

E-Portfolios for Reflective Practice: Attitudes, Benefits and Challenges**Abdelkader Bouzidi¹, Ammar Benabed²**University Abdelhamid Ibn-Badis-Mostaganem- Algeria¹University Ibn Khaldoun- Tiaret - Algeria²

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Dep. Day : 7/8/2023

Acc. day: 26/10/2023

Pub. day: 15/12/2023

Abstract:

E-portfolios are becoming increasingly popular in universities all over the world for promoting reflective practice and critical thinking. However, Algerian universities have yet to implement these technological tools in the learning environment. This paper aims to explore the attitudes, benefits, and challenges Algerian students faced when using e-portfolios. The experiment took place at the University of Djelfa, where first-year English students reflected on their learning experience in oral expression class for two semesters in the university year 2022-2023. The data was obtained using a mixed-methods questionnaire. The results show the majority of the students had positive attitudes towards e-portfolios and found that they allowed them more freedom of expression, helped them become more reflective, and harnessed their fluency in technology. The challenges revolved around technical issues the students encountered during the process.

Keywords: e-portfolios, reflective practice, attitudes, benefits, challenges**Introduction**

In an ever-evolving educational landscape, reflective practices are gradually becoming an indispensable element of curriculums in an effort to stimulate critical thinking, encourage personal growth, and promote global citizenship. Today's teachers are being encouraged to design activities that foster reflective thinking and help students become more autonomous in developing their metacognitive skills and assessing their own learning. This endeavor prompted practitioners to explore different tools to most effectively achieve this goal, which explains the growing number of universities embracing e-portfolios as a facilitator of reflective practice (Slade & Downer, 2020). Being adaptable and flexible in nature, e-portfolios are being used in diverse sectors and industries, including business, art, and education, thereby justifying their countless technocentric definitions and how they seem to be different. For the purpose of this paper, we will focus on the definition that is most relevant to the field of education, which considers e-portfolios as a vehicle rather

than a tool (Farell, 2019); an e-portfolio is thus "a web-based student generated collections of learning artefacts and related reflections, focused on learning and growth" (Eynon & Gambino, cited in Syzdykova et al., 2021).

The effectiveness of e-portfolios for reflective practice has been an appealing subject for researchers, resulting in a wealth of academic literature advocating their implementation in education (Barrett, 2007; Chen, Light, & Ittelson, 2011; Yancey, 2014). E-portfolios scaffold students reflective thinking by giving them carefully designed writing prompts and opportunities for free thinking and retrospection (Roberts et al., 2016). Furthermore, the implementation of e-portfolios is especially useful for students of the 21st century who are fluent in technology; as a result, this generation of students is more comfortable doing reflective practice on a fully customizable platform on their mobile phones or computers than in traditional media (Herring & Notar 2011). Besides, e-portfolios minimize the anxiety of technology for students who are not proficient in it (Wakimoto & Lewis, 2014). Additionally, e-portfolios make the assessment process much easier since they offer a platform for collecting evidence and demonstrating development over time (Gerbic et al., 2009). In short, e-portfolios and reflective practice can be described as having a mutually symbiotic relationship, i.e., e-portfolios can facilitate the process of reflection, and reflection in turn can help students become better critical thinkers, be more self-directed, and ultimately grow into lifelong learners.

Another point to consider is the impact of student attitudes towards e-portfolios on their engagement and learning outcomes. Developing a positive attitude towards e-portfolios may encourage students to work towards their academic goals. For this to happen, students may need some external incentives or motivation to fully appreciate the value of e-portfolios, especially at the beginning of the process (Slade & Downer, 2020). In this sense, improving the learning outcomes and the engagement of students will depend heavily on the design and effective implementation of e-portfolios (Yancey, 2009).

How are e-portfolios used in Algerian higher education?

Although e-portfolios have gained worldwide popularity as a vehicle for learning, reflection, and assessment (Lorenzo & Ittelson, 2005; Clark & Eynon, 2009; Drury, 2006), there is limited research on their application in the Algerian educational context, with only two studies discussing the issue. The first study by Bouzeghaia (2020) examined the use of e-portfolios assessment to enhance the writing skills of third-year English students at the University of Biskra. The experiment was conducted over the course of 6 weeks with only 9 participants. The study mainly focused on e-portfolios as a tool for enhancing writing and the attitudes of teachers and students towards them. This research however placed great emphasis on e-portfolios as a tool for assessment and disregarded the transformational side of the e-portfolio. The second study by Bouakel (2021) discussed the attitudes of teachers towards the integration of e-portfolios and the challenges they may encounter. The study found that in order to implement the portfolio pedagogy and foster students'

technological literacy, both teachers and students may require systematic training. We must point out that this study seems to be desk-based literature as it did not involve any direct observation or fieldwork, thereby lacking depth that could only be obtained through first-hand understanding and experiential field work. The fact that, at the time of writing this article, there were only two studies about e-portfolios in the Algerian context points to a huge gap, which this paper aims to address. By filling this research gap, educators in Algerian universities could gain valuable insights into how Algerian students feel about using e-portfolios as a tool for reflective practice and what difficulties they have encountered.

Research questions

This paper aims to answer the following research questions.

Question

1:

To what extent did the students enjoy building and how well they rated their experience?

Question2:

What are the perceived attitudes students toward e-portfolios as a reflective tool to document individuals' experiences?

Question 3:

What are the main advantages and challenges of using e-portfolios as a reflective tool?

Hypotheses

Hypothesis 1:

The students will enjoy building their e-portfolios to a great extent and they will have a good experience.

Hypothesis 2:

Students will have a positive attitude towards e-portfolios as a reflective tool to document their experience

hypothesis 3:

Since this part of the paper is exploratory, we will not have a hypothesis.

Methodology

Research design

In this paper, we decided to use a cross-sectional design in order to meet the objectives of our study. The participants used e-portfolios as a reflective tool for two semesters in Oral Expression class. At the end of the second semester, we administered a questionnaire in order to gain insight into their attitudes and experiences regarding the use of e-portfolios. This cross sectional design was selected specifically since it allows the researcher to examine the outcome and the exposures in the study participants at the same time (Setia, 2016). Although a cross sectional design provides data at a specific point in time (Olsen & St George, 2004), we must acknowledge that the responses of the participants may be subject to recall bias or social desirability bias.

Participants

The sampling process in this study involved selecting participants from a pool of 76 first year English students at the University of Djelfa in the school year of 2022-2023. These students were divided into two groups , a control group and an experimental group (38 students each). The experimental group used e-portfolios as a reflective tool for Oral Expression class. Out of the 38 students included in this study, a final sample of 26 students responded to the questionnaire, representing a return rate of 65%. The composition of the sample was predominantly female, accounting for 76.9% of the respondents, while males constituted 23%. In terms of age distribution, the majority of participants, 80.8%, fell within the 18-20 age range, with 11.5% falling between 21 and 25, and 7.7% being under the age of 18.

This study used convenience sampling, also known as accidental sampling or haphazard sampling, which is a type of nonprobability or nonrandom sampling where members of the target population meet certain practical criteria (Etikan et al., 2016). In our case, these criteria are time constraints, availability of participants, and willingness to participate, which justify the use of this sampling method. Considering that such a decision may limit the generalizability of the findings, it was the most feasible option in this case.

Questionnaire development:

The questionnaire was developed in order to gather data regarding the attitudes of first year English students towards e-portfolios. The questionnaire can be described as a mixed-method questionnaire since it consisted of open-ended questions and multiple choice questions. The choice of this type of questionnaire was not to increase the number of methods, but rather to add reliability and rigor to the data since each type of question addresses the limitations of the other (Zohrabi, 2013). To increase the validity of the questionnaire, it was sent to two teachers of English at the University of Djelfa for feedback. The questionnaire was piloted with five students to ensure that the questions were clear and understandable before it was distributed to the rest of the sample group.

Google Forms was used as a platform for the questionnaire, and the link to the questionnaire was sent to the participants via e-mail. We opted for the electronic format of the questionnaire as opposed to traditional media due to the temporal context of questionnaire distribution. Specifically, as the questionnaire was administered towards the end of the school year, the researcher encountered limitations in maintaining direct contact with the participants.

Instruments and materials.

E-portfolio platform. We used Google Docs as an e-portfolio platform for many reasons. E-portfolios are usually associated with rudimentary knowledge of web design (Lane, 2007; Chang, et al., 2011), which explains why Google Sites is sometimes used as a platform for e-portfolios. The problem with this is that it requires training, which can be challenging and time consuming. Since we are using the e-portfolios as a reflective journal, we decided it was best to use Google Docs instead. Google Docs is a web service that is accessible on most Android phones as a

free native app; therefore, most students in the Algerian context are familiar with it (Maita, 2021). To verify that this is the case in the context of the university of Djelfa, we conducted a survey at the beginning of the experiment where 100 % of the participants reported having smartphones, access to the internet, and being fast typers. Furthermore, 90% of the participants reported having used Google Docs before. For these reasons, we decided that using Google Docs for this purpose was our best course of action.

Data collection

The questionnaire included 16 items, the initial three items collected basic demographic data such as group, age, and sex. The second set included multiple choice questions where participants were asked whether they had used the e-portfolio to document their experience and the frequency of the usage (daily, weekly, monthly, rarely). After that, they were prompted to evaluate the perceived value of e-portfolios as reflective tools, selecting from options ranging from "extremely valuable" to "not valuable at all."

Likert Scale questions: Participants were asked to provide their level of agreement or disagreement with the statements regarding the enjoyment of the e-portfolio building process. They were also asked to identify the areas in which building the e-portfolio helped them improve. Responses here ranged from "strongly disagree" to "strongly agree" or "poor" to "excellent" for the overall experience rating.

Participants were presented with open-ended questions in order to gather qualitative data. In this context, they were afforded the opportunity to provide comprehensive responses pertaining to their e-portfolio learning encounter, its juxtaposition with traditional learning methodologies, prospective implications, advantages conferred, and encountered challenges.

Data Analysis.

The data was analyzed using SPSS (Statistical Package for the Social Sciences). To calculate the reliability of the quantitative part of the questionnaire, we used Chronbach's Alpha ($r=.709$) indicating that the reliability is acceptable. The qualitative part of the questionnaire was analyzed thematically to the point of saturation yielding different that we coded and calculated for recurrence and percentage.

Table 1. Result of reliability test of Chronbach's Alpha

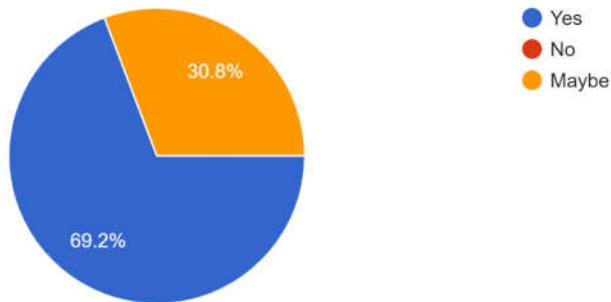
Cronbach's Alpha	N of Items
.709	8

Results of the first research question

To what extent did the students enjoy building and how well they rated their experience?

To answer this research question we used a multiple choice question followed with Likert-type items.

Figure 1. Students' Enjoyment levels when using e-portfolios



As shown in table 2, (69.2) of the respondents enjoyed the process of making their e-portfolio, while 30.8 were not certain that they did. None of the respondents, however, reported that they did not enjoy it.

Table 2. Descriptive Statistics on the frequency of Using the E-portfolio

	N	Minimum	Maximum	Mean	Std. Deviation
How frequently did you use your e-portfolio?	26	1.00	4.00	2.5385	.85934
N (total)	26				

note: 1 rarely, 2 monthly, 3 weekly, 4 daily

This is a four-point Likert-type item, which is an interval scale. From 1 to 1.75 means rarely, from 1.76 to 2.50 means monthly, from 2.51 to 3.25 means weekly, from 3.26 to 4 means daily.

we notice here that our mean is 2.53, which falls within the range of weekly, indicating that the majority of the respondents used their e-portfolios on a weekly basis.

Table 3. Descriptive statistics on the value of e-portfolios for reflective practice.

	N	Minimum	Maximum	Mean	Std. Deviation
How valuable do you believe e-portfolios are as a reflective tool?	26	2.00	4.00	3.0769	.74421
N (Total)	26				

note: 1 not valuable at all, 2 somewhat valuable, 3 moderately valuable, 4 extremely valuable

This is a four-point Likert-type item, which is an interval scale. From 1 to 1.75 means “not valuable at all”, from 1.76 to 2.50 means “somewhat valuable”, from 2.51 to 3.25 means “moderately valuable”, from 3.26 to 4 means “extremely valuable”.

We notice that the mean is (3.07), which falls within the range of “moderately valuable”. This means that the majority of the respondents find that e-portfolios are moderately valuable as a reflective tool.

Table 4. Descriptive statistics on the overall experience of using e-portfolios

	N	Minimum	Maximum	Mean	Std. Deviation
How would you rate the overall experience of using e-portfolios as a reflective tool to document your experience during your first year of study?	26	3.00	4.00	3.3846	.49614
N (Total)	26				

note: 1 poor, 2 average, 3 good, 4 excellent

This is a four-point Likert-type item, which is an interval scale. From 1 to 1.75 means “poor”, from 1.76 to 2.50 means “average”, from 2.51 to 3.25 means “good”, from 3.26 to 4 means “excellent”.

Our mean here is (3.38), which falls within the interval for “excellent” meaning that the majority of the respondents rated the e-portfolio as an excellent tool for reflective practice on their learning experience.

The results show that the respondents found the process of making an e-portfolio to be enjoyable. The majority used their e-portfolios for reflective practice on a weekly basis, which also explains that they found the experience to be a pleasurable one. Most of the respondents expressed that they found value in e-portfolios as a reflective tool that documents their learning experience. The majority of the respondents rated their experience with the e-portfolio as excellent.

Results of the second research question.

What are the perceived attitudes students toward e-portfolios as a reflective tool to document individuals' experiences?

To answer this question, we used five-point Likert Scale items where the respondents rated their attitudes from Strongly disagree to Strongly agree.

Table 5. The attitudes of students toward using e-portfolios.

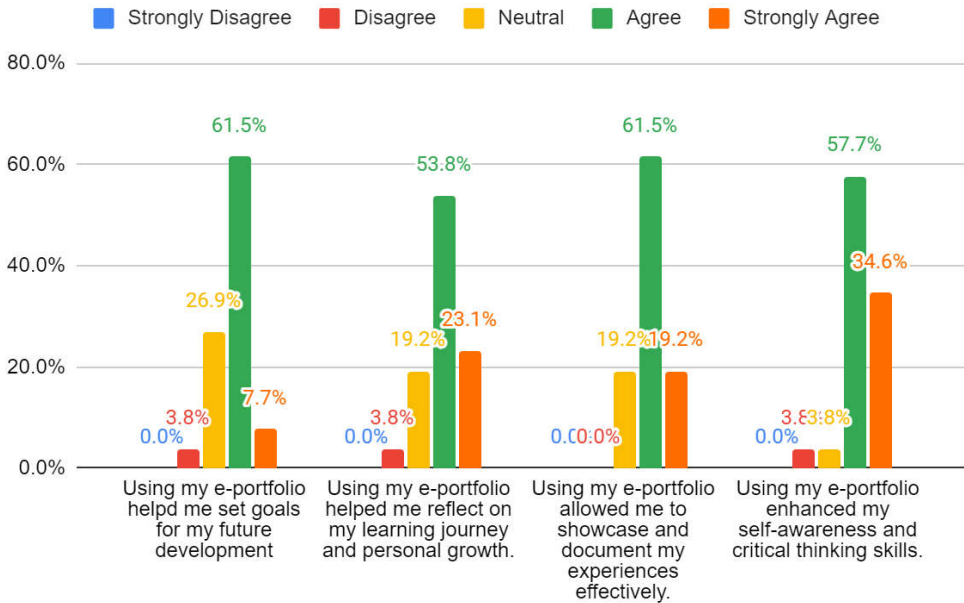
	N	Minimum	Maximum	Mean	Std. Deviation
Using my e-portfolio helped me set goals for my future development	26	2.00	5.00	3.7308	.66679
Using my e-portfolio helped me reflect on my learning journey and personal growth	26	2.00	5.00	3.9615	.77360
Using my e-portfolio allowed me to showcase and document my experiences effectively	26	3.00	5.00	4.0000	.63246
Using my e-portfolio enhanced my self-awareness and critical thinking skills	26	2.00	5.00	4.2308	.71036
N (total)	26				

note: 1 strongly disagree, 2 disagree, 3 neutral, 4 agree, 5 strongly agree

This is a five-point Likert Scale, conventionally treated as an interval scale. In our context, this means that from 1 to 1.8 indicated “strongly disagree”, from 1.81 to 2.60 indicates “disagree”, from 2.61 to 3.40 indicates “neutral”, from 3.41 to 4.20 means “agree”, from 4.21 to 5.00 means “strongly agree”(Benghalem, 2021).

The mean for the first statement is (3.73) which falls within the interval “agree”, which means that most of the respondents agreed that using their e-portfolio helped them set goals for their future development. The mean for the second statement is (3.96) falls within the interval of “agree” which means that the majority of the respondents agreed that using their e-portfolio helped them reflect on their learning journey and personal growth. The mean for third statement is 4.0 falls in the range of “agree”, which indicates that the majority of respondents agreed that using their e-portfolios allowed them to showcase and document their experiences effectively. The last statement is the highest in this table scoring a mean of 4.2 falling also within the interval of “agree”, meaning that the majority of the respondents agreed that using their e-portfolios enhanced their self-awareness and critical thinking skills.

Figure 2. The attitudes of students towards using e-portfolios



To allow for an easy comparison of the different attitudes of the respondents, we used a bar chart with percentages for the answers. The statements here are arranged from left to right. At the first glance, it becomes apparent that “the agree” answer dominated all the responses and that none of the respondents strongly disagreed with any of the statements.. We see that (61.5%) of the respondents agreed that using e-portfolio helped them set goals for their future development, while 26.9% were neutral. 7.7% of the respondents strongly agreed to the same statement, while only 3.8% disagreed.

The results of the second statement show that most respondents (53.8%) agreed that using their e-portfolio helped them reflect on their learning journey and personal growth. Unlike the previous responses, here we see that “strongly agree” (23.1%) comes higher than “neutral” (19.2%). We also see that the same percentage (3.8%) disagreed with this statement.

The results of the third statements show that none of the respondents had negative attitudes with both “strongly disagree” and “disagree” being at (0%). The highest percentage of of participants again “agreed” that using their e-portfolio allowed them to showcase and document their experiences effectively. Here we also notice that (19.2%) of the respondents “strongly agreed” to the statement and also another (19.2%) of the respondents felt “neutral” towards it.

The fourth statement shows that both neutral and disagree have the lowest percentages (3.8%) each, while none of the respondents “strongly disagreed” with

statement. We notice here that (57.7%) of the respondents agreed that using their e-portfolio enhanced their self-awareness and critical thinking skills, while (34.6) strongly agreed with this statement.

The overall results of the likert scale statements show that first year students of English at the university of Djelfa had a positive attitude towards using the e-portfolio as a reflective tool to document their experience which proves the hypothesis. These results show similar trends to Welsh (2012) and Namaziandost et al., (2020) where students showed positive attitudes toward using the e-portfolio as an assessment tool.

Results of the third research question.

What are the main advantages and challenges of using e-portfolios as a reflective tool?

To answer this question, we administered three open-ended questions as is shown in the following table. This qualitative part of the questionnaire was analyzed thematically for recurring themes, trends, and patterns. Thematic analysis is most suitable to this endeavor as it gives a better insight into participants' attitudes and reflections and "provides the opportunity for researchers to move beyond calculating unambiguous words or statements or expressing the ideas" (Alhojailan, 2012)

Table 6. The experience of learning with the e-portfolio as a reflective tool.

Question 1: Describe your experience learning with an e-portfolio.

Theme	Number of respondents	Percentage	Example
Positive Impact	20	76.9%	"A great push for me to expand on the topics and have much more answers than what's been initially asked for." (R1)
Reflection	6	23.1%	"Allowed me to actually re-think my actions during the past period and allowed me to relive and re-enjoy them back-to-back." (R1)
Enjoyment	5	19.2%	"I had so much fun doing my E-portfolio, actually it's a bit tiring but enjoying." (R12)
Freedom	4	14.4%	"Gives you freedom to describe whatever subject mentioned, it is private which makes the student more at ease." (R16)

Improvement	4	14.4%	"Started being more critical and got rid of my old thoughts that don't represent me as a language student." (R12)
Communication	3	11.5%	"It allows me to ask relevant-to-the-topic questions when in a situation that requires such skill." (R1)

The responses to the first open-ended prompt “ describe your experience learning with an e-portfolio” revealed several recurring themes. The theme “Positive Impact” dominated the entries with 76.9 % of respondents reporting that e-portfolios had a positive impact on their learning journey throughout the year. Respondents also reported that e-portfolios allowed them to be more reflective (23.1%), proved to be enjoyable (19.2%), gave them freedom of expression (14.4), improved their critical thinking skills and learning habits(14.4%), and helped them become better at communication (11.5%). This amounts to 100% percent of themes here being positive showing that the students found learning through e-portfolios for reflective practice to be of great value.

Table 7. Students perceptions of the value of the e-portfolio as a reflective tool

Question 2: What did you find most valuable about using e-portfolios as a reflective tool to document your experience?

Theme	Number of respondents	Percentage	Example
Self-expression	9	34%	"The freedom in expressing ideas and thoughts with no fear of judgment." (R9)
Personal Growth	6	23.1%	"The opportunity to improve my critical thinking and monitor my progress from one class to the next." (R24)
Discovering Oneself	3	11.5%	"The chance that gives you to discover your way of thinking and the things that you are actually into it." (R13)

Easy to use	3	11.5%	"Easy to use and well-organized." (R14)
Organization	3	11.5%	"Being able to track my work and keep it organized." (R10)
Technology Use	2	7.7	"Using technology while learning was the most valuable aspect of e-portfolios for me." (R4)
Other	1	3.8%	"Knowing how to write some words and how to make sentences in a perfect way were the most valuable things I gained from using e-portfolios." (R11)

The results of the second question amount to 100 percent of the respondents finding the e-portfolio to valuable for their reflective practice. The most dominant theme was freedom and self expression as 34% of the participants felt that doing reflective practice in their e-portfolios gave them the freedom of expression they needed without any fears of judgment. Personal Growth is another relatively common theme (23.1%) among participants as e-portfolios allowed them to be better able to critically reflect on their assumptions and behaviour and helped them monitor their progress. Other miscellaneous themes are the opportunity to discover oneself (11.5), the ease of use of the e-portfolio (11.5), being better organized, using technology in learning (7.7%).

Table 8. The challenges and difficulties that the students faced when using the e-portfolio as a reflective tool.

Question 3: What challenges or difficulties did you encounter while using e-portfolios as a reflective tool?

Theme	Number of respondents	Percentage	Example
Difficulty in Remembering	8	30.8%	"As i mentioned before remembering what really happened during the class was a big challenge for me but i solve it with taking some notes during the lecture." (R12)

Technical Issues	5	19.2%	"I encountered obstacles on how to insert pictures when we had to. It was manageable and not too problematic."(R8)
Laziness	4	15.4%	"My laziness was a major challenge, but I managed to overcome it in subsequent reflections."(R19)
Too Many Questions	3	11.5%	"The difficulty I had with the e-portfolio was that there were too many questions to answer." (R6)
Digital Literacy	2	7.7%	"As a student still struggling with the lack of technological materials, it didn't motivate me much." (R9)
Difficulty in Expressing	2	7.7%	"The most difficult part for me was finding a concise yet meaningful answer." (R14)
Procrastination	2	7.7%	"I procrastinated at first, but I managed to solve the questions and learned from it." (R25)
No Difficulties	6	23.1%	"It was easy; I didn't face any difficulties." (R4)

While the results of the previous questions showed that all respondents had a positive attitude on e-portfolios and found them valuable, they also experienced some difficulties. The most common theme for difficulties was remembering what happened during the class (30%) since they were expected to do these reflections as homework. Other difficulties include Technical Issues (19.2%), Laziness (15.4%), the reflective model they followed including too many questions (11.5%), lack of motivation due being technologically illiterate (7.7%), procrastination (7.7%). It is worth noting that 23% of respondents did not encounter any difficulties or challenges during the process and that many of the respondents were able to overcome some of these challenges as their work progressed.

The results for this research question show that 100% of the respondents exhibited positive attitudes towards e-portfolios, showing the different benefits they perceive in using e-portfolios as a reflective tool. These benefits include personal growth,

enjoyment, freedom and comfort with using technology, which corroborate the results of the quantitative part of this research where the respondents expressed that they enjoyed making their e-portfolios and found them to be valuable for reflective practice.

Conclusions and recommendations

This study explored the attitudes of Algerian students of English concerning the use of e-portfolios as reflective tools. The research aimed to identify the perceived benefits and challenges encountered during the process. The results revealed that the majority of students showed positive attitudes towards e-portfolios, recognizing them as valuable tools for reflective practice. Students appreciated the creative freedom and opportunities for personal growth provided by e-portfolios, which facilitated their reflection on the learning journey within a comfortable and familiar digital environment.

Findings.

The participants expressed enthusiasm for creating e-portfolios and utilizing them for critical reflection. E-portfolios were perceived as empowering tools that facilitated expression and encouraged a deeper understanding of personal growth and achievements in a digital format. The positive feedback supported the viability of incorporating e-portfolios in the Algerian educational setting.

Challenges Encountered.

While the participants received workshops on both the technical and reflective sides of the e-portfolio, some still faced challenges related to technological literacy and adhering to the reflective model assigned to them. These challenges underscore the necessity for additional support and guidance in maximizing the benefits of e-portfolios. One promising approach is to group students based on their technological expertise during workshops, allowing for targeted assistance to address individual challenges. Moreover, maintaining communication with students through platforms like Facebook groups or Zoom meetings can provide valuable scaffolding to enhance the e-portfolio experience and overcome difficulties.

Adapting Reflective Models.

To optimize the reflective process, it is recommended that the reflective model be adapted to meet the unique needs of each student. Granting students the autonomy to select the questions they wish to address fosters a more personalized and meaningful reflection experience. This tailored approach may enhance engagement and the overall effectiveness of e-portfolios for reflective practice.

Implications.

The study's findings suggest that integrating e-portfolios into the educational landscape for reflective practice among Algerian students can be accomplished with relative ease. The positive outcomes reveal the potential for seamless implementation, provided necessary support mechanisms are put in place in order to address technical and reflective challenges that may arise during the process.

In conclusion, this study highlights the value of e-portfolios as reflective tools for enhancing the educational experience for Algerian students. By recognizing the benefits and addressing potential challenges, Algerian practitioners can effectively harness the potential of e-portfolios to promote reflective learning and personal growth among students.

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