

## The impacts of eportfolios on teacher education

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**Abstract :** *This article investigates the effectiveness of the eportfolio in the professional development of preservice teachers. The portfolio has become an essential tool in the professional development of preservice teachers. We begin by presenting the main uses of the portfolio in preservice teacher training. We then cite the advantages of the electronic over the paper portfolio. Finally, we assess the effectiveness of the electronic portfolio through the perceptions of students in a teacher training program.*

The portfolio originated with artists, the idea being that they could use examples to represent the body of their work. It was first applied to the world of education in the early 1980s by professors Elbow and Belanoff (State University of New York at Stony Brook) as an alternative to standardized examinations (Bräuer, 2009), which did not enable observing either learning results or the learning process. Since then it has been used increasingly and in increasingly diverse ways by increasingly diversified users. In initial teacher training, the portfolio is viewed as the consummate professional development tool for establishing an identity as well as professional competencies and for reflecting on the practice (Bucheton, 2003; Goupil, 1998; Goupil, Petit, & Pallascio, 1998). Consequently, greater numbers of teacher trainees have been required to develop individual portfolios. Depending on the case, the portfolio can contain useful resources to apply to a course, comments by other teachers, notes on the teacher's expectations, descriptions of critical issues encountered in the classroom, troublesome student behaviors, ideas for innovative projects, and so on. In initial training, the portfolio can fulfill the three following main academic functions:

- Exposure: The education portfolio showcases the knowledge and professional competencies that the preservice teacher has acquired by presenting concrete accomplishments (Eyssautier-Bavay, 2004). Its evolutionary nature provides a picture of the learning process as well as the results, as it represents the future teacher's achievement path. This function remains useful once the initial training has been completed, for instance, during the hiring process, when it allows newly graduated students to show their potential employers how they have developed their skills.
- Assessment: In initial training, the portfolio is often associated with professional skill assessment. Because it provides access to both the process and the results (Goupil, Petit &

Pallascio, 1998), the portfolio serves as a continuous formative assessment as well as a summative assessment. Moreover, it provides instructors with an additional source of information with which to confirm or modify their verdict. Beyond the properly assessment utility, Geltner (1993) adds that the portfolio has emerged as an effective follow-up tool for instructors, as it enables the student's learning path to be described, commented on, and illustrated via a dynamic development process, including personal, academic, and professional areas. The portfolio is also a good self-assessment tool (Little, 2005), with the academic goal of developing a greater awareness of and accountability for one's professional development. In this perspective, some portfolios include self-assessment grids and coaching sheets.

- Reflection: The above-mentioned self-assessment contributes directly to the reflective function, whereby preservice teachers adopt a critical, objective approach to the ongoing development of their professional skills (Bucheton, 2003). Besides predetermined self-assessment grids, reflection on professional development can be encouraged through the regular writing down of thoughts on teaching activities (Bloom & Bacon, 1995; Eyssautier-Bavay, 2004), both academically and in practice (e.g., problems encountered in the internship, greatest successes). Further, the reflective function is encouraged because preservice teachers generally have to select the accomplishments that best represent their professional development. The portfolio therefore departs from a simple archival function when it requires the preservice teacher to choose content that meets the criteria of relevance and representativeness. In terms of reflection, therefore, the portfolio is a valuable tool to help teachers-in-training develop their capacity to reflect on their practice (Schön, 1983; Mansvelder-Longayroux, Beijaard, & Verloop, 2007).

Parallel to the growth of the portfolio in initial teacher training, technology advances have spurred teacher training programs to opt for electronic portfolios. We suggest that this greatly extends the potential of the traditional portfolio as it is used in universities. Among others, it enables:

- Greater sharing potential: Because it usually includes a comments function, the eportfolio enables greater communication between preservice teachers and other actors involved in initial training (e.g., university professors and internship supervisors), which facilitates opportunities for feedback and socialization (Goupil G., 1998). This sharing imparts to the eportfolio a social dimension that is lacking from the paper version, as it can be used as a mediation tool between interns and with other education actors. This function is important because it creates opportunities to build learning communities.<sup>1</sup> In this way, the electronic portfolio can support the co-construction of knowledge and professional identity through peer feedback (Bucheton, 2003). Indeed, peer review encourages idea discussion, stance-taking, and so on. These peer exchanges allow the development of further knowledge and the establishment of professional relationships outside the education community.
- Greater flexibility of content organization: The electronic portfolio allows a more accommodating arrangement of content, encouraging the portfolio to evolve. In

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<sup>1</sup> For a definition of the learning community, see Legendre (2005).

other words, preservice teachers can continuously adapt their portfolios as they hone their skills, adding new sections, changing others, and making corrections. In this respect, paper portfolios such as the European Language Portfolio (Little, 2005) impose limitations because they require all students to use the same format, and throughout the initial training program. However, we would assume that a teacher trainee in the first year of a primary school program and another in the fourth year of a secondary school program do not necessarily have the same needs for content organization.

- Greater flexibility for content production: Aside from flexibility of content organization, the eportfolio also provides greater flexibility of content as such. Writing on a computer lets one delete, change, copy and paste, and correct the content as desired, without affecting the readability. This electronic agility is invaluable, as it provides preservice teachers unlimited opportunities to review and enrich their productions, and to publish updated versions to show their professional development over time.
- Large storage capacity: The eportfolio usually has enough storage capacity to host a large number of texts, while remaining easy to manage. In contrast, the paper portfolio that contains a large quantity of texts becomes heavy, unmanageable, and sometimes confused. In this respect, the eportfolio is more suitable over the long term, for instance, after entering the workforce.
- Esthetic presentation: The eportfolio displays an esthetic quality in two ways that are generally missing from paper formats: (1) first, it usually includes a wide range of templates, varying in color and image, that can be used to create a profusion of different styles; and (2) as mentioned above (flexibility of content), computer writing produces uniform print legibility, for superior readability.
- Accessibility: Finally, because they can be posted on the Internet, eportfolios have the advantage of being universally accessible wherever there is an Internet connection. Nevertheless, this aspect can also be an inconvenience, as it implies a dependence on technology, unlike the paper portfolio, which is “unplugged.” That is, use of the eportfolio in initial teacher training absolutely requires computer equipment.

Although the potential of the eportfolio for the professional development of teachers is well documented in the literature, we must nonetheless ask whether it is really effective in initial teacher training. This study explores this question through the perceptions of preservice teachers of the utility of the electronic portfolio in their training program. Our research terrain is the initial teacher training program at the Université de Montréal. This program incorporates an electronic portfolio throughout the four phases of the initial training program. The tool used is Eduportfolio.org, a multilingual electronic portfolio (French, English, Spanish, Catalan, Arabic, and Greek) that provides free access and a

flexible structure, enabling specific educational content to be adapted and individual educational goals to be addressed. The objective of this study was to better understand the perceptions of preservice teachers of the electronic portfolio that they used as part of their training program. Data were collected in the fall of 2009 on students in the second, third, and fourth years of the bachelor degree in teaching program at the Université de Montréal. Data included responses to an online questionnaire (n = 402) and transcripts of individual interviews (n= +/- 8).<sup>2</sup> Data processing and analysis included a statistic analysis of scores on a Likert-type questionnaire using SPSS, a lexicological analysis of open questionnaire responses using Alceste, and a thematic analysis of the interview transcripts. Preliminary results indicate that preservice teachers perceive(or)appreciate the potential of the electronic portfolio for certain professional aspects (e.g., techno-pedagogical skills, professional visibility), but not necessarily for their professional development. This first trend is most likely connected with another: the perception that the eportfolio was not sufficiently integrated into the training curriculum to exploit its full potential.

To deepen the analysis, we compared our results with those of a recent study on the occupational therapy program at the Université de Montréal, addressing student perceptions of eportfolio integration. Data were collected in spring 2009 on students in the first and second years of the bachelor degree program in occupational therapy. Data included responses to an online questionnaire (n=181), transcripts of a group interview (n=10), and transcripts of individual interviews (n=4). Data processing and analysis were performed using a mixed methodology, with a statistical analysis of Likert-style scores on the questionnaire, a lexicological analysis of open questionnaire responses, and a thematic analysis of the interview transcripts.

It appeared relevant to compare the two programs, for the following reasons: (1) similar methodology was used in the two studies; (2) similar tools were used in the two training programs; and (3) the two programs used different methods to integrate the eportfolio, as summarized in Table 1. This allowed us to compare the results of the two studies in terms of the methods used to integrate the eportfolio, and to suggest some conditions for effective integration of the eportfolio into a university curriculum.

**Table 1: Eportfolio integration methods in the occupational therapy and teacher training programs at the Université de Montréal**

<b>Eportfolio integration method</b>	<b>Occupational therapy program</b>	<b>Teacher training program</b>
<b>Academic value of the eportfolio</b>	1 credit per year	Included in the global internship assessment (pass or fail)
<b>Eportfolio use duration</b>	Throughout the academic year for the three years of the program	During internships under the four-year training program
<b>Eportfolio structure</b>	By skill areas	By skill areas
<b>Tool used</b>	Eduportfolio	Eduportfolio
<b>Support for eportfolio use</b>	Students paired with a practicing occupational therapist	Coaching sheet

<sup>2</sup> Individual interviews were being held as this paper was being prepared.

Based on this comparison, we recommend some approaches to integrating the electronic portfolio into initial teacher training so as to provide more effective support for the professional development of preservice teachers. Particular recommendations are instructor coaching, academic credit for the eportfolio, providing usage guidelines, and greater integration of the eportfolio into initial teacher training curriculums.

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