

A Study on the Digital Portfolios Based on Learning-Oriented Assessment in Enhancing Language Education: Theoretical Construction and Teachers' Responses

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Abstract

In the quest for educational innovation, this study examines the strategic role of digital portfolios in language education, which is crucial for fostering autonomy and enhancing achievements. Within the learning-oriented assessment (LOA) framework, the integration of digital portfolios is found to align summative and formative assessments, providing a comprehensive view of linguistic and pedagogical development. Despite challenges, the transformative potential of these tools is evident, suggesting that with careful refinement, they can significantly advance language education. The study advocates for nuanced evaluative frameworks and pedagogical feedback mechanisms to optimize their utility.

Keywords: Digital portfolio, learning-oriented assessment, English language teaching

1. Introduction

Integrating digital portfolios in language education has emerged as a transformative approach to enhance student engagement and foster autonomous learning. This study delves into the theoretical underpinnings and practical applications of learning-oriented digital portfolios (LOA), exploring their strategic role in the educational landscape. With a qualitative lens, the research examines the experiences and perceptions of educators as they navigate the complexities of digital portfolio implementation. The study's findings underscore the developmental, interactive, and dynamic nature of digital portfolios, which serve as a pivotal tool for personalizing the learning experience, promoting reflection, and boosting student engagement. Moreover, the challenges identified in the implementation process highlight the need for strategic refinements to optimize the educational benefits of digital portfolio assessment.

In reflecting on the study's outcomes, it is evident that while the digital portfolio model presents notable challenges, particulars of student evaluation competence and the need for timely teacher feedback, its transformative potential is undeniable. The strategic refinements proposed, such as enhancing students' self-assessment abilities and clarifying the purpose of reflective journals, are crucial for realizing the full educational potential of digital portfolios in language teaching. This study advocates for a nuanced evaluative framework and the deliberate implementation of digital portfolios to cultivate a new generation of proficient and self-regulated language learners.

2. Key Concepts

2.1 Notion of a learning-oriented digital portfolio

LOA is based on three principles that highlight the learning process and illustrate the interaction between summative and formative assessment functions [1]. However, to further enhance the concept of LOA, integrating it with electronic portfolios and promoting student autonomy is essential to address issues related to passive and test-oriented learning. Despite the ongoing debate on alternative forms of assessment to enhance learning, there is limited empirical evidence available, particularly in promoting ethical citizens in EFL settings,

to determine the validity and effectiveness of these arguments. Consequently, there is a growing need for more empirical research to delve into the rationale and impact of alternative assessments, and developing learning-oriented digital portfolios is one of the efforts.

The digital portfolio is an interactive platform that documents a student's educational journey, including assignments, projects, and reflective journals. It's not just a record-keeper but a space for self-assessment and reflection, fostering dialogue and feedback exchange between students and educators. The digital portfolio adapts to individual learning paths, supporting the creation of a portfolio for academic or professional use. It also promotes a collaborative environment, making learning materials accessible and organized, and serving as a tool for competency display and educational enhancement.

Recent scholarly work has shed light on the significance of the digital portfolio in education. The role of reflection in enhancing student learning within digital portfolios [2]. They discuss how these platforms can be leveraged for deeper learning outcomes in their study. Previous research shows a comprehensive review of digital portfolios and their capacity to support deep learning [3]. Additionally, the impact of digital portfolios on student engagement and learning outcomes has been explored [4]. These studies highlight the digital portfolio as a pivotal tool in education, capable of personalizing the learning experience, fostering reflection, and boosting student engagement.

2.2 Elements of the learning-oriented digital portfolio

The digital portfolio is a multifaceted educational tool that integrates three key components: summative, formative, and self-assessment. Summative assessment within the digital portfolio measures students' current learning outcomes through standardized tests, offering a clear view of their academic achievements at specific intervals [5]. Formative assessment focuses on the learning process, providing immediate feedback to identify deficiencies and affirm effective learning strategies, which is essential for ongoing educational development [6]. Self-assessment is pivotal in fostering autonomy, encouraging students to employ metacognitive strategies and take charge of their learning journey [7]. This component is crucial as it prepares students for lifelong learning, emphasizing the importance of self-evaluation and peer assessment as integral to the learning experience [8]. Different from both summative and formative evaluation which both concentrate on the present, self-assessment equips students for future learning, prompting them to actively reflect on the possible gap between their understanding and evaluation outcomes. This process help students identify their strengths and weaknesses, and make informed adjustments for immediate and future educational planning.

2.3 Process of using the learning-oriented digital portfolio

The digital portfolio assessment process, shown in Figure 1 below, begins with the establishment of criteria that are aligned with students' learning objectives. Teachers design these criteria flexibly, adjusting to the curriculum and student's needs, and ensure that students are involved in this process to internalize the assessment criteria as part of their self-regulated learning [9].

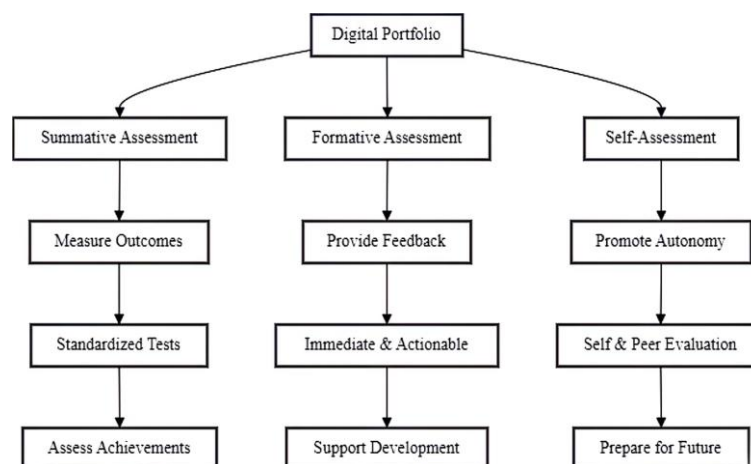


Figure 1 The procedure of digital portfolio assessment

Following the criteria establishment, teachers move to collect comprehensive and usable assessment information through various activities. This step is crucial for teachers to judge students' learning performance and is significant in providing effective feedback. Traditional assessment methods, while valid, may lack reliability due to external factors such as test anxiety. Therefore, a digital portfolio encourages the use of diverse assessment methods to gain a holistic understanding of each student's learning status, facilitating the creation of personalized teaching plans [10]. In addition, timely feedback is essential in the digital portfolio process. Teachers must analyze collected information and provide specific, evaluative feedback to guide students in understanding their performance and areas for improvement. This feedback should be prompt to maintain student engagement and offer clear directions for student effort [11].

3. Objectives

This study is intended to explore the intricacies of learning-oriented digital portfolio assessment within an English as a foreign language context. The research questions that guide this investigation are as follows:

- What is the theoretical framework of learning-oriented digital portfolio assessment?
- How do teachers perceive the theoretical framework of the learning-oriented digital portfolio assessment?

The first question seeks to elucidate the theoretical foundations that support the use of digital portfolios as an assessment tool aimed at enhancing learning. It will examine how these theories influence the creation and evaluation of portfolios and their impact on educational outcomes. The second question explores how teachers view and apply the theoretical framework of digital portfolio assessment in their teaching practices. It aims to investigate the congruence between theory and practice, the challenges for teachers, and the perceived advantages and constraints of employing digital portfolios in assessment.

By systematically exploring these questions, the study aims to contribute to knowledge on EFL pedagogy, particularly in the realm of digital assessment tools and their potential to enhance both language skills and citizenship development.

4. Methods

4.1 Research context and participants

This study introduced a digital portfolio in three EFL courses at a college. The courses included goal setting, portfolio training, and a combination of written summaries, reading assessments, reflective journals, and a final exam with choice questions, focusing on developing English reading proficiency and values. Participants are the three English teachers with distinct profiles shown in Table 1 below. The first is a young, 28-year-old educator with a master's degree, passionate about integrating technology into teaching. The second is a 55-year-old veteran with a bachelor's degree and a senior teacher certification, known for their traditional teaching methods. Lastly, there's a 42-year-old teacher with a PhD., who brings an international perspective to their instruction. The research aims to explore the impact of their varied teaching styles and experiences on students' English language learning.

Table 1 Profiles of participating teachers

Teacher Profile	Age	Degree	Teaching Style
Young Educator	28	Master's	Computer-assisted Methods
Veteran Teacher	55	Bachelor's	Traditional Methods
International Teacher	42	PhD.	International Perspective

4.2 Instruments

The method employed in this study is designed to address the twofold research questions concerning the digital portfolio assessment. The study is grounded in a qualitative research paradigm, which allows for an in-depth exploration of the phenomena under investigation. The primary data collection tools utilized in this research are semi-structured interviews and reflective teacher journals. Semi-structured interviews provide a flexible yet focused approach to gathering in-depth insights from educators regarding their perceptions and experiences with digital portfolios. These interviews are designed to elicit detailed responses concerning the key characteristics and principles of digital portfolios, as well as their application in classroom settings. Reflective teacher journals serve as a complementary data source, offering a personal account of teachers' day-to-day experiences and reflections on using digital portfolios in their teaching practices.

4.3 Data analysis methods

The qualitative data will be analyzed using a combination of thematic analysis and content analysis. Thematic analysis will identify and explore patterns and themes within the data, providing a detailed understanding of the educators' views on digital portfolio's characteristics, principles, and classroom application. Content analysis will systematically examine the text for recurring concepts, allowing for the identification of common issues and challenges in adopting digital portfolios.

5. Results

5.1 Establishing theoretical framework

Data succinctly encapsulate the essence of the digital portfolio assessment in Figure 2 below, with subsequent sections elaborating on its multifaceted components and strategic implications for educational advancement.

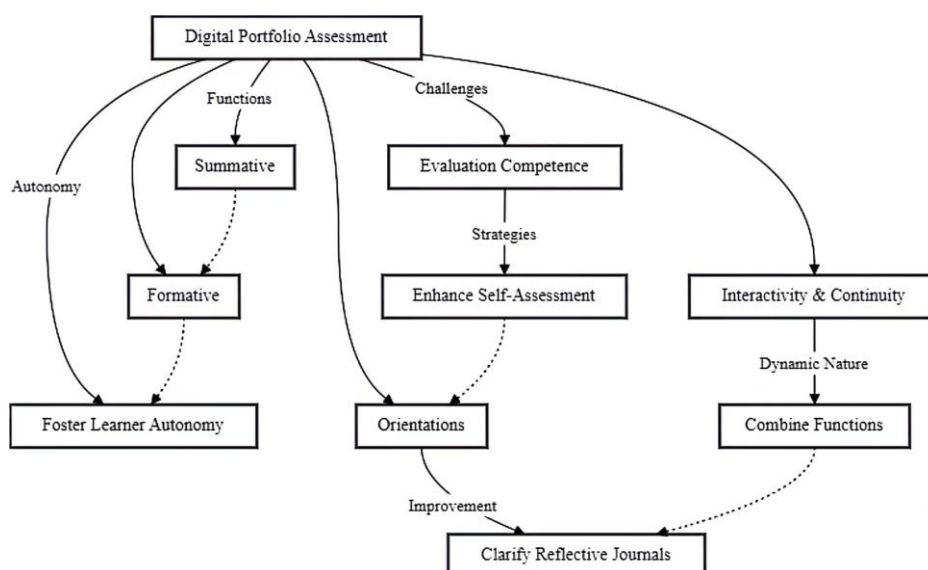


Figure 2 Theoretical framework of digital portfolio assessment

5.1.1 Principles

The principles of the digital portfolio assessment, as articulated through teacher interviews and teacher journals, are essential for its effective educational integration. These principles ensure that assessment is aligned with learning objectives and processes.

5.1.1.1 Digital portfolio assessment tasks as learning events

Teachers' interviews demonstrate that assessment tasks should be an integral part of the learning process. This principle is essential for validating and ensuring the reliability of the evaluation process. These interviews reveal that students should be clear about the assessment objectives to ensure transparency and a direct connection to their learning goals.

The use of digital portfolios has transformed the assessment into a comprehensive learning event, encompassing the product, process, and autonomy of learning. This approach delineates three distinct yet interconnected functions of assessment: summative, formative, and autonomous.

The summative function certifies the outcomes of current learning, typically through standardized tests. By incorporating reflection on learning achievements, the summative function becomes an integral part of instructions, enriching the educational experience through metacognitive reflection [12]. The formative function is intrinsically linked to the learning process, enhancing current learning by focusing on process-oriented learning. It involves systematic analysis and constructive feedback on students' strengths and weaknesses [13].

Furthermore, the autonomous function is instrumental in fostering learner autonomy through the emphasis on using metacognitive strategies during the learning process. This function is not only parallel to the goal of fostering autonomous learning but also lays the foundation for lifelong learning [14].

From the perspective of learners' roles, the new Learning Orientation Approach (LOA) positively influences the evolution of learner roles. It facilitates a transition from passive to active learning, ultimately empowering learners as autonomous agents in their educational trajectory.

5.1.1.2 Active student engagement in digital portfolio

According to teacher interviews, students should have actively participated in the assessment process, rather than passively receiving the teacher's judgment on their learning outcomes. When the digital portfolio is integrated throughout the learning process, it fosters deep learning and encourages a profound engagement with the material, leading to a deeper understanding and retention of knowledge.

5.1.1.3 Feedback for continuous learning is of significance.

Teacher journals indicate that sustainable and effective feedback during the assessment process is vital. Teachers can utilize data gathered from peer and self-assessments, student learning journals, and other reflective practices to track and observe student progress. This enables the timely provision of personalized learning plans that respect individual differences and encourage independent and deep learning.

5.1.2 Identifying features

The digital portfolio assessment is characterized by several distinctive features, as reflected in the insights gained from teacher interviews and teacher journals.

5.1.2.1 Developmental nature of the digital portfolio

Teacher interviews reveal that the developmental nature of digital portfolios is designed to foster students' ability to learn and to promote their holistic development. From the determination of assessment goals to the selection of content, collection of information, and utilization of results, the entire process is geared towards leveraging evaluation to enhance student learning. Teachers utilize assessment information to assist students in adjusting their learning strategies, enabling them to become adept learners. Furthermore, the digital portfolio acknowledges that each student has different characteristics and developmental needs. Evaluation activities are not limited to academic performance but also cater to the student's strengths, laying a solid foundation for lifelong learning and development.

5.1.2.2 Interactivity in digital portfolio

Teacher journals highlight the interactivity of digital portfolios, characterized by ample communication and collaboration between teachers and students. This interactivity shows equal dignity between teachers and students. Teachers and students share the right to assessment, with teachers no longer holding sole control and students passively awaiting judgment. Evaluation occurs through interactions among teachers, students, and within the student community. Peer evaluation methods enhance interpersonal communication among students, encouraging active participation in the evaluation process. Additionally, self-evaluation allows students to engage in dialogue, monitoring, and managing their learning to identify deficiencies and improve.

5.1.2.3 Continuity in digital portfolio

Teacher interviews reflect on the continuity of digital portfolios, which means a focus on the entire teaching process rather than being a one-time event. Traditional summative assessments are often conducted at the end of learning, separating teaching from evaluation and failing to promote student learning. In contrast, a digital portfolio is integrated throughout the learning process, allowing for ongoing assessment and reflection on learning. Teachers can provide varied feedback based on students' learning conditions and devise appropriate evaluation strategies, while also using evaluation activities to verify the effectiveness of teaching practices. Students, in turn, can reflect on their progress towards set learning goals, adjust their learning methods, and through a cycle of learning and feedback, continually close the gap between their achievements and objectives, thereby advancing their learning.

5.1.2.4 Dynamic nature in a digital portfolio

According to teacher journals, the dynamic nature of digital portfolios encompasses three essential functions: summative, formative, and autonomous. digital portfolio should not be confined to a single fixed evaluation function but should be a dynamic model that combines various functions. The formative function is deemed most critical, with the autonomous function as the ultimate goal. The initial mode may be summative or formative, but the trajectory should be towards autonomous assessment. This direction signifies an evaluation aimed at enhancing learning. Conversely, a shift from autonomous to summative assessment could result in an evaluation aimed at testing, potentially leading to the failure of the digital portfolio model. The three functions should work in concert to more comprehensively reflect the deficiencies and challenges in learning.

5.1.2.5 Orientations of digital portfolio

Teacher interviews indicate that the formative function is paramount, with the autonomous function as the end goal. The initial mode of the digital portfolio can be either summative or formative but should evolve towards autonomous assessment. This progression represents a learning orientation, while the reverse direction could lead to certification-oriented assessment. Thus, the digital portfolio can be either a specific assessment or a dynamic process moving towards autonomous learning.

5.2 Teachers' perceptions

5.2.1 Practical challenges and their analysis

The employment of digital portfolio assessment in educational practices has surfaced several challenges, as delineated through teacher interviews and reflections in their journals.

5.2.1.1 Limited student evaluation competence in digital portfolio

Teacher interviews indicate that while teachers have consciously begun to delegate evaluative responsibilities to students during English oral communication classes, the actual distribution of evaluative authority remains skewed towards the teacher. Despite this, the shift towards student-centered evaluation represents progress. English teachers frequently offer opportunities for peer assessment, particularly during class presentations, group work, and problem-solving exercises. However, self-assessment activities are significantly less common than peer evaluations. The most evident issue is the students' limited capacity to participate effectively in evaluations, often exhibiting strong subjectivity and arbitrariness, deviating from pre-established criteria, and being easily influenced by peers.

This limited capacity may result from insufficient or underemphasized teacher feedback on student errors, the inherently gradual process of language proficiency enhancement, and a dependency on teacher feedback that hinders proactive student engagement. Additionally, the new evaluation model's demand for additional out-of-class time may lead to some students' disaffection and perfunctory completion of reflective journals.

5.2.1.2 Insufficient students' understanding of reflective journals

A teacher's journal chronicles the developmental progression of students in writing reflective journals, from initial failures to eventual successes. During the initial weeks of the course, many students struggled to write effective reflective journals, often merely recording classroom performance or confusing reflective notes with

knowledge notes. Some even included personal affirmations or general university life experiences as reflection content, which were unsuccessful as they lacked depth and relevance to the course learning.

It is inferred that these students did not initially comprehend how to utilize reflective journals to facilitate learning. A successful reflective journal should demonstrate proactive learning, in-depth independent thinking, and critical reasoning about specific issues, such as affirming bold participation, addressing knowledge confusion, summarizing self-study methods for spoken language, and recording the effectiveness of self-assessment versus peer assessment.

5.2.1.3 Teachers' feedback inadequacies in digital portfolio

Teacher interviews reflect that feedback on students' overall learning situation and progress is not provided promptly enough. While oral feedback in the classroom is timely, often given immediately after questions are asked, feedback on homework and learning progress tends to be delayed, with multiple assignments being corrected in batches. This lack of timely feedback hinders students from understanding their learning status, adversely affecting their learning process.

In summary, the issues within the digital portfolio model underscore the need for a more balanced distribution of evaluative authority, enhanced student understanding of self-assessment practices, and improved timeliness of teacher feedback to ensure the model's effectiveness in fostering student learning and development.

5.2.2 Strategies for improvement

The refinement of the digital portfolio assessment model necessitates targeted strategies to address the identified issues, as suggested by teacher interviews and reflections in their journals.

5.2.2.1 Enhancing students' self-assessment and autonomous learning abilities in digital portfolio

Teachers must cultivate students' self-assessment capabilities to foster self-regulation, reflection, and accountability. Initially, learning objectives should be made explicit and broken down into manageable targets for study. Throughout this process, teachers should assist students in establishing concrete performance indicators, enabling them to analyze their learning progress effectively. Additionally, employing rubrics for self-assessment is a direct and convenient method; as students complete these, they reflect and provide teachers with insights into their learning status, aiding in making informed decisions to improve learning.

Furthermore, teachers should support students in enhancing their autonomous learning skills. Increasing feedback offered by teachers and students' peer-to-peer learning can address time management issues, utilizing exemplary reflective journals or study schedules from top students for classroom discussion and analysis. Teachers can also devise learning supervision charts that outline the approximate time required for each learning task and the learning objectives for each phase to assist students in self-monitoring. Teachers can encourage more practice and assist students in promptly finding solutions to their problems. Lastly, to address the over-reliance of some students on teachers, teachers should communicate with students promptly, offering specific advice to help them adapt to student-centred teaching and evaluation.

5.2.2.2 Clarifying the purpose and principles of reflective journals in digital portfolio

Teachers can select a successful reflective journal as a model and discuss with students the purpose and principles of reflective journals, listing specific items. In the first week of the course, through the analysis and discussion of the model journal, students can recognize that the purpose of reflective journals is to promote learning beyond superficial levels, encouraging active and thoughtful deep learning, and developing their independent thinking and critical thinking skills, thereby transitioning from passive teacher evaluation to collaborative autonomous evaluation. Students should also grasp the basic principles and content of reflective journals, such as identifying strengths and weaknesses in their learning, understanding the causes, and finding solutions to address these shortcomings. These solutions should be tested in the next learning phase, with the outcomes further analyzed and summarized in subsequent reflective journals.

In essence, the strategies for improving issues within the digital portfolio model focus on empowering students with the skills for self-assessment and autonomous learning, as well as providing clear guidance on the use and purpose of reflective journals to facilitate a deeper and more independent learning experience.

6. Discussion

This study underscores the transformative potential of learning-oriented digital portfolios in language teaching, highlighting their capacity to enhance student engagement, autonomy, and values. The findings reveal that the digital portfolio, through its multifaceted assessment components, actively promotes a shift from passive to active learning, fostering a culture of continuous improvement and self-reflection. The implementation challenges identified call for strategic refinements to ensure the full realization of the educational benefits of the digital portfolio assessment.

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