

EVALUATION OF LEARNING USING DIGITAL PORTFOLIOS: AN ANALYSIS
OF PORTFOLIOS PRODUCED BY STUDENTS IN HIGHER EDUCATION

*AVALIAÇÃO DA APRENDIZAGEM UTILIZANDO PORTFÓLIOS DIGITAIS: UMA
ANÁLISE DOS PORTFÓLIOS PRODUZIDOS POR DISCENTES NO ENSINO
SUPERIOR*

*EVALUACIÓN DEL APRENDIZAJE UTILIZANDO PORTAFOLIOS DIGITALES: UN
ANÁLISIS DE LOS PORTAFOLIOS PRODUCIDOS POR ESTUDIANTES DE LA
ENSEÑANZA SUPERIOR*



Isis Nalba Albuquerque CARDOSO¹
e-mail: isis.cardoso@jchca.ufal.br



Cleide Jane de Sá Araújo COSTA²
e-mail: cleidejanesa@gmail.com



Luis Paulo Leopoldo MERCADO³
e-mail: luispaulomercado@gmail.com

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¹ Federal University of Alagoas (UFAL), Maceió – AL – Brazil. Doctorate student in the Graduate Program in Education.

² Federal University of Alagoas (UFAL), Maceió – AL – Brazil. Professor in the Graduate Program in Education. Doctorate in Linguistics (UFAL).

³ Federal University of Alagoas (UFAL), Maceió – AL – Brazil. Professor in the Graduate Program in Education. Doctorate in Education (PUC/SP).

ABSTRACT: This article sought to understand the evaluation of learning using digital portfolios based on the analysis of portfolios produced by higher education students in a course. The portfolios were built in pairs and filled with activities proposed by the professor and with their own productions, resulting from the necessities of each student. The collected data can both contribute with reflections on the usage of digital portfolios as evaluation instruments, and also collaborate with professors who already use or intend to use them, so they do so according to the assumptions of the mediating evaluation. From the analysis of the portfolios and the students' responses after the applied questionnaire, we observed that the digital portfolios not only contributed to the professor's evaluation but also to the self-reflective process and the construction of knowledge by the students.

KEYWORDS: Digital portfolios. Evaluation. Learning. Higher Education

RESUMO: Este artigo buscou compreender a avaliação da aprendizagem com a utilização dos portfólios digitais baseado na análise de portfólios produzidos por alunos em uma disciplina no ensino superior. Os portfólios foram produzidos em dupla e alimentados com as atividades propostas pelo professor e com produções próprias, advindas das necessidades de cada aluno. Os dados levantados podem contribuir para reflexões acerca da utilização de portfólios digitais como instrumentos para avaliação e colaborar para que professores que já utilizam ou têm a intenção de utilizar, façam-na conforme os pressupostos da avaliação mediadora. A partir da análise dos portfólios e das respostas dos alunos após questionário aplicado, observamos que os portfólios digitais contribuíram não apenas para a avaliação do professor, mas também para o processo auto reflexivo e construção de conhecimento pelos alunos.

PALAVRAS-CHAVE: Portfólios digitais. Avaliação. Aprendizagem. Ensino Superior.

RESUMEN: Este artículo buscó comprender la evaluación del aprendizaje con el uso de portafolios digitales a partir del análisis de portafolios producidos por estudiantes de una disciplina en la educación superior. Los portafolios fueron elaborados en parejas, complementado con las actividades propuestas por el maestro y con las producciones propias de cada estudiante. Los datos recogidos pueden contribuir a reflexiones sobre el uso de los portafolios digitales como herramientas de evaluación y ayudar a los maestros que ya los utilizan o tienen la intención de utilizarlos, haciendo de acuerdo con los supuestos de la evaluación mediadora. A partir del análisis de los portafolios y las respuestas de los estudiantes después del cuestionario aplicado, observamos que los portafolios digitales contribuyeron no solo a la evaluación del profesor, sino también al proceso de autorreflexión y construcción de conocimiento por parte de los estudiantes.

PALABRAS CLAVE: Portafolios digitales. Evaluación. Aprendizaje. Enseñanza Superior.

Introduction

Pondering the educational practices in the current social context implies adapting them to the issues of the evolution of digital technologies of information and communication (DTIC"), especially if we consider the scenario imposed by the Covid-19 pandemic, in which higher education institutions ("HEIs") needed to adapt their practices to comply with sanitary determinations, of health preservation, which proposed social isolation. In this sense, structuring the classes, which used to be face-to-face, into an online format was crucial for the continuity of the school year, including in higher education.

Given this scenario, many teachers needed to use DTIC as strategies to provide students with access to content in digital format. Thus, digital portfolios have become a possibility for dialogue between teachers and students, besides providing assessment practices based on the use of these platforms.

Thus, this paper proposed to understand the assessment of learning with the use of digital portfolios based on the analysis of portfolios produced by students of the subject Seminars of Research with Information and Communication Technology in Education (SEMPESTIC in the Portuguese acronym) at the Federal University of Alagoas (Ufal) and also based on an online questionnaire, applied through Google Forms, for students who developed the portfolios.

The guiding question of this study was the following: from the perspective of the students of the SEMPESTIC course, did building and feeding the digital portfolio contribute to the construction of their knowledge and consequent learning? The research has a qualitative nature, according to Mattar and Ramos (2021), considering that it sought to analyze the portfolios produced and fed by the students who participated in the course.

The SEMPESTIC course was taught online from August to December 2021, due to the determinations of the Ministry of Health regarding the care provided for the pandemic context. The course was offered to regular and special students of the Master's and Doctoral programs, linked to the Graduate Program in Education (PPGE) at Ufal. On total, 20 students participated in the course.

During the course, and under the supervision of the teacher, the students were instructed to create and feed digital portfolios. The portfolios were produced in pairs and fed with the activities proposed by the teacher of the course, and also with each student's own productions.

The creation and posting in the digital portfolios were configured as evaluation criteria of the subject teacher, that is, all activities posted in the environments would be evaluated by

the teacher who, on a weekly basis, provided guidance about the activities that should be developed and published in the portfolios.

The relevance of this study lies in the possibility of its contribution for teachers to reflect about the use of digital portfolios as assessment tools, and also to collaborate so that those who already use them, or intend to use them, do so according to the assumptions of mediating assessment.

In this sense, the portfolios created were analyzed in order to investigate the productions and identify whether the students consider that, in fact, the activity of creating and feeding a portfolio has contributed to their learning in the context of the SEMPESTIC course.

The article begins by presenting a theoretical framework about learning assessment from the perspective of the mediating assessment proposal, articulated with the context of assessment in higher education and digital portfolios as assessment instruments at this educational level. Next, it presents the methodological trail, the results and discussions, and, finally, our considerations and references.

We further state that this study does not aim to present solutions, answers, or didactic strategies that fit all disciplines in diverse educational contexts. We sought, however, to contribute and guide the theme for debate, breaking paradigms regarding the evaluation and use of DTIC in higher education, providing teachers with the opportunity to reflect on new evaluation possibilities.

Learning evaluation: a look from the perspective of mediating assessment

The evaluation, more than just present between the school walls, is a constant in different moments of life. Cária and Paiva (2018) explain that evaluation is not only related to the teaching-learning process, but is part of human activity. However, when talking about evaluation, we are immediately referred to education or school.

The act of evaluating involves, as proposed by Hoffmann (2014), a range of teaching procedures, and occurs over a long period of time and in various spaces. Moreover, the author emphasizes that the evaluation must involve the subjects interactively, being subjective and multidimensional.

For Luckesi (2000, p. 7, our translation), "[...] the act of evaluating implies two articulated and inseparable processes: diagnose and decide. A decision is not possible without a diagnosis and a diagnosis, without a subsequent decision, is an aborted process".

Cunha (1999) reflects that assessment cannot be approached as an isolated element, considering that it stems from decisions made in other instances and exposes pre-defined values. In this sense, the process of evaluating student learning is configured as a broad and abstract field. Hoffmann (2014) understands that assessment cannot be restricted to the application of tests, exams or exercises, which the author calls assessment instruments, nor to report cards, sheets or reports, considered as assessment records. Therefore, the author understands that "instruments and records are part of the methodology, which, in turn, varies depending on the concept of assessment to which it is linked: classificatory conception or mediating conception" (HOFFMANN, 2014. p. 01, our translation).

About these conceptions, Garcia, Morais, Zaros and Rego (2020) corroborate Hoffmann (2014) and explain that there are two main types with regard to assessment in education, the first aimed at classification and selection (classificatory conception) and the second for the learning outcomes, i.e., the level and nature of the competence acquired, based on criteria, being diagnostic or continuous.

According to Cunha (1999), efforts were previously focused on the improvement of techniques for the development of questions and tests, however, although the techniques for the development of questions are also important, soon the scope of the problem was perceived and the eyes turned to the purpose of the assessment and not only its execution. Souza (2012) corroborates Cunha (1999) and emphasizes that assessment, beyond the proposal of classification and selection, should also consider the multiplicity of factors that contribute to provide information about the learning processes and the students' life context.

In this perspective, Hadji (2001) proposes some evaluation modalities, among them the classificatory evaluation (classifies the results at the end of the bimester/semester), the diagnostic evaluation (allows the teacher to verify what the students already know about certain content, before starting a subject or course) and the formative or continuous evaluation (time when the teacher seeks to collect data in order to improve the teaching-learning process).

Thus, Fernandes (2009, p. 93, our translation) points out that "any evaluation process must consider the learning processes and products". For the author, assessment has the function of contributing to the motivation of students so that they can learn and also understand how their progress occurs, as well as their difficulties.

Hoffmann (2014) believes that evaluation, from a mediating perspective, aims to observe, monitor, and promote learning improvements. It must follow the teacher-student track in an individual way, that is, the teacher must evaluate each student in his or her individuality,

not performing any forms of comparison and, not least, being based on ethics and respect for diversity. For the author, some principles are fundamental in this perspective of mediating evaluation, such as: the ethical principle of valuing differences that, as the name itself explains, every student has the ability to learn, each in his own way and with his own individuality; the pedagogical principle of investigative teaching action that states that it is necessary to provide opportunities for different forms of learning and the dialectical principle of temporariness and complementarity, based on the concept that learning, in a meaningful way, are permanent throughout life.

Also, under the view of Hoffmann (2014), we will highlight in this paper the assessment in its mediating aspect, considering that even if the teacher needs to exercise the function of mediator in a classroom full of students, each of them needs to be treated as unique, the relationship that the teacher must establish is individualized. In this context, the mediating evaluation process must always be unique, considering that each decision made by the teacher will directly and individually affect each student. In this vein, Hoffmann (2014, p. 2), our translation highlights that "every evaluative process is intended to: a) observe the learners one by one; b) analyze and understand their different learning strategies; c) outline pedagogical strategies that favor the improvement of their learning".

Evaluation of learning in higher education

In the context of higher education, the discussion about learning assessment, at this stage of education, needs to be greatly debated and expanded. This is what Chaves (2004, p. 2, our translation) suggests when he points out that, "as far as the Brazilian literature is concerned, there are few works that address the topic", even though the spaces devoted to higher education, such as colleges and university centers, have expanded in Brazil, the new demands of the labor market exert pressure on the training of professionals and that such training is already regulated, including in evaluation policies (CÁRIA; PAIVA, 2018).

Cária and Paiva (2018, p. 15, our translation) also emphasize that through the current scenario of works that deal with the assessment in higher education, "it is clear the need to deepen research and knowledge about the assessment theme, considering its integration in the educational process", considering that an assessment developed in an erroneous way can collaborate so that the student does not achieve their training properly interfering, thus, in their future performance in the labor market.

For Garcia (2009), it is necessary to verify what, in fact, is expected from the student of higher education, because if the objective is the development of a critical and reflective thinking, it is necessary to rethink specific aspects of the teaching-learning process, going through the restructuring of the curriculum to the assessment practices. The author also reflects on the importance of evaluation in the context of educational practices at any level of education, "this reflects the requirement of this practice in educational projects, at any level of education, as well as the complexity of the issues about evaluation" (GARCIA, 2009, p. 204, our translation).

However, Cária and Paiva (2018) counterpose, what is observed, in general, is that there is still no solidified understanding regarding the assessment of learning at the higher level, which helps in the propagation and continuity of the practice based on models in which the sense of assessing as measuring and to approve or disapprove predominates. Only "in recent years, this reality has been changed, with several practices of active methodologies, gradually changing the scenario of classrooms and assessments, with the support of technologies" (CÁRIA; PAIVA, 2018, p. 20, our translation).

Digital portfolios as evaluation tools in higher education

Digital platforms are programs, 'hosted' in cyberspace, which encompass different types of tools (PRAT, 2012) and can be resources used in education, since they make it possible to organize and manage, in a comprehensive way, contents, classes or distance learning, or even support students from the most diverse levels of education, including higher education.

For Santos, Sales, and Veloso (2022), digital platforms are configured as a composition of various elements or interfaces that provide different forms of communication and message exchanges synchronously and asynchronously. "Such possibilities can imply direct changes, neither better nor worse, but different, in the form and content of the learning relationships of the collective" (SANTOS; SALES; VELOSO, 2022, p. 4, our translation).

Santos (2014) deals with digital portfolios from the point of view of support, content and the hybridization between these two aspects, that is, the mixture between media and message. In this perspective, websites, in general, or Virtual Learning Environments (VLE) can be constituted as digital portfolios, since they can collect productions of the teacher-author, also allowing the sharing of these productions with students.

For Hernández (2000), the portfolio may include different types and classifications of documents, from personal notes, class experiences, specific works, learning control, to connections with other subjects outside school, which may provide evidence of the knowledge built by the student, the strategies used, and the willingness of the author to continue learning.

Bau (2021) understands that configuring the teaching process in digital platforms requires from the teacher, besides a method selection, the mastery of the environment and new techniques so that he/she can reach the proposed objective. However, digital platforms used in educational contexts represent "a prodigious technological event, even considering that it is not only the technology that is involved in this process" (BAU, 2021, p. 30, our translation), but also the mastery of these DTICs, considering that such competence is an important factor to the use of new ways of teaching.

Thus, we understand that digital portfolios are also digital platforms, however, focused on the organization or compilation of material from a particular area or professional. Authors such as Grace and Shores (2001), Villas-Boas (2004), and Sá-Chaves (2007) have already addressed the concept of portfolio, albeit in the traditional, 'analog' format. We understand that the conception of digital portfolios is closer to the concept proposed by Sá-Chaves (2007), considering that the author directs the portfolio as a tool that highlights, for both teacher and student, self-reflection processes, that is, through the portfolio, teachers and students construct meanings from their accumulated experience.

Baumann, Fofonca, and Carneiro (2017) emphasize that the digital portfolio, even though it needs the support of ICTs, can enable the teacher to interconnect all the components of a traditional portfolio, taking up little space and allowing easy and pleasurable access to the student. In this paradigm, Moreno-Fernandes and Moreno-Crespo (2017) understand digital portfolios as a tool that has the ability to stimulate reflection and provide information about the learning process. According to the authors, the field of education has incorporated digital portfolios as an indispensable tool in the teaching-learning process, in all educational stages.

Regarding the growth in the use of these platforms, Moreno-Fernández and Moreno-Crespo (2017) also highlight that the portfolio in digital format has been favored both by the use of online platforms for teaching and by the alternative resources that facilitate search engines such as blogs, wikis, among others. Thus, portfolios are configured by their contribution in face-to-face aspects (offline viewing) and also facilitate the sharing of information in different formats, for example.

In this sense, regarding the evaluation process, digital portfolios can contribute as instruments for the teacher to evaluate the student. As noted by Villas-Boas (2004) when he suggests the use of portfolios as an effective instrument for assessment. For the author, the portfolio can bring together the production of both students and teachers and, in its digital format, allows everyone to access it, that is, students and teachers can monitor their progress and also their difficulties in certain areas.

For Grace and Shores (2001) portfolios, when well designed, can benefit students and teachers, including in the process of learning evaluation. Gardner (1994) presents portfolios as elements of self-reflection and evaluation, pointing out that, through them, the student can learn in a more comprehensive way. Sá-Chaves (2007) corroborates Gardner (1994) and adds that the portfolio is not only an assessment tool, but also a resource that can provide dialogue between teacher and student, taking into account that it can be constantly updated and shared, providing opportunities for different points of view for students, facilitating decision making and enabling the construction of knowledge.

In this paradigm, Hernández (2000) points out that to evaluate through portfolios one must consider an evaluation that goes hand in hand with the student's learning process. Sordi (2000) emphasizes the portfolio perspective as an assessment instrument in higher education. According to the author, the portfolio can present itself as a possibility to assess student learning in higher education, given that it brings together, in a systematic way, their productions and can stimulate them to the most varied forms of expression, in various media formats (texts, videos, audios, images, among others).

Methodological path

This article sought to understand the evaluation of learning with the use of digital portfolios based on the analysis of portfolios produced by students of the SEMPESTIC course of the PPGE/Ufal. The guiding question of this study was the following: from the perspective of the students of the SEMPESTIC course, did building and feeding the digital portfolio contribute to the construction of their knowledge and consequent learning? The research has a qualitative nature through the analysis of the portfolios produced and fed by the students who participated in the course.

The course was taught between August and December 2021, online (via Google Meet), and was offered to regular and special students of the Master's and Doctoral programs, linked to the PPGE/Ufal. In all, 20 students participated in the course.

Mattar and Ramos (2021) state that qualitative research intentionally seeks to select few participants or places, which corroborates our research, in which we analyzed the digital portfolios produced by students during the SEMPESTIC course. Sampieri, Collado and Lucio (2013) consider that qualitative research is based on interpretation aimed at understanding the meaning of human beings' actions. In this perspective, we analyzed the portfolios created and fed by the students of the SEMPESTIC course, regarding their learning.

The sources for the research and data collection were the portfolios created and fed by the students participating in the SEMPESTIC course and an online questionnaire, applied through Google Forms, for the students who developed the portfolios. In all, 12 students answered the questionnaire, totaling 7 portfolios, considering that the portfolios were developed in pairs.

The online questionnaire was composed of open and multiple-choice questions. The objective of the instrument was to collect the students' opinion regarding the experience of planning, building and feeding a digital portfolio, experienced during the course. Furthermore, to investigate whether this experience collaborated, in the students' opinion, to the construction of their knowledge and consequent learning.

At the beginning of the course, the professor instructed the students to form pairs and create an online portfolio to house the selected productions and readings. In this way, all the activities and readings done by the pairs should be posted in the environment, considering that the posts and updates were weekly charged by the teacher and would be criteria for student evaluation. Thus, the teacher warned, during the first class, that the students' evaluation would be based on the construction and feeding of portfolios with the activities proposed during the course.

In this paradigm, the portfolios produced by the students were analyzed in order to investigate the productions and identify whether the students consider that, in fact, the activity of creating and feeding a portfolio contributed to their learning in the context of the subject studied.

Results and discussion

To create the digital portfolios, the students of the course used the following platforms:

Table 1 – Platforms used and link of the portfolios created by the students

Platforms used	Link to the portfolio created
Diigo	https://www.diigo.com/profile/tamaracicera
Google sites	https://sites.google.com/view/portfoliosempesqtic/
Jamboard	https://jamboard.google.com/d/163kHMRfmdAzw9Wqjwl-nLXo95vOcgEnKnK1eZu_hR3w/viewer?f=0
Pocket	https://getpocket.com/pt/my-list
Trello	https://trello.com/seminariosdespesquisaemtecnologiasdainformacaoeducacao
Pearltrees	https://www.pearltrees.com/sempesticgrupo1abordagens
Wordpres s	https://seminariodespesquisatic.wordpress.com/

Source: Prepared by the authors

We understand that all platforms used are configured as portfolios, according to Santos (2014), who emphasizes that websites, in general, or VLEs can be constituted as digital portfolios. The subject teacher suggested that each pair used a different platform, so that, in this way, more possibilities of portfolios could be explored, considering that all students should visit and, if possible, interact in the portfolios of their classmates. Each pair chose a digital platform and, based on the resources offered by the environment, built their portfolio to be evaluated by the teacher.

The portfolios began to be fed with the activities proposed by the teacher from the beginning of August 2021. Thus, the media and activities posted were as follows:

Table 2 – Content posted in portfolios

Portfolio	Content posted
Diigo	Video, article, infographics, research project map and presentation (slides), table with guidelines for DTIC research.
Google sites	Presentation (short resume) of those responsible for the portfolio, articles and research reports, infographics, research project map, table with guidelines for DTIC research, and word cloud.
Jamboard	Research project map, infographics, presentation (slides), QR code and concept map, DTIC research guidelines table.
Pocket	Table with guidelines for DTIC research, infographics, presentation (slides), research project map.
Trello	Articles, infographics, research project map, DTIC research agenda table, presentation (slides), interactive resources.

Pearltrees	Infographics, research project map, DTIC research guidelines table, articles, videos, interactive resources, presentation (slides), and mind map.
Wordpress	Infographics, research project map, links to scientific articles, table with guidelines for DTIC research, interactive resources, presentation (slides).

Source: Prepared by the authors

We observed that the portfolios shared publications of similar content such as: research project map, infographics, table with guidelines for research in DTIC and presentation (slides). Such posts composed the range of activities proposed by the subject teacher, corroborating Hernández (2000), when he states that portfolios can comprise documents or media of different types, providing evidence of the strategies used by the teacher and the knowledge built by the student. Although the teacher proposed the activities that should be posted in the portfolios, students could also add, on their own, other content or media, since the teacher did not propose any specific model to be followed.

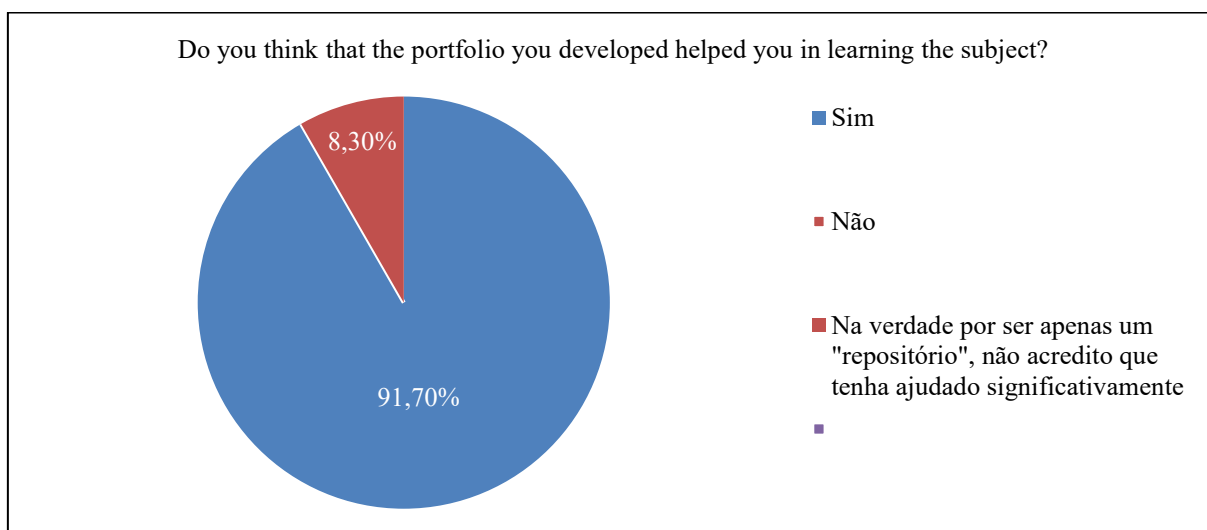
No previous training was done with the students for the use of the platforms, however, according to the answers collected through the applied questionnaire, the platforms used to create the repository were already known to 75% of the respondents and 83.3% had no difficulty in manipulating their digital platform, that is, they used the digital portfolio with ease. Only 8.3% of respondents presented some kind of difficulty and justified it as exposed in the following excerpts:

We could not post the way we would like, because only after starting to use it, we realized that there was a limit, that is, if we wanted to extend the publications, we had to pay. So we published the minimum required in the discipline (STUDENT 1).

In the beginning I had a lot of difficulty, but after I learned how to make the publications, it was much easier. But I do not consider it a very dynamic way, since to publish in Pocket it is necessary to have the file already saved in another environment, such as Google Drive (STUDENT 2).

Regarding the learning of the subject, from the students' perspective, 91.7% of the respondents consider that creating and feeding the digital portfolio contributed to their learning, as shown in Graph 1:

Graph 1 – Collaboration of the portfolio created for learning in the discipline⁴



Source: Prepared by the authors, based on the data collected from the questionnaire

Considering that, for Garcia, Morais, Zaros and Rego (2020), the assessment comprises the competence acquired by the student, we observed that the responding students feel competent regarding the learning opportunity through the use of digital portfolios in terms of the knowledge acquired during the subject studied. Moreno-Fernández and Moreno-Crespo (2017) also address the perspective that students can use the portfolio to reflect about their learning process.

Regarding the advantages or positive points in using the digital portfolio, the student respondents addressed different perspectives, among which we highlight the following:

- - Simple and intuitive way to post content;
- - Activity visualization;
- - Ease of access;
- - Operability;
- - Sharing of information in real time;
- - Ability to select;
- - Discipline for posting;
- - Coherence and cohesion of the information and content posted;
- - Free platform;
- - Good usability
- - Ease of interaction;
- - Collaborative activity among students.

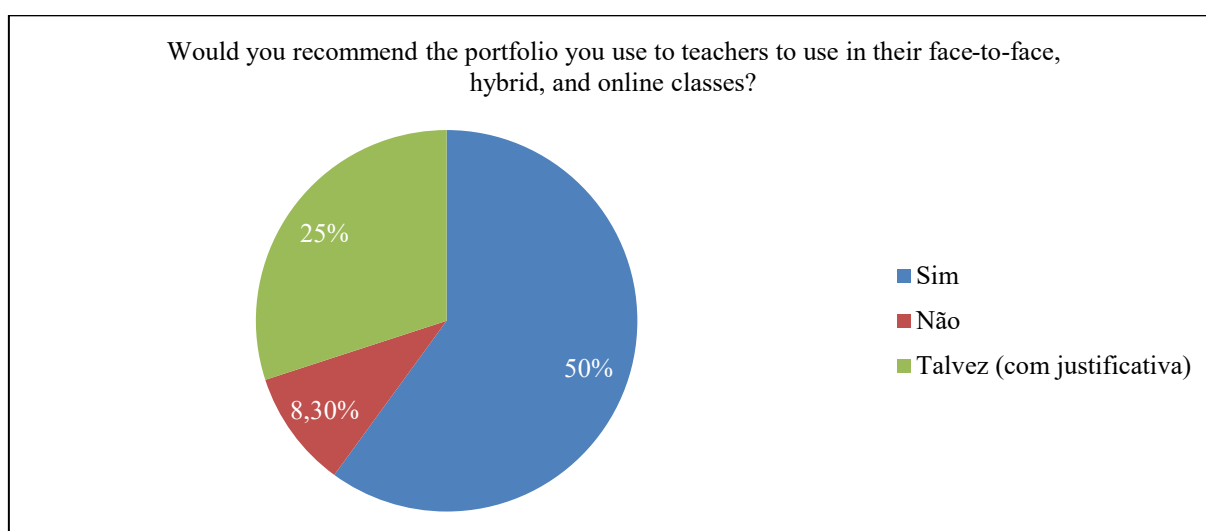
⁴ Blue: Yes; Red: No; “Actually, as a repository, I don’t think it helped me at all.”

In addition to the advantages of using digital portfolios, students also highlighted the main disadvantages of the platforms they created and powered:

- - Unattractive interface design;
- - Impossibility to include videos;
- - Limitation of the posts and the limitations of their visual field;
- - Difficulty in structuring the portfolio layout;
- - Difficulty to manage;
- - Platform not open for public viewing;

Through the experience with the use of digital portfolios, 50% of the respondents would indicate the chosen platforms to other teachers to use in their classes, whether face-to-face, online or hybrid, as shown in Graph 2:

Graph 2 – Referral of the portfolio to other teachers⁵



Source: Prepared by the authors, based on the data collected from the questionnaire

In this sense, one of the respondents justified that he could present, but with some points to be discussed:

I could present, but I would highlight the possibilities and points of attention that we find in its use, especially for being very limited in the free option. Therefore, I do not consider it as a good repository, considering that there are others more attractive and 100% free (STUDENT 3).

Thus, we can observe that portfolios can be chosen based on the criterion of use, i.e., depending on the teacher's need and the specifics of the subject, the class or even the activity

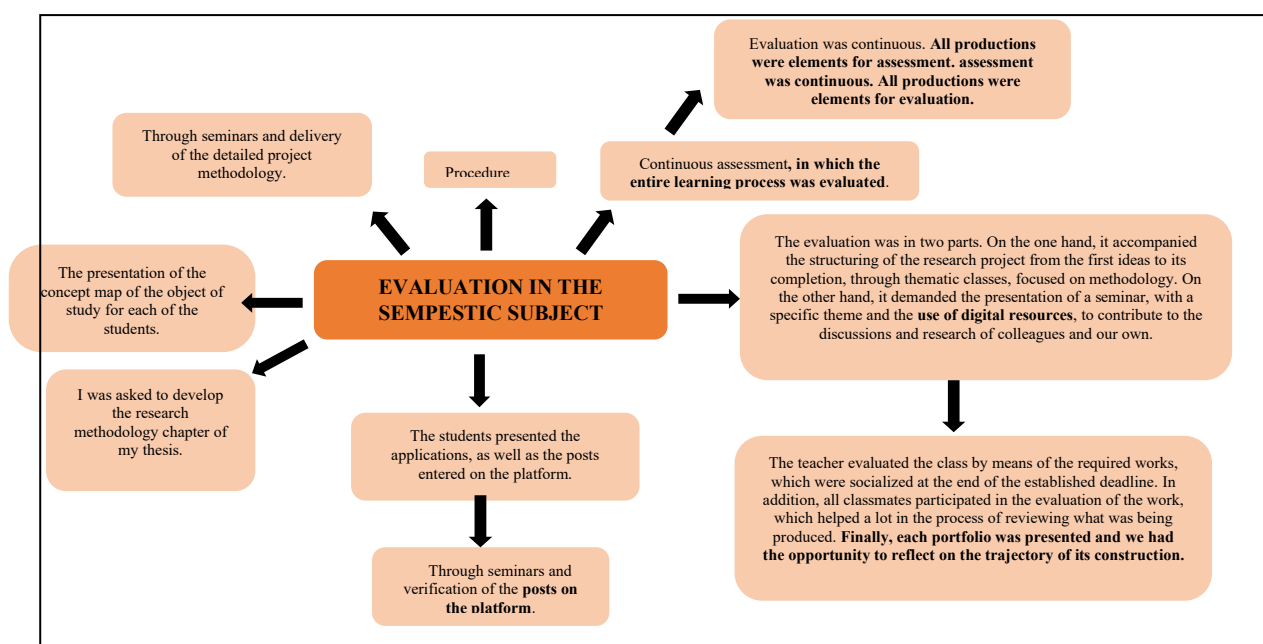
⁵ Blue: Yes; Red: No; Green: Maybe (justify).

to be developed. We also verified this perspective in the speech of another student who worked with the Trello platform and did not consider its proposal for activities in which many needed to access the environment, not even the platform as a digital portfolio.

The Trello platform is not intended for building portfolios, because its purpose is to promote an environment for project management and task organization. One of the difficulties I encountered is that the portfolio was not open for anyone to view, being necessary to insert the teacher in the work team so that he could access the content, for example (STUDENT 4).

Regarding the evaluation performed during the SEMPESTIC course, from the perspective of the responding students, the teacher used not only the portfolios as evaluation criteria, but also the activities performed and posted, the seminars presented and the research projects, as exposed in the following map:

Figure 1 – The evaluation of learning in the SEMPESTIC course from the perspective of the student respondents



Source: Prepared by the authors, based on the data collected from the questionnaire

We can observe that five of the ten responses cited, directly or indirectly, the digital portfolios as part of the student evaluation process, from their construction to the content produced for the positions made in each of them. We also observed that the students could understand that the teacher gave them the opportunity to use the digital portfolio as a space to follow their individual development and progress during the course, as pointed out by Fernandes (2009).

Final remarks

From the analysis of the digital portfolios built and fed by the students of the SEMPESTIC subject, as well as from the answers obtained through the online questionnaire applied, we highlight, in this context, the contribution of portfolios for the evaluation of the teacher of the subject, as well as for the construction of knowledge by the students, considering that the activities proposed by the teacher and posted by the students result in self-reflective and continuous processes of training and evaluation (CARVALHO; PORTO, 2005).

The act of evaluating presupposes the appreciation of differences, i.e., respect for the individuality of students, the construction of a dialogue between teacher and student and also the possibility of providing opportunities for different forms of learning (HOFFMANN, 2014), a fact that was established by the subject teacher when he proposed different activities to be performed and posted in the portfolios, from the making of infographics, research project maps, seminar presentation, to the search for articles, videos and interactive resources.

In this sense, the use of the digital portfolio by the subject teacher, in addition to other assessment strategies, corroborated the mediating assessment process, given that, according to Hoffmann (2014), such a proposal should consider observing students in their individuality, in addition to outlining pedagogical strategies that favor the different profiles of students and their various ways of learning. Moreover, the construction of the digital portfolio provided the reflection of the students of the subject about their learning.

However, we realize that the platform must be chosen with caution, so that it can adapt to the needs of the discipline and also of the student, favoring the dialogue between students and teacher, and also collaborate so that both parties handle the ICT, considering that this competence can be an important and necessary factor in higher education.

Finally, we emphasize that this work does not intend to present concrete answers or solutions for every discipline or educational context. However, we sought to contribute to the debate about the theme and break some paradigms, so that we can think of new assessment possibilities in higher education.

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