

## E-PORTFOLIOS AS AN ASSESSMENT TOOL IN ESP ONLINE LEARNING

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### **Abstract**

The use of electronic portfolios as an effective tool for formative assessment enables students to track their own learning experiences, thus enhancing their engagement, motivation and autonomy. The present data-driven research is based on quantitative and qualitative data on the implementation of e-portfolios in the English for Specific Purposes classes at the University of National and World Economy in the online learning during the COVID-19 pandemic. An overview of the recent literature related to the use of e-portfolios is provided and the benefits and challenges of implementing an e-portfolio assessment tool using the application Microsoft Class Notebook for the purposes of assessment for learning are presented. Student participants in the study developed e-portfolios, providing reflection on their learning, supported with artefacts, collected in the process of acquiring skills and competences. A survey and interviews among students of economics in the experimental group were carried out at the end of the academic year in order to evaluate the efficacy of the e-portfolio assessment tool.

*Keywords: portfolio, electronic portfolio, formative assessment, ESP, online classes*

The crisis with COVID-19 changed the way we teach and learn. Teachers had to get used to digital platforms which made it possible for us to stay connected. Some of them decided to teach their students in real time (synchronous) via meetings on digital platforms or resort to asynchronous teaching and learning via Moodle or e-mail.

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However, when it was time for online assessment and final exams, instructors started considering alternatives to the traditional proctored exams. Those alternatives included e-portfolios – student-selected portfolios of their best or representative work done during the semester.

Since the beginning of the 21<sup>st</sup> century when educational technology advanced, there has been growing interest in e-learning tools enhancing teaching, learning and assessment. The majority of university students nowadays take the use of Information and communications technology (ICT) in their studies for granted. The electronic portfolio (e-portfolio) is an alternative assessment tool which is growing in popularity in higher education institutions around the globe. It is a tool for enhancing learners' engagement and motivation to improve their learning experience. The e-portfolio is of great benefit to modern teaching, learning and assessment models as it enables students to see the “big picture” of their learning and teachers to assess students' progress holistically. Its implementation in the English for Specific Purposes (ESP) undergraduate course seeks to improve formative assessment and encourage students to become independent learners. The present study aims to explore its potential to promote the learner-centred environment where students take responsibility for their learning. It will also contribute to the research done in this area by exploring ESP undergraduates' experience with a pilot e-portfolio project, the benefits and challenges of its implementation and make suggestions for its further improvement.

### Literature review

Since the 1990s when its development as an alternative to the traditional practices in formative assessment started, the portfolio as an effective learning and/or assessment tool has been the focus of a myriad of research studies.

The portfolio is a collection of artifacts selected by learners as evidence of the process of acquiring knowledge and skills. As defined in the early 1990s, “*A portfolio is a*

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*purposeful collection of student work that exhibits the student's efforts, progress, and achievements in one or more areas. The collection must include student participation in selecting contents, the criteria for selection, the criteria for judging merit, and evidence of student reflection*" (Paulson & al. 1991: 60–63). The portfolio can be used for different purposes, including formative and summative assessment. It has a dual identity as a process and product of learning as it aims to support the learning process through formative assessment and to collect evidence for summative assessment. Portfolio development involves a range of processes, such as planning, sharing, discussion, feedback, reflection which can be as important as the final product (Gray L. 2008: 6). Therefore, learners' engagement with the management of their learning is enhanced through the portfolio tool (Hartnell-Young & al. 2007). Furthermore, the portfolio is believed to contribute to reducing plagiarism (Dalziel 2008).

In the 1990s the traditional paper-based portfolio evolved to an e-portfolio, its digital version. One of the most common definitions of the electronic portfolio is "*a digital container capable of storing visual and auditory content including text, images, video and sound. EPs may also be software tools not only because they organize content but also because they are designed to support a variety of pedagogical processes and assessment purposes*" (Abrami and Barrett 2005).

The electronic portfolio (also known as: e-portfolio, eportfolio, digital portfolio, webfolio, online portfolio, e-folio, or eFolio) has many advantages over the traditional paper-based portfolio. First of all, the contents of the e-portfolio can include multimedia products for the benefit of the learning process. The e-portfolio also provides the opportunity for quick access, sharing and facilitated communication, consultation and feedback from the teacher or peers.

The processes involved in the construction of an e-portfolio are the main focus in many research papers. The e-portfolio shows the connection between the different learning activities, the contribution of each

element to improving the acquisition of knowledge and skills and the path that learners take to achieve the learning objectives. As an added value, learners acquire technical skills during the construction of their e-portfolios, which give them a competitive advantage in the labour market.

The main advantages of the e-portfolio tool can be summarized as follows:

- It strengthens self-study and raises students' engagement, motivation and autonomy.
- It gives students the opportunity to reflect on their own strengths and weaknesses.
- It is an innovative way of demonstrating students' progress through multimedia products – audio, video, text, images, etc.
- Students receive quick feedback, marking their achievements and identifying gaps in the knowledge to act on.
- Students have the opportunity to update its contents.
- It allows students to involve not only teachers but also peers and external audiences by sharing their learning experiences.
- Students own their e-portfolios – a space where they can experiment, customize it and share with others.
- There are also disadvantages, related to e-portfolio use, which have been summed up below.
- It requires both students and teachers to invest time and may be perceived as an additional unnecessary burden.
- Students may need support in developing their technical skills.
- E-portfolios fall into three main categories: showcase, assessment, and learning e-portfolios.
- Showcase e-portfolios, also called professional or career e-portfolios, are used to show the students' best evidence of learning.

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- Assessment e-portfolios provide teachers with artifacts of students' work, helping them to measure students' progress.
- Learning e-portfolios, also called formative/reflection/development e-portfolios, show the work in progress and support the learning process.

In 2017 the e-portfolio was added as the eleventh High Impact Educational Practice (HIP). The term “high-impact educational practices”, an umbrella term for educationally effective activities with highly positive benefits for students, was coined by George Kuh and initially there were 10 HIPs. The e-portfolio was added to them as it contributes to increased student engagement, provides a holistic picture of students' achievements, enhances the authentic assessment of learning and even “...some consider ePortfolio to be a meta-HIP connecting and enhancing the influence of other HIPs on desired outcomes (Eynon & Gambino 2017; Hubert, Pickavance, & Hyberger 2015; Kahn 2014)” (Kuh et al. 2018).

Reflection plays a central role in e-portfolio pedagogy. Kimball argues that ongoing reflective practice is essential and without it portfolios are simple record-keeping. “*Portfolios encourage students to reconsider and narrativize their learning experience by engaging in what Yancey (1998) calls “reflection-in-action”— a reiterative process of looking back to previous performance and looking forward to goals — and by writing reflective accounts of their learning (p. 13)*” (Kimball 2005).

Feedback, in the broad sense, is any information provided to learners after they have completed a task. According to Narciss, feedback in instructional contexts is “...all postresponse information that is provided to a learner to inform the learner on his or her actual state of learning or performance” (Narciss 2008).

Interest in self-assessment and peer assessment, which are also considered alternative types of assessment, has been growing. According to Brown and Lee, the advantages of self- and peer-assessment are numerous, including “*speed, direct involvement of students, the encouragement of autonomy, and increased motivation*

*because of self-involvement in the process of learning*” (Brown, Lee 2015: 531).

There have been many scientific discussions that challenge the validity and reliability of e-portfolio, but most studies prove the connection of the portfolio usage with the students’ enhanced commitment and achievements.

In Bulgarian higher education, e-portfolio implementation and research have mainly focused on professional portfolios. The Pedagogical Portfolio for Foreign Language Teacher-Trainees, developed by an international team of foreign language teaching experts at New Bulgarian University (NBU), has been used not just at NBU but in the wider professional community in Bulgaria for over 10 years (Dimitrova-Gjuzeleva 2016). Some faculties at Sofia University “St. Kliment Ohridski” have been using e-portfolios (Kremenska 2017), and the Technical University in Sofia has also been developing an e-portfolio project (Shoikova 2008).

As for schools, in 2012 Bulgaria joined the EU Classroom ePortfolios project (EUfolio), aiming to test innovative e-portfolio models in secondary schools across Europe.

### **The pilot e-portfolio experiment**

The e-portfolio project conducted in the ESP course at the University of National and World Economy (UNWE) aims to provide a more organized way for students to study and meet the learning objectives, and the opportunity to showcase their achievements. It also seeks to explore the possibilities for increasing students’ motivation, autonomy and acquisition of knowledge and competences through the implementation of an electronic portfolio as a tool for formative assessment.

The pilot study was conducted during the spring semester of the academic year 2020–2021 and is a partial testing of a model for formative assessment through an e-portfolio.

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The procedures for integrating the e-portfolios into the ESP course are summarized below:

1. A pre-test is administered in the experimental and control groups in order to measure the participants' entry level.

2. Class Notebook is set up and clear guidelines for the e-portfolio-based assessment are given.

3. Course materials for the purposes of formative assessment are developed/adapted.

4. A schedule for the assignments is established, with instructions and deadlines.

5. The teacher monitors the students' progress, provides feedback and the students respond to it.

6. The students are required to select 6 assignments which represent their achievements and provide self- and peer assessment on them.

7. A post-test is administered with the same components as the pre-test.

8. The students are surveyed about their learning experiences and outcomes and interviews are held with a representative group.

The e-portfolio model presented in this article includes the type of assignments that are traditionally used by the ESP teachers in the training of students of economics at UNWE. They are designed for formative assessment during the four semesters of study in specialized language courses and include the following set of assignments:

1. Tests – texts for listening, reading comprehension, Use of English, vocabulary quizzes.

2. Business correspondence – different types, such as letter, e-mail, proposal, report.

3. Summary of articles from Bulgarian into English.

4. Summary of articles from English into English.

5. Presentations – oral presentations on current issues.

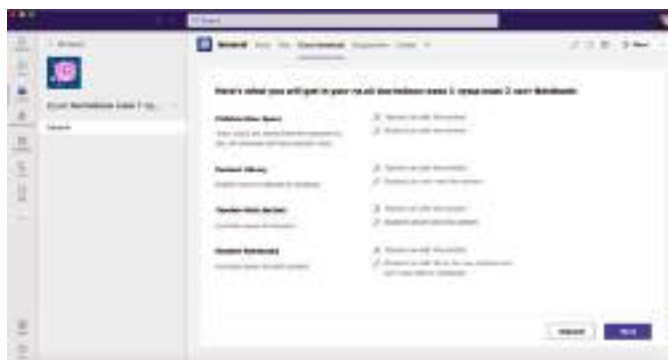
There are many applications for creating an e-portfolio, such as Google Sites, Microsoft Class Notebook, Microsoft Sway, Exabis E-Portfolio in Moodle, Edmodo, Evernote, Seesaw, Weebly, Bulb, Dropbox, etc.

Microsoft Teams, the platform on which the University of National and World Economy has been

conducting online teaching and learning for 3 semesters since the lockdown on 13<sup>th</sup> March, 2020, offers several options to choose from. After considering the pros and cons of the applications, we opted for MS Class Notebook app because it provides an easy way to create and manage e-portfolios and also because of its good view on a computer, tablet or phone. It enables students to document their work and reflect on it, to upload a variety of materials and share them with teachers and peers in common projects via a link or invitation. A very important feature of the Class Notebook is that it can be accessed when users are offline and the contents are synchronized automatically once they are online. Nevertheless, the teacher gave the students a second option for creating their e-portfolios, using the Microsoft application Sway.

The e-portfolio module consists of the following sections:

- Welcome Section – containing the e-portfolio description and guidelines
- Collaboration Space – used for class discussions and announcements
- Content Library – course learning materials, resources for self-study, assignments are stored there, and a sample e-portfolio as a template to guide students in developing their e-portfolios
- Teacher Only Section – invisible for the students



**Figure 1.** The e-portfolio sections in MS Class Notebook on Microsoft Teams platform



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The students' sections are divided into My Goals (Figure 2), Class Notes (Figure 3) and My Work (Figure 4). The latter contains students' completed assignments, feedback from the teacher and peers, self-assessment and reflection.



**Figure 2.** EG's goals in the section My Goals



**Figure 3.** A student's Class Notes section



**Figure 4.** A student's My Work section

The teacher monitored the students' process of acquiring knowledge and skills, which gave the teacher a basis for formative assessment of the students included in the experiment.

At the end of the course before the final test, the students in the experimental group were asked to select 6 of the assignments in their e-portfolio which represented their best work and reflect on them as well as the final outcomes. Upon completion, the teacher and each student discussed their choice and reflection on an individual basis.

### Results from the pilot experiment

The implementation of an e-portfolio model for formative assessment aims to study the possibilities for enhancing students' language knowledge and skills, autonomy and motivation in the ESP online classes as a result of the use of alternative assessment tools.

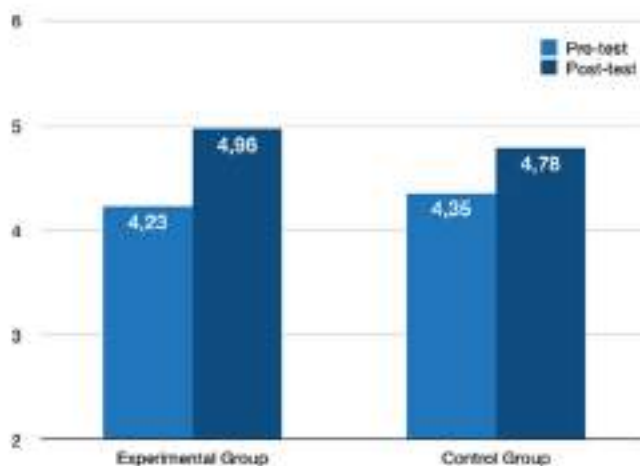
Findings from the pre- and post-tests, a survey and interviews show that the impact of the e-portfolio usage as part of the formative assessment on the students' level of motivation, autonomy and knowledge and skills acquisition is positive.

The evaluation of the effectiveness of the e-portfolio usage by criteria of language knowledge and skills requires comparison of the results at the beginning and

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end of the pilot stage of the study. In order to analyze the acquisition of ESP knowledge and skills, the results of the pre- and post-tests in the experimental and control groups were analyzed.

Figure 5 presents the average grades of the students from the experimental and control groups in the pre-test conducted at the beginning of the spring semester and the post-test at the end of it.



**Figure 5.** Results from the pre-test and post-test

Based on the pre- and post-tests, which reflect the students' ESP knowledge and skills, the following conclusions can be drawn:

- As a result of the implementation of e-portfolios as part of the formative assessment in the ESP online classes for students of economics, improvement of 0.73, equal to 17%, is reported for the experimental group. In comparison, the control group registers improvement of 0.43, equal to 9%.
- The relatively better results of the students from the experimental group with an average grade of 4.96 in the post-test show the efficiency of the implementation of the e-portfolio.
- The students in the control group, in which the alternative approach to formative assessment

through e-portfolios has not been applied, have higher results of an average 4.35 in the pre-test but their results in the post-test (summative assessment) are lower than those in the experimental group.

- In addition, it was found that the post-test results are not influenced by attendance rates, as the students in both groups had attended the lectures regularly.

The survey of the students' attitudes consists of 12 questions related to formative assessment and e-portfolio effectiveness, using the Likert scale. A total of 19 students, out of 20, responded to it. The results show a definite approval of the e-portfolio tool as 18 students responded with Strongly agree and Agree, whereas the question related to the challenges received 16 responses of Strongly disagree and Disagree (Figure 6).



**Figure 6.** Students' attitudes to the e-portfolio tool

The rest of the questions concern the assignments for formative assessment, the teacher and peer feedback, and students' satisfaction with the learning outcomes.

On the basis of the interviews conducted with 4 students from the experimental group and the e-portfolio entries, we can conclude that the e-portfolio had a

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significant contribution to stimulating reflective practice and enhancing the learning process, as shown below.

- The e-portfolio tool encourages students to become more engaged with learning and assessment because they realise the strengths and weaknesses in their own performance. The evidence of the completed assignments during the semester boosts their confidence and autonomy. Some of the feedback from the interviews and e-portfolio entries includes the following:

“You can easily track your progress and the parts you need to work harder on.”

“...we can determine the areas we need to put more effort into perfecting. Many of the exercises in our programme are helpful but can be optimized if progress is followed. After creating this portfolio I have also realized what I have to work on in the future.”

“It shows us what we’ve worked on for the whole academic semester.”

“It is nice to have all your assignments in one place and not change 3-4 other platforms for one subject only. I believe that the e-portfolio is beneficial for both parties and facilitates the process of studying.”

- The e-portfolio provides students with the opportunity to develop 21st century skills such as critical thinking, creative thinking, as well as analyzing their own knowledge and skills, which leads to increased confidence and satisfaction levels.

*“The e-portfolio could be a new chapter not only for me but for the whole education system. The top analysts claim for a change in high school and university old way of teaching because the students lose their creativity. This digital tool offers freedom and aims to boost the left part of our brain – the ability and wish to be an artist.”*

*“I think so far this is one of my best listening exercises. I still have to learn more synonyms in order to achieve better and stable results.”*

*“This job was interesting to me and made me believe that I can do well and catch up with others if I put enough effort. It boosts my ambitions.”*

*“I think I’m good at summarizing, but I think I still have to work on grammar and of course learn new words.”*

*“This was the most difficult task and I was very nervous, but for the first time I think I did well. It was a challenge. I definitely need to watch more movies in English and read or listen to more books, as well as practise it to be more confident in conversations.”*

- The e-portfolio model makes students realize that the timely teacher feedback, self-/peer feedback and reflection significantly enhance their learning process.

*“I strongly believe that peer-assessment in the e-portfolio can also increase the overall scores we receive and is one of the most essential parts for learning more effectively.”*

*“Direct feedback we received during our course from our professor has also been in favor of our correct assessment.”*

*“In my opinion self-assessment in this form can be beneficial in the learning process.”*

*“Great for reflection. You get feedback from both your peers and teachers.”*

- Students are aware of the e-portfolio advantages, including the use of multimedia, easy access, organization, time management, sharing with external audiences, portability, content management, contribution to the development of their digital competence.

*“The digital approach is the best way to make a connection with the modern generation. We like to see content virtually that is dynamic, and full of illustrations. It is a result of our growth in the world of technology. For example, I can prove the effect of e-portfolio with my marks, because before this powerful tool my performance*

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*in the English course was nearly 4.70 and it significantly improved.”*

*“For me, it is a wonderful experience because I like to learn with images, colors and to share my visually interesting and diverse in arguments work. When people from another university saw my e-portfolio, they immediately congrats me on my ability to go deeper into the topic and to create a new way for them to see it. On one hand for them, it was like see the university through my eyes. On another for me, it was honour to hear their feedback.”*

*“The best part is that you have all of your work in one place – it`s easily accessible and organized.”*

*“You can always carry it with you because of its portability.”*

*“For me, the E-portfolio was a new method for collecting educational materials and the reason to find its advantages was the English course at UNWE and to be concrete – my English teacher.”*

*“Now everything is going digital and it was a change for me to manage my all online papers for university, to create tasks in the Internet space in order to have easy access to them from everywhere, to share my work with peers. An E-portfolio is a milestone for all these issues.”*

*“For example, now when I want to study, I just open the Microsoft app – OneNote and everything is there or linked in the files there. That saves me a lot of time, therefore I will never go back to word documents full of different content and no clear structure, how and where to find the next article.”*

*“Technologies really play a vital role in our life and according to a specialist in the field, this trend will continue. Therefore, it is easy to explain why we should implement them in the education system in order to contribute to the development of our students.”*

- The disadvantages of the e-portfolio are mainly related to technical issues, such as system failure and loss of content, transmission of computer

viruses, uncertainty whether the assignment has been submitted, etc.

*“The platform can crash and the students can lose their work.”*

*“The e-portfolio can transmit viruses.”*

*“The most challenging aspect might be the technical aspect. However, with the whole Covid-19 situation, I believe those problems can be solved with no effort.”*

## Conclusion

The e-portfolio implementation in the ESP online classes for students of economics has a great potential to enhance students' learning. It captures various aspects of students' learning experience and provides ample opportunities for students to interact with the teacher and peers. The students receive feedback with constructive comments from the teacher and their peers about their work, thus improving their communication skills. It also helps the teacher to monitor the acquisition of the learning material and to make decisions for further learning activities and assignments. To optimize the results of the e-portfolio use, significant improvements can be made in the future by preparing or adapting a larger set of learning materials and assigning diverse tasks that require interaction, such as project work, which enhance student motivation and develop their functional communicative competence (Stefanova 2019). It is also advisable to promote the use of e-portfolios more widely within the university.

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