44	66	3.18	.87
I often store documents in e-portfolio that I can use at anytime and anywhere.	195	141	53	59	2.85	.88
I use e-portfolio to share educational files with my colleagues.	140	105	136	67	2.07	1.11
I use e-portfolio to accomplish academic tasks more quickly	243	58	67	80	2.16	1.07
I use e-portfolio to increase and improve the quality of my academic works.	190	142	74	42	2.06	.82
Weighted Average					2.85	

Key; SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree  
 Decision Value: Low = 0.00-2.44, High = 2.45-4.00

Table 2 shows the. The table shows that the pre-service teachers disagreed the following items: they use e-portfolio to reflect on their learning contents ( $\bar{x} = 1.99$ ), use e-portfolio to engage on personalized learning activities ( $\bar{x} = 2.10$ ), use e-portfolio to bridge communication gap between them and their classmates ( $\bar{x} = 2.12$ ), often used e-portfolio to share learning contents in my courses with my classmates ( $\bar{x} = 2.00$ ), use e-portfolio to share educational files with their colleagues ( $\bar{x} = 2.07$ ), use e-portfolio to accomplish academic tasks more quickly ( $\bar{x} = 2.16$ ), and use e-portfolio to increase and improve the quality of their academic works ( $\bar{x} = 2.06$ ).

Also, the table shows that the pre-service teachers agreed to the following: e-portfolio often helps them to actively participates in class activities and transfer of knowledge ( $\bar{x} = 2.99$ ), use e-portfolio to reduce the burden of paper printing ( $\bar{x} = 3.18$ ), and they often store documents in e-portfolio so they can use at anytime and anywhere ( $\bar{x} = 2.85$ ).

Meanwhile based on the value of the weighted average (2.35 out of 4.00 maximum value obtainable) which falls within the decision value for high, it can be inferred that the pre-service teachers' level of utilization of e-portfolio in colleges of education in Oyo State is high.

### Hypotheses Testing

H01: There is no significant relationship between the pre-service teachers' attitude and utilization of e-portfolio in colleges of education in Oyo State.

**Table 3: Summary of Pearson Product Moment Correlation Showing Relationship between Pre-service Teachers' Attitude and Utilization of E-Portfolio**

Variable	Mean	Std. D	N	R	Sig(p)	Remark
Attitude	33.10	2.85	320	.707	.014	Significant
Utilization	23.57	2.70				

Table 3 shows the relationship between pre-service teachers' attitude and utilization of e-portfolio in colleges of education. The table shows that there was a strong relationship between the preservice teachers' attitude and utilization of e-portfolio in colleges of education in Oyo State which was statistically significant ( $N = 320$ ;  $r = .737$ ;  $p < 0.05$ ). Hence, hypothesis 1 is not accepted.

### 4.2 Discussion of Results

The results revealed that preservice teachers' attitude towards e-portfolio in colleges of education in Ondo State was positive. This is evident as almost all the respondents agreed that e-portfolio helps them organize and arrange their learning, e-portfolio allows them to choose what they like to read or listen to according to their personal interests, e-portfolio increases their willingness to learn actively, e-portfolio allows them to choose how to plan and learn

their courses according to their learning style, e-portfolio makes them realize that they can learn anytime and anywhere, not just in the classroom, e-portfolio will be of great help to their future independent learning, and when compiling the e-portfolio and they have a chance to reflect on their educational technology courses learning of this semester.

This finding is similar to that of Abidoeye (2023) discovered positive attitude of lecturers towards cloud computing in tertiary institutions in Nigeria. However, this study disagreed with that of Ellis (2017) who found out negative attitude of learners towards e-portfolio.

This study also revealed in research question two that the level of utilization of e-portfolio by preservice teachers in Colleges of Education in Oyo State was very high (with the Weighted Average of 2.85). This finding is inline with Nudelman (2017) who discovers high level of utilization of e-portfolio among the users,

The study also revealed that there was a strong relationship between the preservice teacher' attitude and utilisation of e-portfolio in Colleges of education. This is as a result of the fact that most of the preservice teachers considered e-portfolio very easily to operate so as to get relevant information which makes them have positive attitude towards e-portfolio usage.

However, this result is similar to the work of Hassan (2017) who finds out that there was strong relationship between learners' attitude and utilization of google classroom online learning platform.

### 4.3 Conclusion

Based on the reviewed relevant literatures and the findings of this study, it was concluded that preservice teachers' attitude towards e-portfolio in colleges of education was positive. It was also concluded that there was strong relationship

between attitude and utilization of e-portfolio among preservice teachers in colleges of education in Oyo State.

#### 4.4 Recommendations

Based on the findings of this study, the following recommendations were made;

1. Preservice teachers in colleges of education should further be encouraged to develop more positive attitude towards the use of technologies especially e-portfolio. This can be achieved through adequate provision of facilities and equipment by the school managements for effective use of e-portfolio by preservice teachers.
2. Training, workshop and seminar should be organized for preservice teachers to improve their skills to use various online learning tools especially e-portfolio in colleges of education.

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