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REEVALUATING ASSESSMENT PRACTICES IN HIGHER EDUCATION: IMPLEMENTING PROFESSIONAL ENGLISH DIGITAL PORTFOLIOS FOR FIRST – YEAR DATA ANALYSIS STUDENTS

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Traditional methods of semester-based knowledge assessment in higher education institutions, predominantly relying on written tests and oral presentations, primarily evaluate the outcomes of students’ work during the semester while often overlooking the process of learning itself. This approach may limit opportunities for students to engage in meaningful reflection on their academic progress throughout the term. This study ***explores*** *the implementation of digital portfolios (DPs) as an alternative assessment method* ***aimed*** *at fostering continuous learning, self-analysis, and personal growth among first-year students specializing in Data Analysis. The paper* ***synthesizes*** *and* ***examines*** *the features of incorporating DPs into practical sessions of professional English course for future analysts, employing the constructivist principle. This approach not only* ***enhances*** *students’ language competence through engaging and relevant materials but also* ***improves*** *their technical skills essential for data analysis tasks. By using DPs, students document their learning journey throughout the semester, enabling instructors to provide both formative and summative analytical feedback. This feedback mechanism fosters students’ self-awareness regarding their proficiency in specific topics and identifies problematic areas requiring further attention and adjustment. Encouraging undergraduates to engage in self-analysis and critical thinking, DPs align the learning objectives of specialized courses with the goals of the practical English language curriculum. The findings of this study*

Переосмислення практик оцінювання у вищій освіті: впровадження цифрових портфоліо з професійної англійської для студентів-першокурсників зі спеціальності «аналітика даних» (Англійською)

demonstrate *that DPs are a valuable tool in higher education, enhancing the evaluation of project-based work among first-year students, promoting lifelong learning skills, fostering engagement in creative tasks, and offering a more comprehensive approach to analyzing academic performance during the semester. Moreover, DPs provide instructors with detailed insights into students' knowledge levels, supporting the development of key skills essential for both academic success and career planning.*

Keywords: *digital portfolio, self – assessment, professional English, critical thinking, reflection.*

ПЕРЕОСМИСЛЕННЯ ПРАКТИК ОЦІНЮВАННЯ У ВИЩІЙ ОСВІТІ: ВПРОВАДЖЕННЯ ЦИФРОВИХ ПОРТФОЛІО З ПРОФЕСІЙНОЇ АНГЛІЙСЬКОЇ ДЛЯ СТУДЕНТІВ-ПЕРШОКУРСНИКІВ ЗІ СПЕЦІАЛЬНОСТІ «АНАЛІТИКА ДАНИХ»

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Традиційні методи семестрового контролю знань студентів у вищих навчальних закладах, що переважно базуються на письмових тестах та усних презентаціях, здебільшого оцінюють результати їх роботи впродовж семестру, залишаючи поза увагою сам процес навчальної діяльності. Такий підхід може обмежувати можливості студентів щодо осмисленої рефлексії свого прогресу протягом семестру. Ця стаття присвячена впровадженню цифрових портфоліо (ЦП) як альтернативного методу оцінювання, спрямованого на постійне навчання, самоаналіз та особистісне зростання першокурсників зі спеціальності «Аналітика даних». У цій роботі узагальнені й проаналізовані особливості впровадження ЦП на практичних заняттях з професійної англійської мови для майбутніх аналітиків із врахуванням принципу конструктивізму. Такий підхід не лише сприяє розвитку мовної компетентності студентів з використанням цікавого для них матеріалу, але й вдосконалює їх технічні навички, необхідні для роботи з даними. Завдяки використанню ЦП студенти документують свій навчальний шлях протягом усього семестру. Це дозволяє викладачеві здійснювати як формувальне, так і підсумкове аналітичне зворотнє оцінювання, що, безсумнівно, сприяє самоусвідомленню

студентами рівня знань з певних тем та дозволяє їм визначити проблемні види навчальної діяльності, які потребують коригування. Заохочуючи бакалаврів до самоаналізу та критичного мислення, ЦП дозволяє узгоджувати навчальні цілі зі спеціальних предметів з цілями практичного курсу англійської мови. Результати нашої роботи свідчать, що ЦП є цінним інструментом у вищій освіті, оскільки вдосконалюють практику оцінювання проектної роботи першокурсників, сприяючи розвитку їх навички навчатися впродовж життя, залученню до творчих завдань і більш комплексному підходу до аналізу їх навчальної діяльності впродовж семестру. Крім того, ЦП надають викладачеві детальну інформацію щодо рівня знань студентів, підтримуючи формування ключових навичок, що сприяють як академічному успіху, так і готовності до планування майбутньої кар'єри.

Ключові слова: *цифрове портфоліо, самооцінка, англійська мова професійного спрямування, критичне мислення, рефлексія.*

Introduction

Assessment practices in higher education have traditionally relied on written reports and oral presentations to evaluate students' knowledge and competencies. While these methods effectively measure learning outcomes, they often overlook the importance of the processes that contribute to students' growth and development. Such an outcome-focused approach can hinder meaningful self-reflection and limit opportunities for students to understand their progress and areas for improvement comprehensively. In the context of linguistic education, portfolio-based assessments have historically emerged as a tool to foster self-targeted learning, enabling students to document their achievements when performing tasks. At a more theoretical and conceptual level, researchers such as *Helen Barrett* have simplified the landscape by suggesting different e-portfolios for different purposes. On the one hand, we should develop a personalized “portfolio as a story”, and on the other hand, to address assessment needs, we should develop a standardized “portfolio as a test” [Barrett & Carney 2005, Barrett & Wilkerson 2004]. A researcher *Darren Cambridge* studied simplistic approaches to e-portfolios, advocating for a synthesis of personalized and standardized models. He highlights their potential to balance authenticity, professional competence, and institutional needs, fostering lifelong learning by integrating identity, evidence, and participation across diverse contexts [Cambridge 2010]. An investigator *David Little* advocates for digital portfolios as a means to foster learners’ autonomy and reflection. He emphasizes their role in documenting language learning progress and aligning with the *Common European Framework of Reference for Languages (CEFR)* [Little 2016]. *David Little* views digital portfolios as both a record of achievement and a tool for ongoing self-assessment, encouraging learners to take ownership of their linguistic development. Each of these scholars

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appreciates digital portfolios as dynamic tools for reflection in English language teaching and learning, though their emphases vary depending on their specific research and pedagogical priorities. Anyhow, despite some research in the area of a proven potential to encourage continuous learning and critical self-assessment, their application within the Practical Course of Professional English (PCPE), particularly for data analysis students, remains underexplored. Our PCPE, which bridges linguistic skills with domain-specific knowledge, presents unique opportunities to integrate innovative assessment practices that cater to both language development and professional skill building. This study *investigates* the implementation of Digital Portfolios (DPs) as an alternative assessment method within the PCPE for Future Data Analysts. By aligning assessment practices with constructivist principles, DPs *aim* to emphasize continuous learning, self-reflection, and personal growth. Students use DPs to document their learning journeys, providing a structured framework for formative and summative feedback that supports enhanced self-awareness and a clearer understanding of individual strengths and developmental needs. The *purpose* of this research is to evaluate how DPs can transform assessment practices by prioritizing process-oriented learning and fostering skills critical to both academic and professional success. The study has the following *objectives*: to explore the historical context and relevance of portfolio-based assessments in higher education, with a focus on linguistic education; to describe the methodology of integrating DPs into the curriculum of a PCPE tailored for first-year data analysis students; to assess the impact of DPs on students' language proficiency, technical competencies, and self-reflective abilities. By combining language development with technical training, this study *aims* to demonstrate the value of DPs as a holistic assessment tool. It contributes to the advancement of higher education practices by enhancing students' lifelong learning skills, fostering creativity, and preparing them for success in both academic settings and future professional endeavors.

Methodology

Portfolio-based assessment (PBA) emerged in the late 20th century as an alternative to traditional testing in higher education, driven by progressive education theories emphasizing holistic, student-centered learning. In linguistic education, its adoption paralleled shifts toward communicative and task-based approaches, prioritizing real-world language use and critical thinking over rote memorization. PBA allows students to document their linguistic skills through diverse artifacts such as essays, translations, multimedia projects, and reflective journals. This approach supports comprehensive evaluation, highlighting students' ability to use language

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authentically in various contexts. By fostering reflection and self-assessment, PBA promotes the learner's autonomy, a key objective in language acquisition. Portfolios align well with global trends in linguistic education, emphasizing intercultural competence and multilingual proficiency. For instance, in Certified Online International Learning (COIL) modules, portfolios document collaborative, intercultural experiences in teams, highlighting students' adaptability and global awareness within the discipline. However, implementing PBA poses challenges, including time-intensive design and evaluation, grading subjectivity, and ensuring digital accessibility. Despite these hurdles, its benefits in tracking longitudinal progress, fostering creativity, and aligning with 21st-century skills make PBA increasingly relevant. In linguistic education, portfolio assessments not only measure language proficiency but also nurture critical thinking, intercultural communication, and reflective practice, aligning with modern educational goals. Let us describe the digital portfolio cycle at the PCPE within the paradigm of constructivism that we implement in PCPE for Data Analysis undergraduates. We have identified four primary stages in the portfolio development process: ***Initiation, Development, Application, and Evaluation and Reflection.*** These stages help enhance both linguistic competence and technical proficiency within the study's framework. Together, they form a well-structured learning pathway that blends opportunities for independent exploration with guided educational support. Each stage follows a strict chronological sequence and aligns closely with students' individual interests and preferences in Data Analysis. The process begins with the *Initiation Stage*, which typically marks the start of the semester. In this stage, students receive detailed guidelines outlining the portfolio's structure, along with examples of case studies, targeted language activities, resource lists, and performance expectations for success [Tomas M., 2013]. As a semester-long independent task, students choose an article from authentic English-language sources that resonates with their interests in Data Analysis. They then progress systematically through the course materials, addressing all aspects of professional English language skills. During the second Development Stage, students actively document their learning journey through a structured approach. Learners engage in tasks designed to evaluate their comprehensive language skills at B1-B2 proficiency levels, with a focus on key areas such as Reading, Use of English, Grammar, Writing, and Listening [Ring & Ramirez 2009]. Key activities include revising grammar rules, writing reflective summaries of completed assignments, and compiling domain-specific vocabulary glossaries. These tasks ensure a deliberate and integrated approach to language acquisition, effectively

bridging linguistic and technical domains. Ultimately, this stage equips students to deliver a final oral presentation based on a digital poster synthesizing their semester's work. Let us introduce a categorized grouping of the tasks along with additional activities for each case. *Reading Case Tasks:* 1. Identify the main argument: summarize the article in 150 words, highlighting its key points, including the central argument, supporting reasons, and conclusion. 2. Vocabulary Analysis: select 10 new words or phrases, define them, and construct original sentences with them. 3. Critical Thinking: identify three advantages and three disadvantages of a topic based on your article. 4. Fact-Checking: verify one historical or legal fact from the article using online research and cite the source. *Use of English Case Tasks:* 1. Question Formation: create five types of questions related to the article. 2. Paraphrasing: rewrite two key paragraphs in your own words, demonstrating comprehension through synonym replacement. 3. Fill-in-the-Gaps: complete sentences with appropriate words or phrases. 4. Collocations and Phrasal Verbs: identify five examples from the text and create sentences for each. *Grammar Case Tasks*: 1. Conditionals: create five sentences with conditionals using the content of the article. 2. Passive Voice: write two sentences for each passive form (present simple, past simple, future simple, present perfect, past perfect, future perfect) based on the article. 3. Reported Speech: convert reasons to the main argument from the article into reported speech. 4. Modal Verbs: write five sentences using modal verbs (must, might, should, have to, ought to) to convey certainty, possibility, or suggestions. *Listening Case Tasks*: 1. Video Summary: find a video related to the topic of the article, summarize its key points in 150 words. 2. Writing Notes: record three main ideas, two surprising facts, and one question after listening to the video. 3. True or False: create five true and five false statements based on the video content. 4. Identifying Emphasis: find and write three sentences where the speaker emphasizes a key point and explain their significance. These tasks stimulate the systematic development of learners' linguistic and analytical skills, integrating reflective and practical activities that prepare them for academic and professional contexts. The third *Application Stage* emphasizes development of students' skills in creating and presenting visuals during practical English language classes. At this stage, learners engage in analyzing real-world datasets related to the topics of their selected articles and videos, providing both contextual relevance and opportunities for practical application. Creating such visuals as graphs and charts helps students develop their both technological tools and communication literacy to express complex ideas succinctly and effectively. [Warschauer 2007]. Students learn to

develop visual and verbal clarity, essential for presenting data-driven insights. Here is the example of a chart *(Image 1)* we use to teach students how to describe visuals. *Task: A. Answer the questions: 1. What is being measured and how? (E.g., Is the information in millions or as a percentage?) 2. Is there a time element to the information? (If yes, what is the gap between each year shown?) 3. Are two or more things being compared? (What are they?) Task: B. This description of the graph contains seven mistakes. Find the mistakes and correct them: The graph shows the increases in traffic in England from 1960 to 2010. During this time, the traffic increased by just over 150 % while train traffic increased by 40 percent, bicycle traffic increased by approximately 20 % and other public transport traffic actually decreased by about 20 %.*

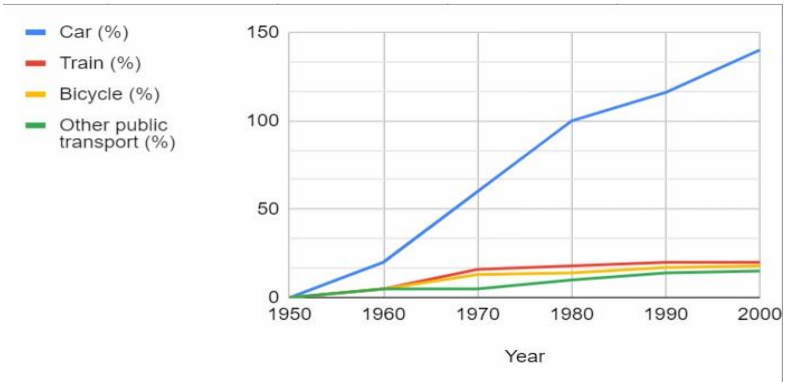

Image 1. Traffic growth in England since 1950

After practicing graph creation and description, students create a digital poster that visually synthesizes the key points from their article and video. To enhance clarity and actively engage their peers, they incorporate a variety of visual elements such as charts, graphs, images, idioms, collocations, proverbs, and puzzles. In a concise interactive 5-minute poster presentation, learners explain the primary issues and key findings of the article and video, sharing their insights with clarity and confidence. This process strengthens public speaking skills, reinforces vocabulary usage, and cultivates the ability to articulate technical concepts using clear and precise language suited to academic or professional contexts. Finally, the *Evaluation and Reflection Stage*, predominantly held at the end of the semester, emphasizes summative assessment and self-reflection. Students submit their completed portfolios for evaluation, accompanied by a reflective essay analyzing their learning journey and outcomes. This essay encourages them to identify strengths, acknowledge areas for improvement, and outline future learning goals. Normally, we conduct peer reviews and formative feedback sessions after each stage, allowing

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students to refine their work and benefit from collaborative learning opportunities. This DP cycle, rooted in the *paradigm of constructivism*, undoubtedly, underscores the learner's ability to acquire and develop their knowledge individually and independently. Such an approach emphasizes two primary levels of productivity: independent and instructional. Integrating constructivist principles into the DP cycle has proven their effectiveness in organizing independent work for first-year Data Analysis undergraduates who study PCPE. By incorporating collaborative and reflective tasks aligned with professional contexts, the DP cycle promotes active knowledge acquisition, critical thinking, and self-directed learning. DPs have a multifaceted impact on students' *language proficiency, technical competencies and self-reflective abilities*. *Language Proficiency:* by integrating reflective writing, oral presentations, and collaborative tasks into DPs, students enhance their academic and professional communication with their peers. Documenting project outcomes requires precise technical descriptions and clear articulation of insights, fostering discipline-specific language use. Peer reviews and instructor feedback further support linguistic improvement. *Technical Competencies:* DPs encourage students to consolidate and present technical skills acquired during the course. Projects like data cleaning, visualization, and analysis are documented systematically, displaying undergraduates' technical growth. Regular portfolio updates help students practice and refine core skills, bridging theoretical learning with real-world applications. *Self-Reflective Abilities:* a core feature of DPs is their emphasis on metacognition. Students are encouraged to reflect on their learning experiences, identifying challenges and strategies for improvement. This process not only deepens understanding but also fosters a growth mindset. Overall, DPs provide a structured platform for integrating language, technical, and reflective skills. They transform learning into an active, iterative process, equipping students with the essential tools for academic and professional success in data analysis and beyond. DP serves as a bridge between education and employment by fostering skills relevant to both academic success and professional readiness. Within the context of this study, DPs are designed to develop essential competencies, including critical thinking, problem-solving, and technical communication, which are integral for data analysts. Through targeted tasks, students create a DP that displays their ability to articulate complex ideas in professional English, analyze datasets, and present findings effectively. DP also provides a platform for students to highlight soft skills, such as leadership, responsibility and adaptability, which are highly valued in the workplace. Development initiatives, such as peer reviews and workshops with guest business

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experts are integrated into the curriculum to reinforce the students' soft skills and prepare them for real-world challenges. We also should highlight the role of *mentorship* as a key component of the DP implementation process. English teachers guide students in creating professional problem-solving tasks that align with their interests and the practical requirements of data analysis [Cordingley 2007]. This mentorship-driven approach not only enhances students' engagement but also encourages them to explore new topics within the course, enabling them to develop confidence in applying their language skills to professional scenarios. The implementation of DPs has demonstrated significant improvements in students' linguistic and professional competencies. Formative assessments allowed us to provide continuous feedback, fostering a deeper understanding of language use in technical contexts. Summative assessments have ensured that students could effectively highlight their abilities in comprehensive, real-world scenarios [Gikandi, Morrow & Davis 2011]. The mentorship approach enhances student engagement, expressing their increased motivation to learn English within the most interesting for them contexts directly connected to their professional goals. Such a structured DP cycle offers a unique framework for skill development, enabling students to align their learning with industry requirements. Overall, this study highlights the value of DPs as an innovative assessment tool that bridges the gap between academic learning and professional application, ultimately preparing students for success in both their studies and future careers. Speaking about the *impact of DPs on learning and professional readiness*, we performed a research in which 105 students took part. We evaluated the effects of DPs on engagement, skill development, and confidence. *Results* showed that 83 % of students felt more engaged with course material due to the reflective nature of DPs. 79 % of undergraduates improved the development of their skills like critical thinking and problem solving, as we could understand from their written in DP reflection. About 80 % of undergraduates indicated that they increased the level of self – confidence, identifying their readiness to apply their skills in professional settings. We also may admit that DPs have provided valuable insights into student progress, enabling 75 % of them to offer more tailored feedback. These findings highlight DP as a transformative tool, fostering deeper learning and better preparation for professional challenges.

Conclusion

This study underscores the transformative potential of Digital Portfolios (DPs) as an assessment tool in higher education, particularly within linguistic and technical education for first-year data analysis students. By integrating reflective practices and

constructivist principles, DPs provide a structured framework that enhances students' language proficiency, technical competencies, and self-reflective abilities. The DP cycle, comprising initiation, development, application, and evaluation stages, effectively bridges the gap between theoretical knowledge and practical application. Through tasks such as reflective journals, data-driven projects, and technical report presentations, students develop critical skills essential for academic and professional success. Integrating mentorship and collaborative activities further reinforces engagement, self-awareness, and adaptability. Research findings validate the effectiveness of DPs, with 83 % of students reporting increased engagement and 79 % demonstrating improved critical thinking and problem-solving skills. Additionally, 80 % of students expressed greater confidence in applying their skills in professional settings. Ultimately, DPs emerge as a holistic assessment tool that aligns with modern educational goals, fostering lifelong learning and preparing students for industry demands. By bridging academic learning with professional readiness, this innovative approach highlights the evolving role of assessment in equipping students for success in their studies and future careers.

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