

Development and Use of Electronic Portfolios in Preservice Education

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Abstract: This paper is a report on the development process and use of electronic portfolios in the teacher education program at Valdosta State University. Students entering the program begin the process of developing electronic portfolios in an introduction to education course. As they progress through their teacher preparation programs, students add narratives and artifacts to their portfolios to demonstrate and document their knowledge, skills, and dispositions within the undergraduate framework. The development of these portfolios is considered a continually evolving process. As preservice teachers move from the preservice teacher level to the student teaching level and on to the inservice teacher level, the goal is for these teachers to continue to demonstrate progress throughout their professional careers, through these or other portfolios.

Use of Portfolios

A professional portfolio is a collection of artifacts, evidence, and reflections documenting what one knows and is able to do in a professional field. The use of professional portfolios has become increasingly popular in the field of education, becoming a method for creating avenues for reflection and documentation of personal and professional growth and development for both preservice and inservice teachers. Teacher education programs are now considering portfolio development as a valuable process for documenting teaching performance (Costantino & De Lorenzo, 2002). According to Campbell, Cignetti, Melenzyer, Nettles, and Wyman (1997), portfolios are organized, goal-driven, and may be used to document professional growth and teaching competencies. The development of portfolios helps preservice teachers set goals for learning and review goals periodically throughout their teacher preparation programs.

Portfolios may also serve as an instrument for gaining a better understanding of preservice teachers' abilities by examining artifacts (tangible evidence of knowledge gained and skills mastered) they have chosen to use to document what they know and are able to do. Through portfolio documentation, different dimensions of a preservice teacher's preparation program may be elaborated to provide indicators of progress that can be measured. National, state or district standards may be used as a guide for deciding on the areas of assessment. As students near the completion of their teacher preparation programs, the portfolio becomes a tool for them to market themselves to potential employers. After graduation, the portfolio helps novice and veteran teachers

continue in their professional growth as educators (Campbell et al., 1997). Lyons (1999) purported the process of developing portfolios helps beginning teachers articulate their teaching philosophy and develop their teaching techniques. Van Wagenen and Hibbard (1998) determined that inservice teachers, through the portfolio construction process, developed many effective strategies for studying student work and discovered important connections between teaching and learning. Similarly, Danielson (1996) stated teachers could use portfolios as a method for self-reflection and analysis, as a process to support mentoring and coaching relationships, and to strengthen a resume.

Electronic Portfolios

Similar to a paper-based professional portfolio model, an electronic portfolio is a carefully selected collection of exemplary artifacts that allows demonstration of one's best work and accomplishments. Electronic portfolios in a teacher education program provide an efficient method for displaying preservice teachers' work that meets high standards and documents growth throughout the program (Costantino & De Lorenzo, 2002). Electronic portfolios may exhibit benchmark performance measures for preservice teachers by allowing for the evaluation of the effectiveness of teaching strategies. Preservice teachers may also use artifacts that are similar in nature to show their progress towards meeting the standards of their programs. Electronic portfolios have several other advantages. Unlike using paper-based portfolios, the use of electronic portfolios is a multimedia approach that allows preservice teachers to present teaching, learning, and reflective artifacts in a variety of formats, such as graphics, audio and video, and text (Costantino & De Lorenzo, 2002). Artifacts may be easily inserted as a file, scanned, or uploaded to the portfolio. Also, electronic portfolios are easily accessible, can store multiple media, and are easy to update.

Using electronic portfolios also allows for cross-referencing of artifacts. The creation of meaningful links between all artifacts is possible, therefore documenting a preservice teacher's achieved competence in teaching at the end of his or her teacher preparation program. Ongoing documentation in the electronic portfolio contains the preservice teacher's best work and gives a portrait of his or her professional competence that can be built upon in the inservice field. According to McKinney (1998), teachers who demonstrate their competence in technology through the development of an electronic portfolio are more likely to incorporate technology into their own classrooms. Similarly, Goldsby and Fazal (2000) indicated student teachers must learn to effectively use technology in their preparation program because teachers with little or no experience with technology are less likely to incorporate its use in their classrooms.

Portfolio Development in Preservice Education

Portfolio development in the teacher education program at Valdosta State University (VSU) began as a pilot program in fall 1997. Using a paper-based model, students enrolled in the introduction to education course (the first education course for students) developed a notebook portfolio using a framework based on standards established by the Interstate New Teacher Assessment and Support Consortium (INTASC). The INTASC standards were chosen because they serve as the basis for VSU's College of Education's Conceptual Framework. The standards are generally applicable for teachers of all disciplines and all levels and are aligned with National Board for Professional Teaching Standards (NBPTS). To infuse additional technologies into the teacher education program the paper-based model was changed to an electronic format in fall 1999. Continuing to use the INTASC standards as a framework, a template was developed in Microsoft's FrontPage 2000. Currently, students enrolled in the introduction to education course use the template to begin the development of their electronic portfolios. The process begins in labs conducted during class meeting times. To gain access to the portfolio template students are provided a login name and a password. During labs faculty members who teach the introduction to education course provide basic instruction in FrontPage 2000. Portfolios at this level of development are identified as working portfolios in which faculty members require assignments that will be used as artifacts. Required assignments include a current resume and reflective writing activities, such as a philosophy of education and education dispositions. Students are encouraged to perceive their portfolio, not as a file of course projects and assignments, but a professional portfolio organized to document their professional growth and achieved competences in teaching. For viewing and grading purposes faculty members have access

to their students' portfolios which are posted on VSU's College of Education website. Faculty members do not have access to students' passwords and may only view the portfolio, not open a student's web page folder. Portfolios are graded using a standard rubric.

As students continue to progress through their teacher preparation program they begin to include narratives and artifacts that may be assigned by faculty members who teach courses in their particular program or artifacts may be self-selected. Students are required to select artifacts that demonstrate evidence of an achieved goal or the attainment of particular knowledge and skills. Then, as students complete coursework and program requirements, they begin to revise and expand their portfolios as they identify and select artifacts from coursework and field experiences that document their knowledge, skills, and dispositions in relation to a particular standard and what they will know and be able to do upon completion of their program. Students are informed that artifacts will be self-selected for final development during the student teaching experience, reflecting students' individuality and autonomy as well as providing tangible evidence of the wide range of knowledge, dispositions, and skills they have developed and achieved as a growing professional. At this level the working portfolio becomes a professional portfolio containing a student's best work, providing a portrait of the student's professional competence, and can be used for assessment purposes. Portfolios at the student teaching level are graded using a standard rubric.

Students are encouraged to revise and expand their portfolio and use it as a teaching portfolio as they become professional educators. Reasons for this encouragement include the following: (a) many school systems who hire VSU's graduates are now requiring teachers to develop and maintain teaching portfolios; (b) students who are enrolled in VSU's graduate teacher education program are required to develop an electronic portfolio or continue their portfolio development initiated in their undergraduate programs if they are a graduate of VSU; (c) a requirement for National Board Certification is portfolio development and submission; and (d) some states require beginning teachers to submit portfolios during the first year or two as part of a state mandated induction program or to obtain teacher certification, whereas, other states, including Georgia, are considering implementing induction programs requiring submission of portfolios for certification purposes.

In VSU's teacher education program the development of a portfolio is considered a continually evolving process. As preservice teachers move from the preservice teacher level to the student teaching level and on to the inservice teacher level, the goal is for these teachers to continue to demonstrate progress throughout their professional careers, through these or other portfolios. The ability to reflect upon teaching practices and seek opportunities for professional growth are lifetime teaching goals that can possibly be achieved through maintaining a professional portfolio.

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