

Portraying Professional Development in Preservice Teacher Education: can portfolios do the job?

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ABSTRACT *Using a form of collaborative action research among university faculty, teacher associates in schools and preservice teachers, the efficacy of using professional portfolios to enable the participants to document, understand and assess the professional growth of student teachers was explored. In this longitudinal study, 15 student teachers were followed through two practica and one internship during the course of 3 years. Interview data was examined to discern what themes evolved when student teachers were deeply engaged in self-evaluation through portfolio development. Three categories of themes were identified: those that emerged early in students' practicum experiences and dissipated, those that emerged and remained throughout the study, and those that were manifested later in the study. The thematic structure and the processes that the themes represent reveal insights into the nature of teaching and learning to teach, and they demonstrate the efficacy of the portfolio process in facilitating and portraying development.*

Introduction

Currently, within the educational community, calls for educational reform resound from many directions. Of particular interest to us are the cries for preparedness to face the increasingly dynamic nature of teaching, including the need for teachers to engage in continuous professional growth, if they are to meet the expectations placed upon them. As preservice teacher educators, one way in which we can prepare our students for those demands for career-long professional development is to guide them, from the beginning of their teacher education program, in ways that help them to value both self-and collaborative assessment of their professional selves. To do that, like many other teacher educators and researchers, we have begun to explore the potential of professional portfolios because 'in ways that no other assessment method can, portfolios provide a connection to the contexts and personal histories of real teaching and make it possible to document the unfolding of both teaching and learning over time' (Wolf, 1991, p. 129).

Teaching and learning are not one-dimensional actions and, therefore, it takes a multidimensional assessment tool to portray and understand teachers' perform-

ance and achievement. Portfolios can be a fair and appropriate means of assessment because they are situated in the context of the task (classrooms), they are based upon self-and collaborative assessment, and they are developed over time. They focus on, and expose, the real evolving professional thinking, skills and actions taken in the classroom context rather than some intermediate learnings within the confines of the university (Farr, 1990). Portfolios include records of authentic tasks and reflections gathered across time and across contexts (Zollman & Jones, 1994). They are also founded in a process of inquiry, are goal-driven and instructionally formative, multimodal, selective and structured within a collaborative process (Rybozynski, 1991). As such, they are performance-based and acknowledge the complexities of teaching and professional growth. For these reasons, we believe they hold much potential for effective assessment within teacher education specifically, and within the profession generally.

During the past decade, portfolio use in teacher education has rapidly expanded and continues to do so with increasing credibility as an alternative form of assessment of professional growth in both preservice and inservice contexts. Our experience with portfolios is typical. It has led us to concur with Romano (1997) when he states, 'Through their portfolios student teachers add detail, depth, and sharper focus to the picture I am forming of them. Portfolios illuminate the inner life of their teaching experience. Their reflections help them see and understand. It does the same thing for me.' (p. 172.)

Many early reported implementations of portfolio development, especially within North American teacher education programs, involve their employment within specific courses, frequently courses related to language learning (Ford & Ohlhausen, 1991; Winsor, 1994). In these, portfolios portray one aspect of a student teacher's development, such as literary skills and interests. Other implementations are more general (Bird, 1990; Wolf, 1991; Cole, 1992; Barton & Collins, 1993; Winsor & Ellefson, 1995). That is, portfolios are used to frame an evaluative process, including both self-and collaborative evaluation. In some programs, portfolios are used specifically as a means of evaluating students' preparedness for admission to their student teaching semester, as is the case at Alverno College, Milwaukee, WI, widely recognized among American teacher education programs as a leader in portfolio use. In programs such as this, the portfolios (the products) themselves are evaluated, whereas, in others, the evaluative process they frame is more highly valued than the product. Furthermore, portfolios are increasingly being infused as part of school systems' evaluations of their employees, sometimes in direct relationship to career ladder advancement.

Evidence that portfolios, as a means of documenting and portraying teacher development, are gaining increasing acceptance is not limited to North America. While developments with preservice teachers continue in many locations, a major research project in Australia has focused on inservice teachers. It has demonstrated the manner in which teachers engage in professional learning in the workplace and the conditions that appear to help and guide that development (Retallick *et al.*, 1994). It recommends that priority should be given to identifying and developing ways for teachers to document their workplace learning to

enhance the recognition by teachers themselves and other stakeholders of that component of their professional development. The concept of a 'Portfolio of Workplace Learning' should be considered to 'allow teachers to demonstrate the ways in which workplace learning contributes to improvements in teaching' (p. 93). Later, Retallick & Groundwater-Smith (1996) developed a framework to guide teachers in creating professional learning portfolios, compilations of evidence that demonstrate the acquisition, development and exercise of knowledge and skills in relation to work practices.

Regardless of purpose, emphasis and procedures, all portfolio users report some sense of satisfaction in their use and some problems. Satisfaction is noted for both portfolio developers and for those who guide their development. Among the most prevalent of problems is the fact that portfolio development takes time. Investigations by the first author that have led to the current study are not dissimilar. Beginning with portfolio use within a university-based language education course and proceeding to the current longitudinal work has been a journey of discovering the strengths, weaknesses and potential of portfolios in teacher education.

The portfolios developed by our preservice student teachers in this study focus on their professional development as demonstrated through their performance during their practica. To distinguish them from portfolios related to specific courses or those that might be expected of fine arts majors, we refer to them as 'professional portfolios'. In this context, we have defined professional portfolios as records of goals, growth, achievement and professional attributes developed over time in professional practice in collaboration with others. (Hereafter, when we refer to portfolios, we mean professional portfolios unless otherwise stated.)

One factor distinguishes our use of portfolios from many reported in the literature. Our portfolios were not graded in and of themselves. Rather, accountability for their development was subsumed in the pass/fail grades for practica—including the final practicum which we refer to as internship. Our decision not to grade was based on two factors—experience and perceived fairness. From our experience of portfolio use in previous semesters, we felt that not grading the product contributed to the students' perception of the portfolios as vehicles of reflection and self-evaluation, and that ultimately this perception would make a positive contribution to our goal that students would continue their portfolio development as professional teachers. The second reason for not grading was simply a matter of fairness to students who volunteered to be in the study. Although portfolio development was generally approved by the faculty, in practice it was not mandatory for all students and we, therefore, could not make additional expectations of participants. In addition, we are in general agreement with Farr & Tone (1994) that there is danger in negating the value of portfolios if emphasis is placed upon grading the products.

This study has been both an affirmation of findings of previous explorations within our program (Winsor, 1994; Winsor & Ellefson, 1995) and an opportunity to revise and expand upon those findings. In this paper, we will situate the specific need for this study within our program and share our evolving under-

standings of portfolio development as they developed through our involvement with students and interns over a period of three academic years. We will describe our general procedures and findings, illustrated by extracts from a variety of student interviews and, in particular, by Holly, as one representative case study. Finally, we will present our position in respect to the potential of professional portfolio development as an integral part of preservice teacher education and offer suggestions for beginning implementation.

Our Program and the Context for the Study

Our program is an undergraduate 5-year combined degrees program in a small liberal arts university in western Canada. Students are admitted to the Faculty of Education upon completion of 2 years of arts, fine arts, management or science. After admission to the faculty, students complete three professional semesters as well as their first degree program. The first two professional semesters include a combination of courses and practica similar to many teacher education programs. The third professional semester is somewhat unique. It comprises a semester-long internship, during which intern teachers work in partnership with experienced classroom teachers. In this mentoring partnership, each intern teacher assumes responsibility for one-half of the experienced teacher's teaching assignment, while the mentor teacher assumes responsibility to guide the intern as a beginning teacher and engages in a personally designed professional development project. In total, students graduate with two degrees and approximately 28 weeks of **classroom experience**.

In our faculty, the approach to evaluation of the first two practica is similar to that of many university-based undergraduate teacher education programs. *The* student teachers' performance in their field placements is evaluated cooperatively by classroom teacher associates and university supervisors, with ultimate determination of grades being the responsibility of university personnel.

Evaluation is based largely on classroom observations of teaching performance and recorded on both checklists and anecdotal reports. All practicum grades are assigned on a pass/fail basis. Evaluation during the internship is different from that of the first two practica. Intern teachers are evaluated by the personnel responsible and the procedures prescribed as if they were first-year teachers in the school district to which they are assigned. Most of these evaluations are conducted by school principals or their designates and are based upon several classroom observations. Faculty and teacher associates have tried, over a number of years, to encourage students to take responsibility for their own development as teachers using a variety of university- and school-based activities for reflection and self-evaluation. *The* degree to which these activities are consistently practiced in the faculty varies considerably. More importantly, even though evaluation processes are collaborative, students, for the most part, remain relatively passive recipients of evaluation.

In the current professional climate, where reflection upon practice and self-evaluation are gaining increasing respect as means of teacher evaluation, and

where teachers are increasingly being expected to demonstrate their personal plans for professional development, traditional ways of evaluation in teacher education appear incongruent. To address this incongruity, we began to explore the potential value of professional portfolio development and how it might contribute to bridging the perceptible gap between current practice and more desirable shared evaluation. We wanted to focus on a form of authentic assessment and evaluation that reflected professional growth, particularly within the classroom context. We wanted the process of development to be the prime focus, and evaluation in its more traditional sense as the tail which sometimes wags the dog of learning, to be secondary. We wanted our students, field personnel and faculty to make the evolution of professional knowledge visible in a personal way, yet a way that met public audience acceptance. That is, even though we moved to the practicum for contextual manifestation of development, we wanted the portfolio to provide a vehicle for sharing how (or how not) students pulled together and created their own knowledge from the theory and practice (modules, courses and practica) which form our program. We saw professional portfolios as instruments for concretely representing the development and nature of the neophyte teacher's practice—a facilitating process and structure for seeing and communicating professional growth.

Research Method

We regard this study as a form of longitudinal collaborative action research which we define as, 'a variety of stakeholders cooperating together to explore questions of mutual interest through cycles of action, experience and reflection, in order to develop insights into particular phenomena, create frameworks for understanding, and suggest actions to improve practice and inform policy' (Butt & Townsend, 1993).

Our prime co-researchers were our students who engaged in long-term in-depth inquiries into their own development as teachers. Our ancillary co-facilitators of this research were the teacher associates and faculty advisors who worked with each student throughout their practica and internships, and who also helped with the collection of data through conducting semi-structured interviews.

Although previous work with particular groups of our students (Winsor, 1994; Winsor & Ellefson, 1995) had been supportive of portfolio implementation, we sought to broaden our understanding by following students throughout their teacher education program. We also hoped to refine practices surrounding portfolio development, making it more appropriate for our faculty and others.

Research Questions

Our primary action research question was 'Would professional portfolios provide a successful process and structure to enable students, teacher associates and faculty to document, understand and assess the development of the professional practice of student teachers?' A subsidiary question was 'What are the themes

concerning professional growth that naturally emerge when student teachers are deeply engaged in self-evaluation through portfolio development?' As the study proceeded, we had opportunity to talk with student teachers at all levels of our program as well as with fellow faculty and field personnel who were working with the students. As a consequence, we refined our questions to include the following. 'What themes emerge from students during first professional semester and seem to dissipate as they gain teaching experience?' 'What themes emerge and remain constant throughout student teaching and internship?' 'What themes are introduced in later stages of practicum (internship)?' What portfolio-related practices adopted in our preliminary work should be continued and what changes should be made?' We consider the answers to these questions that we present here to be tentative because the very nature of portfolio development demands that we continue to be responsive to the particular aims and people involved.

Participants, Procedure and Data Collection

The student teacher participants responded to our request for volunteers prior to their first practicum and were subsequently followed through their second and third practica (internship). Fifteen student teachers volunteered. Faculty consultants and field personnel assigned to the students in each semester were asked to participate, and all willingly did. Thus, throughout the study, the number of participants steadily increased as each student encountered a new teacher associate and university consultant for each practicum.

All student participants attended a brief orientation meeting with us, in which they were provided with an overview of expectations and assured that their participation would not influence their grades. They were also assured of our support throughout the process. They were each provided with *A Guide to Portfolio Development in the Faculty of Education* (Winsor, 1997) and shown a videotape of portfolio development (including a review conference similar to what they were being asked to lead during their practica) produced in a previous semester.

The Guide provided the students with an introduction to portfolios as vehicles for monitoring and documenting professional development. It suggests, but does not prescribe, that portfolio contents be organized into the following five domains of teacher development: professional goals and attainments, teaching competencies (skills and strategy knowledge), knowledge of child development and learning processes, personal and professional attributes, and experiences that contribute to teaching. Furthermore, it outlines recommended procedures for artifact selection and rationalization, goal-setting, conferencing and presentation. It provides examples of statements of rationale and conference reports, and lists suggested artifacts.

All faculty consultants were introduced to the study during a faculty meeting, shown the videotape and provided with a written description of the expectations of participants. In turn, the faculty consultants were asked to familiarize the field personnel with study procedures. Field personnel were loaned a copy of the videotape and provided with copies of *The Guide* and a written description of

expectations. They were asked to facilitate portfolio review conferences at mid and final points in each practicum, and to complete written questionnaires following their experience with the students and their portfolios. When it was not feasible for the university consultants to attend portfolio reviews of students in distant field placements, reviews were conducted by field personnel and supplemented with interviews following completion of the practicum. In this regard, it is important to point out that students, as our co-researchers, in presenting and reviewing their portfolios, took a lead role in portraying, through our conversations, the results of their own inquiries into their own development, rather than only responding to questions posed by us.

All reviews and interviews were audiotaped and transcribed to enable careful review by the investigators. Transcripts were reviewed as students completed each semester in order to identify any changes that should be made to the process to enable better support to the student teachers or improved data collection. A great deal of time was spent in informal conversations between the investigators and the study participants (students, faculty and field personnel) to ascertain their responses to the process and their projections regarding future practice and the value of portfolios within our faculty.

Interpretation of Data

For the purposes of this paper, the major data source is student interviews. We independently subjected transcripts to a process of qualitative analysis involving reading and rereading, and writing theoretical memos (Glaser & Strauss, 1967; Butt & Townsend, 1993) regarding potential categories of qualitative data in the interviews. Each set of categories was divided into three groups: those which emerged early in the students' program and dissipated, those that emerged later and remained, and those that were manifested later in students' classroom experiences. A second level of interpretation was then conducted whereby clusters of categories of data were identified that were intimately related both to each other and to a common underlying notion or concept. These clusters of categories were used to characterize the themes identified in the findings that follow. When the interpretations of Winsor and Butt were compared, all original categories of Butt were seen as included in Winsor's categories-some were amalgamations of several. The clusters of categories that were used to characterize themes identified the same basic phenomena, differing only in details of the language used to characterize some themes. We jointly developed common characterizations and names for the themes. A further validity check was conducted by our third author, student Holly, who provided feedback on proposed themes and how we portrayed these themes through her case study.

Findings

In interpreting our results, we faced a fundamental issue in qualitative research: that of revealing what is common across individual lives without losing either the

uniqueness and wholeness of individual experience or the strength and nature of the commonality. Typically, qualitative commonalities have been represented by creating theme anthologies-series of quotations--culled from narrative across a variety of individuals that portray a particular theme evident in the data. While there may be coherence of theme in this method, each personal quotation is torn by its roots from the fabric and context of individuals' stories. For this reason, we have followed advice and practice of the late literary biographer Barbara Tuchman (1979) and have chosen to use an illustrative case study of one person's way of living through the portfolio experience as a prism, through which to see the generic elements portfolio process. Although we will illustrate the generic themes which are manifest in a variety of unique ways across the majority of student experiences through Holly's story, we will also add varied evidence from other students' experiences.

Initial Themes that Dissipated

We think it is significant to our students' gradual and cumulative understanding of portfolio development that the only themes that emerged from their initial experiences **that** could be said to dissipate with experience were three related to the practical and technical aspects of developing portfolios.

Portfolios Take Time. The most universal theme was concern about time to develop portfolios. Students worried about finding the time to develop their portfolios as products while they were busy with practicum demands. A few field personnel also indicated concern, seeing it as time not spent on lesson preparation, but most saw the long-term benefits in regard to ownership of professional development as well worth the investment. As students began to see the personal, professional and practical benefits of portfolios, the problem of time became less an issue of the value they accorded and more of one related to prioritizing their time for their development. As students became more skilled, the process gradually took less time. At the end of the first practicum, Holly explained it this way, 'I think maybe the most difficult thing is the time, trying to find the time to do it... I think that will get better as I go along because I think I will start developing my portfolio earlier next semester now that I have an idea how to do it.'

What Should I Put In? The second theme was concern for selection of artifacts. Although *The Guide* offered examples, over and over again, students asked, 'What should I put in?' All students experienced problems in responding to this question, but the degree of difficulty varied according to their senses of the purposes of the portfolio as a process and product. Holly, as a mature mother with children in school who used portfolios, atypically had some prior understanding and commitment, but she still had to work through the issue of what to put in at the beginning of her first practicum. She explained her understanding this way.

I do know a little about portfolios because my children have them at

school and I really like them. I found them a really good help in the parent-child-teacher interviews because they give my children somewhere to start when they're explaining to me what they're doing in school. And I really like the self evaluation that goes with that and the goal setting at the end of the sessions. They always set a goal first and then the parent and the teacher both set a goal, as well. So that's what I've seen of portfolios and I like them.

I would say that my portfolio has much the same purpose. I look at it in terms of self evaluation a lot, especially at this point. I think it will help me evaluate my teaching and learning. Hopefully, it will aid me in my conferences with my university consultants and my teacher associates. I hope that later on it will help me in a job interview, too, to make an effective presentation. I think it's a really good tool because it's systematic. You can go through things and explain things. I like that about them. So my biggest question right now--probably everybody's biggest question--is what do I put in my portfolio? I'm working that out. I'm trying to figure what to put in there--what's too much and what's not enough, and things like that.

While it may not be entirely accurate to say that concerns for time and selection of artifacts truly dissipated, it is our observation that student teachers stopped worrying and talking about these issues as they gained appreciation for the portfolio process. The positive feedback they received and the self-satisfaction they gained caused them to think of the time spent in portfolio development as time well spent. It seemed that as their understanding of themselves as teachers intensified and their collection of artifacts grew, they found it less and less difficult to make a good match between the characteristics of themselves as teachers and representative artifacts.

What Represents my Best Work and Attributes? One partial exception to the dissipation of concern for artifact selection forms the third concern. That is, selection of artifacts for the showcase portfolios prepared by interns in preparation for job-seeking. Anita's comments portray the predicament they perceived. 'I'm just so proud of all that I have done, cause I really have grown, that I want to show it all'. In fact, the initial problem of what to include was reversed. It became an issue of what to take out rather than what to put in!

These initial themes and their relative dissipation were not trivial technical matters. They represent an important transition, not only in skill building in relation to portfolio development, but in student's moving from seeing portfolios as an external requirement to a personally authored process of documenting development. They moved their portfolios from outside their professional practice into being an integrated and a dynamic part of their evolving thoughts and actions as teachers.

Themes that Persist

Four major themes that emerged during the students' first semester of portfolio development persisted throughout their later student teaching and internship experiences. These themes focused on integral aspects of both the process and products of portfolio development.

Articulation and Documentation. The first persistent theme can be simply stated as portfolios facilitating the process of student articulation and documentation of their development. Students recorded the challenges and concerns they encountered, intentions they fashioned for themselves, their problem solving, their reflections, the ways in which they could implement their beliefs and the evolution of their style of teaching. Students found that preparing, creating and presenting their portfolios fostered a spirit of inquiry within themselves and led them toward clearer articulation and demonstration of their observations about themselves as teachers. The following excerpts from Holly's first practicum experience illustrate this theme. The first one from her very early work and the second from her final portfolio conference with her teacher associate and faculty consultant show her growth in confidence, articulation of her teaching, and its representation in the portfolio.

Holly: Another thing I like to take advantage of, I guess as a teaching strategy, is teachable moments. If the child says something that I can grab right away, I'd like to do that.

Faculty: How can you represent these teachable moments in your portfolio?

Holly: I guess by examples, more than anything ... if there's a piece of child's work that shows a breakthrough, or whatever, you could use that, too, I suppose and maybe talk about how I demonstrated that to the other children or something.

Faculty: What other strategies have you tried in different subject areas?

Holly: I'm trying all sorts of things in language arts and I'm learning as I go along ...

Faculty: So how can you represent this in your portfolio? What you are doing?

Holly: Well, I could use a couple of lesson plans, I guess-what I was doing before and what I was doing after. But just even my comments that I made in my journal ... and of course, a lot of Elaine's [teacher associate] evaluations of my lessons would reflect what happened.

In the following excerpt, Holly is speaking about her portfolio development as she shows it to us at the end of the first practicum. We note increased definitiveness and confidence in her comments.

Holly: The first lesson I taught reflects a lot of my teaching beliefs. It went really well. It was a story I really liked because it lent itself very well to making predictions and asking questions. Questioning is one thing I think is really important. I think if children ask questions they set

their own agenda and that's part of taking care of their own learning. It went really well. The children gave some really wonderful predictions ... they asked questions that I didn't expect them to ask I learned a lot from that lesson. Story reading is something I do really well-it's something that I am definitely going to continue to do. It definitely reflects my teaching style.

Faculty: Would you agree with this Elaine?

Teacher associate: I agree, she is a wonderful story teller and we need to encourage kids to be good story tellers as well.

Holly: The other lesson that I put in reflects some progress towards a goal that I made-my goal to meet the needs of the students. I felt really good about a math lesson I taught just last week, Dec. 1st. The reason I liked this lesson is because I managed to include an enrichment activity that was really relevant to the lesson for early finishers. I also managed to get them to help each other. I would find two or three people for the enrichment activity and then I had the other kids go (to them) and find out what to do as they finished. It worked really worked. The kids really worked well together. The things they put in their book-the way they recorded the measurements-I was really impressed.

Faculty: Was that one of your goals?

Holly: Yes. Also in that same lesson, I modified a worksheet for a child who needed one and that worked really well. He finished the worksheet and that doesn't always happen.

Faculty: Great.

Teacher associate: And there is such a range of learners in every classroom now, much more so than we have seen in the past.

Holly: That was just one lesson that went really well ...

Teacher associate: All of this is reflected in your portfolio. Wonderful learning experience.

Faculty: That was a milestone in your development.

Other students also found that putting aspects of their teaching, such as their beliefs or style, in writing in their portfolio led them to find ways of demonstrating what they initially perceived as undemonstrable. This process continually provoked our students to make the unconscious conscious, and the implicit explicit as far as possible. For example, Desiree described her style as 'kid-centered, humanistic, cognitive, flexible, animated ... and being consistent with the kids so they feel safe and secure'. She wondered how to show this style and thought her enthusiasm was particularly difficult to demonstrate 'unless this was a pop-up portfolio'. She eventually settled on including some candid photographs taken during a discovery mathematics lesson.

Janice's experience is another example of how portfolio development aided articulation of development. She had set defining her style more precisely as a goal for her internship. In conversation near the end of her program, she acknowledged feeling successful in this goal and explained how writing about her style

had helped her understand its development, 'I also wrote a lot about my teaching style ... I look back ... I think when I was in Professional Semester I, I had a good idea of how I was going to teach ... I could see it **in** some of the things that I wrote, in some of the examples that I pulled out from lessons ... but in Professional Semester III, I was allowed to polish it.'

The usual practice at the end of a practicum is for the university consultant, teacher associate and student teacher to review each student's final report-the gray sheet-prepared by the field personnel and consultant. However, Kathy's experience provided explicit affirmation of the portfolio process as valued articulation and documentation of student growth over and above the usual report. Her first-time portfolio user university consultant announced after her portfolio presentation, 'we did this instead of the gray sheet ... you have talked abundantly about your experience and your goals and so forth ...'. In discussion, both agreed that portfolio development had superseded the prescribed report.

Focused Reflection. The second persistent theme concerns what we call focused reflection that leads to self-evaluation and evaluation by others. As Holly said, 'portfolios make you think'. That is, portfolios facilitate reflection on experience and problem solving wherein continuous cycles of thought, action and reflection make it hard to distinguish development from evaluation. For example, in the following conversation, Holly speaks of her debate about how to make her concern for the uniqueness of each child concrete both in her teaching and in her portfolio.

Holly: Well that's something that's really important to me that I'm not sure how I could represent. I do think that learning should be child-centred. I don't mean that you stand there and ask the kids what they want to do. I mean you feel your way along and look at why things aren't working and what's happening in the classroom ... how you have to adjust what you're doing to suit the children.

Faculty: So when you use the word child-centred, it's not just hands on and manipulative.

Holly: No. That's child centered, but you're going further than that. You want to be child-centered in a very personal way.

Faculty: You want to consider the children.

Holly: Each individual child and where they are and what they're doing. What words can you use for that individualization? Meeting the needs of each individual child.

Faculty: Okay so how can you do that?

Holly: Well when we did the fairy tale webs they were talking about their favourite fairy tales. But I think one thing that I do well is if I notice something about a child, like you're trying with this one child in our class who seems to be really down on herself. I have tried not only just during class time but other times, comment if she's smiling, to comment about things like that ... This is a reflection of my teaching.

Holly followed through on her interest in 'child-centredness' in a deeper way in her internship in a resource room working with special needs children. She captures the essence of the theme of focused reflection at the end of her internship in the following comment about the portfolio process.

Holly: I guess it basically makes you think. It makes you focus on your professional development. You need that. You need to keep on track and I think that's what this does. It keeps you on track so that you are actually thinking about these things. You have to sit down and think about your teaching beliefs and then think 'How am I going to- do this?' 'Am I really reflecting my teaching beliefs in my lessons?' And there are days that go by and you think, 'Did I do anything today?' You have to include things in your portfolio that mark your development ... that helps keep you on track.

We encouraged field personnel and faculty consultants to think of student portfolio development as a shift toward greater student ownership of evaluation and having students perceive evaluation as a collaborative process, not simply something done to them. Our ultimate goal included building a foundation for career-long self-evaluation of professional growth. For most students, the task of self-evaluation at first seemed onerous, but later it proved to be a source of great satisfaction.

Upon completion of her internship, Anita described her perception of portfolio development as a process of reflection in this way.

For one thing, it does force you to really sit down and consider all the different aspects of your teaching ... and the reflection part-which is a huge part-has really made me sit down and realize what my strengths and weaknesses are and how I can actually change things so that this will work better. It makes me refer back to the learning I've done at university too. I'm starting to get more conscious of everything I am doing.

So, our data shows that portfolio development not only facilitated and, in some cases, provoked reflection, but it also contributed to our goal of student ownership of evaluation. Many students told us that it was while working on their portfolios that they came to realize just how much they could learn from their reflections. For example, at the end of her second professional semester, Angie explained that the continued process of reflection as part of portfolio development had been a source of helpful self-evaluation. She states, 'Well, like I said in Professional Semester I, it gives me the confidence that I have been doing my job ... and I think it also gives constructive criticism because it's not somebody sitting here pointing a finger at you, "Well you did this wrong or you did that wrong!" You can go through it and you can see yourself where you could modify things and make them work ... looking through all this stuff you find yourself and it makes you **aware ... metacognitive.**'

Goal-Setting. Being reflective about themselves as teachers and, in particular, about their practice, led student teachers to give careful consideration to and become engaged in goal-setting, the third major persistent theme. That is, portfolios facilitate goal-setting and support the individualization of goals within the broader goals of the teacher education program. This process, whereby students encounter their own problems, concerns and questions, leads to the development of their own intentions and purposes, personalizing their directions for professional development. Goal-setting, for most students, became cyclical. That is, they set goals (in writing) for themselves prior to beginning each practicum, reviewed their progress toward the goals at the midpoint and made appropriate revisions based on progress. At the end of the practicum, they reviewed their progress toward the revised goals and in turn set their goals to begin the next practicum. During portfolio conferences, field personnel and university consultants offered affirmation of the student's self-evaluation and offered guidance in setting revised or new goals as seemed appropriate in each situation. Our experience as university consultants of seeing student teachers and interns well-focused and able to clearly articulate their goals has convinced us that the emphasis portfolio development places on goal-directedness is beneficial to all.

In a conference with one of us during her internship, Janice confirmed our thinking. Asked about her experience she said, 'It makes you more aware of the strengths and the weaknesses you have and it makes you more aware of what you'd like to do as a teacher, what your goals are. If you write them down they ... give you direction too ... like your goals obviously direct where you're going.'

Cindy, however, pointed out a potentially negative factor regarding the individualization of goals within program expectations. After explaining that she appreciated being in control of her evaluation conference and the fact that it focused on her and her goals, she said, 'But the reason I wanted to go through the Field Experiences report was because I think there is more to say than just what I have for my goals. The form has eight different areas and I have three goals ... if there is an area that I don't have in my goals and that he [teacher associate] or you [university consultant] feel needs to be addressed, it never comes up.' While her perception is surely a valid one, especially in the context of supervisors who are new to portfolio assessment, we interpret her comments as a reminder of the vital role of supervisors as collaborative evaluators. The process demands that they consistently guide each student to ensure a steady path to success, albeit at individual rates and by customized routes.

Some students noted a further point regarding the cyclical goal-setting that their portfolio development required. The setting, working toward and revising goals, facilitated their continuation from one semester to the next. While it supported continuation, it also acknowledged progress and provided a way to show their development toward and ultimate achievement of those continuing goals. Given the on-going nature of professional growth among teachers, it seems especially important that the evaluation of student teachers provide for recognition of progress and development as well as achievement. The continuation of Holly's story illustrates the recursive cycle of goal-setting as well as the way that

goal-setting is influenced by the pragmatics of classroom operations. In the following conversation at the end of her first professional semester, she proposes her goals for her second practicum.

Holly: Yeh, but evaluation worries me ... it is a very important way to find out where children are. When I go through math, I'm busy with all the kids who have their work finished, coming to me and giving me their book, and then I happen to look at someone whose book is almost empty. I get really scared and I realize that I have not noticed that child and that really bothers me.

Faculty: So that pertains to the notion of the 'withitness', knowing where everybody is ...

Holly: Withitness is a big part of evaluation when you are not just relying on tests.

Faculty: So that's the goal for the next round then.

Holly: That is a goal for my next round.

Faculty: What other concerns or areas that you have not had a chance to develop, might you focus on in the next round?

Holly: Well, one thing that I would like to do a little more of is integration. But I was doing math and language arts, and in language arts we are doing fairy tales, so I didn't get to do too much integration. A couple of times I tried to put fairy tale characters in word problems, you know. I think I will have a better chance to do that next time because we're going to have a couple of days when I'll be teaching the whole lesson, or a whole day, so I'm going to put some thought into how I can make sure how throughout the day I integrate the themes.

Faculty: Okay Jet's look at evaluation and integration. How would you represent your growth, development and problem solving in your portfolio?

Holly: Okay I'm making a checklist now and I'll field test it when I come back to evaluate some of the things that you can't evaluate with tests or whatever. I've picked about three children to track because I think that's probably easier to do that then to try and track the whole class, so what I would include in my portfolio is the checklist and maybe an anecdotal report on all three children.

Faculty: And how about integration?

Holly: Integration-well I think that just having 2 or 3 days when I have the whole class I can do that. I can show that I guess with a curriculum web-show not just all the possibilities, but show how I integrated it by showing the things that I actually taught that day, that should show the integration.

The pragmatic realities of the classroom challenged Holly in the pursuit of her goals and beliefs in her first practicum but, over time, she has begun to problem solve, develop skills and take charge of planning to implement her own initiatives and purposes.

During our conversations at the end of her first and second practica, Holly followed on from her comments on how the portfolio process made her think in our illustration of the previous theme. She affirmed our observations about portfolios as effective facilitators of cyclical goal-setting.

Faculty: So it's like a structure and a framework that helps you keep that [focus on professional development] as a priority.

Holly: Yes and it is wonderful for goal setting. I really like it for goal setting because you could forget your goals or you could forget to make sure you are following through. But when you have written them down you have made a commitment. When you have to show how you are meeting them you have made a commitment.

At the end of Professional Semester II, Holly continued:

Holly: Okay, well I've definitely grown in the assessment area. I've provided a real variety of assessment this term, and something else that I've really learned well with language learning is teaching skills and strategies in context. I feel I've learned more about language learning in this practicum than I did in my other two. Of course working in the resource room you meet a variety of individual needs. That's just part of the territory. I represented assessment in a number of ways. I've included a sample of the report cards that I did which were anecdotal. Along with the report card I have included the comments I got from Gertrude [Principal]. Comments saying all the things I covered, and that I covered everything, so I included that as well too so that's it's documented. I'm going to include the reader's workshop portfolios that I did because they're another means of assessment-there's student evaluation in there as well as teacher evaluation-so I've included those. For individual needs I'm including a letter from Catherine, the grade three teacher ... I'm including my unit plan as well for a number of reasons. It shows the way I evaluate all my lessons as I go, and how I evaluate students following my lessons. So there's a lot of individual anecdotal observations in there and there's also some checklists in there as well.

Faculty: Sounds very thorough.

The theme of goal setting pervaded all semesters. We realize that our structure more or less imposed it, but nevertheless, the degree to which it appeared integral to the portfolio process was somewhat surprising to us. Stated differently, as we came to realize how effective the portfolio process was in facilitating goal setting, our confidence in the merits of the alternative form of evaluation we had implemented steadily increased.

Marking Achievements. Portfolio development, as implemented in this study, appears to have met the criteria concerning recognition of both development and achievement because marking achievement emerged as the fourth persistent

theme. Simply stated, portfolios can mark and affirm achievements and provide opportunities to celebrate those achievements. Students discerned this quality during their early engagement with portfolio development and steadily grew in their appreciation of the reward value of the process and its products. Cindy's reflections on beginning to assemble the personal and professional attributes section of her portfolio are indicative of initial recognition that portfolios demonstrate achievement, 'When I started thinking about what to put into a portfolio ... you don't realize that things that you've done that can contribute to your teaching and then you think, oh well this applies and you realize that you have a lot more to offer than you thought'.

As they neared completion of their internships, students began to consider using their portfolios to support their job-seeking. They saw their portfolios as the signs of achievement that they would want to share with prospective employers. Holly's comments summarize student perceptions, 'Just being able to document-just having everything in one spot so you can go over it. I mean it is nice looking back over your portfolio because you think, "Gee-what do I have to offer?" And then I can look back and go, "Wow I did this and I did that and the rationales are in there, so it's really good for reflection" ... the student has a good sense of their own professional development because they've gone through it. So I think it's a wonderful preparation for an interview...'

Finally, Karla's experience during a job-seeking interview confirmed that portfolios can mark achievement in ways that go beyond self-satisfaction. Asked by a school superintendent about her abilities to prepare senior students for provincial standardized testing, she simply turned in her portfolio to the samples of student evaluation she had conducted as a student teacher, and showed evidence of her abilities. The interviewer was impressed and she was offered the job.

Later Emerging Themes. The themes that emerged from student teachers' portfolio development in the later stages of their student teaching appear to us to be representative of their increasing maturity as teachers. That is, initially, their concerns focused on the practical matters and what they refer to as survival. Gradually, the topics of interviews and portfolio conferences shifted to some of the less tangible and more complex issues of teaching. Three such themes dominate. First, portfolios situate teaching and show the teacher in one or more particular contexts. That is, students began to perceive portfolios, as Edgerton *et al.* (1991) describe them as being able to 'capture the intellectual substance and situatedness of teaching in ways that other methods of evaluation cannot' (p. 4). Second, portfolios personalize the nature of teaching. Portfolio-based conversations began to include talk about the ways they drew their beliefs, values and talents into their work. Finally, a theme that had been more and more apparent from time to time throughout the students' portfolio development came into full view. That is, students recognized that portfolios, like the teaching selves they portray, are necessarily dynamic.

Recognition of the Situation of Teaching. Students became increasingly aware of how teaching is context-dependent-how, within context; a particular practice needs variegated manifestations to meet each new situation and unique child. It is through these interactions between person and context, beliefs and action, practice and situation, that the neophyte teacher invents personal pedagogy.

Many students' comments indicated recognition that their portfolios showed different aspects of them as teachers in response to the various teaching assignments they had completed throughout their three professional semesters. Again, however, we turn to Holly who is mature and perceptive about the nature of her pursuit of professional development goals and their dependence on context and situation.

Holly: Yes, sometimes you do have to switch. It's amazing. You got something written down that you thought was really neat the night before-then somebody says something. It's like 'WOW' that's a better illustration than I ever could of had. I like when that happens. I look forward to the days when I'm able to draw like that from the kids ... I had, as the other part of my goal [that] I'll try harder to meet every need of the atypical students in my class. I find it keeps coming up because the situation keeps changing, and just when I've mastered it in one situation then something else comes up-totally different. The classroom situation right now is different from the classroom I was in last term ... And I think that's what I realized about goals, I was thinking about it last night. Sometimes you feel under pressure, you know, to meet your goals right away, and I realize sometimes you just had to have your goals in sight.

Faculty: Heading toward them.

Holly: And if you have them in sight and an opportunity comes up you'll take it-you know. Whereas, if you're feeling under pressure sometimes you try and do something before you're ready, or in the wrong context, so I am glad now that I waited this long to do the reader's workshop portfolio because it really fit. In the last two terms I wasn't ready, or, in the context I was in, it just wouldn't have worked.

Some students, like Desiree, developed their professional response to the broader educational context, beyond the classroom. Her talk about the videotape of her teaching included in her portfolio is a good example of how the students recognized this capacity of portfolios. In a conversation in which she exuded enthusiasm, she explained, 'I think teachers should be student centered, enthusiastic ... and innovative with what we are facing with cutbacks ... and I have a focus on divergence and higher order thinking and I'm very aware of the upcoming technology that kids are facing and that I'm facing too as a teacher, and I've made sure that I am able to use that ... So it [the video] shows the innovation, shows my creativity, my enthusiasm by being able to do all that ...'

The Personal Nature of Teaching. The second late emerging theme was the students' realization of the uniquely personal nature of their teaching and how their portfolios helped them to portray that aspect of their teaching selves. They realized too, that their evolving teaching personalities were in large part a consequence of the contexts and situations they encountered in their series of practica. In that sense, their portfolios are a very individualized and authentic form of development and assessment. When they started their portfolio development, they wanted to know what was 'right'-the right things to put in, the right way to organize it, the right size of binder, the right way to write rationales-but as they neared completion, portfolios became increasingly individualized as these decisions were more authentically determined. As Desiree said, her portfolio was 'very personal and it became personal because you allowed me to do that'.

Students also realized that their teaching selves were influenced by far more than their practicum experiences. From the beginning, we had encouraged them to include a portrayal of their personal and professional attributes, and experiences that contribute to teaching. As they reached the end of their internship, they reconsidered that section of their portfolios with matured understanding of what impacted their teaching dispositions and them as teachers. Holly's explanation of an anecdote she chose to include is illustrative of the deepened understanding with which they portrayed the impact of their lives outside of teaching on their being as teachers.

My most positive learning experience occurred at my daughter's school when I went there to volunteer teach. I found that things that I was critical of before I went into the school all of a sudden became very clear and I had so much respect for the teachers and I found that over the years, there are no surprises on my children's reports. I have been involved enough with the schools to know what's happening ... This anecdote sort of reflects that.

The Dynamic Nature of Teaching and Portfolio Development. The third, later emerging, theme is a rather sweeping concept that relates to many aspects of portfolio development already discussed. That is, portfolios are dynamic and ongoing. They constantly change during their development from first professional semester to third, and if continued as documentation of career teaching, they would continue to change. As students encountered new contexts and situations, different dimensions of their teaching selves blossomed and their portfolios necessarily changed. As they neared job seeking, they considered how their portfolios could and should be tailored, for particular audiences or jobs. Several students transformed their portfolios from those that showed growth and development to those that provided a record of competence, achievement, creativity and talents.

It is not only the portfolios themselves that change during development, but the ways in which they are perceived. Students developed a desirable portfolio

mentality as they began to think of them as old friends, signifying to us maturation of self-evaluation as teachers. Janice and Melanie were metaphoric in their expression of this idea. Janice explained that her portfolio had become 'like a security blanket' and Melanie saw hers as a 'booster'. When the demands of teaching seemed overwhelming and they wanted reassurance that they had and were growing professionally, they carefully reviewed their portfolios privately or with others. Holly too, found satisfaction in reviewing hers. She explained, 'I mean it's nice looking back over your portfolio because you think-Gee what do I have to offer? ... And I can reacquaint myself with what I've already done and to just go over it, go through it so it will crystallize what kind of teacher I am'.

As students gained experience in portfolio development, the changing nature of their portfolios became less worrisome. Their initial worries about never getting them finished, as they would assignments, dissipated. Instead, they welcomed the dynamism and individualization. They saw portfolios as their never-ending personal stories of learning to teach.

Recommendations for Portfolio Implementation

As previously noted, although portfolio development was generally supported in our faculty, it was not universally employed as part of evaluation procedures at the time of this study. The strongest recommendation our students had for future implementation was to do it. They unanimously urged that every student be required to develop a professional portfolio. In addition, they told us portfolios should be begun, as theirs were, upon entry to the teacher education program, rather than later, as had been the case with some of their student colleagues.

Students also made several recommendations concerning the orientation to and monitoring of portfolio development. Two of their suggestions deserve attention here; both suggestions concern faculty guidance in portfolio development. While they appreciated the introduction (workshop and videotape) and printed materials (*The Guide*) they had been given, several students advised that orientation should also include presentation of a model of a well-developed portfolio. They advised us that it would be of considerable benefit to have senior students show and describe their portfolios to beginning students, enabling visualization of both the process and the product. Their second recommendation concerns the flexibility and personalization of portfolios discussed previously. Students told us that our practice of providing structure to get portfolio development started and then encouraging increasing individualization, thus fostering ownership and personal investment, should be continued by all faculty and field personnel working with students. We concur with these recommendations and will adjust faculty practices in light of them.

Conclusions

Our current longitudinal involvement with student teachers' portfolio development has reaffirmed and extended the findings of earlier work. In particular, it has reaffirmed previous speculations regarding the potential value of professional portfolios and has further delineated the ways that development of professional portfolios contributes to effective self and collaborative monitoring of professional growth of student teachers.

The early themes that dissipated over time-time, what to include and what best represents me-were not trivial technical concerns. In the absence of a deep personal understanding of the professional benefits of the portfolio process, students took on the task as a university assignment of uncertain value. They gradually moved from a perception of prescription to a deeper understanding of how the portfolio processes bring useful affirmations, insights, and beacons for professional development. In regard to what to include, initially students were torn between making selections of what they thought they should include in terms of external authority and what they might authentically choose. As their appreciation of the legitimacy of self-determination increased, their concern for external validation decreased and their question became, 'What do I choose to put it in?' To this, they responded by confidently and self-assuredly making selections, reconceptualizing and reorganizing to create portfolios to support employment-seeking.

Later themes-articulation and documentation, focused reflection, goal-setting and marking achievements-afforded students the opportunity to see the portfolio process as exploration, problem-solving and recording of their development, as well as speculative inventing of their potential teaching styles. The processes lead to the setting of new goals or modification of continuing goals, and planning for facilitation of progress toward and attainment of goals-all of which could, again, be documented. Taken together, these themes in the minds of students and those who worked with them, created a map of learning how to teach.

The final themes-situation of teaching, personal nature of teaching and dynamic nature of teaching and portfolio development-represent the students' deepened understanding of the practical and reflective explorations of their teaching that portfolio development has facilitated. They represent the two major poles of the teaching act-the teacher as person, and the context and situation-as well as the dynamic interaction of the person and context over time. These persistent themes show us that as the teacher encounters new contexts, situations and learners, teaching practices evolve to take account of the new challenges. In turn, cyclically, as the teachers' personal teaching style develops, practices evolve to take account of new insights, attitudes, skills and strategies.

Schulman (1986) proposes that adequate assessment for teacher credentials should balance knowledge, skills and dispositions from both the subject matter and pedagogical domains of knowledge and proficiency. Portfolios, as we have implemented them, make possible such assessment and, furthermore, provide for such assessment to be appropriately contextualized and personalized. We like

Ford & Olhausen (1991), believe that authentic forms of assessment such as portfolios 'create the opportunity to involve learners in directing, documenting, and evaluating their own learning' (p. 1). Such involvement as students, surely contributes to a solid foundation upon which teachers will construct and monitor their career long professional growth.

We began with the sweeping question, would professional portfolios provide a successful process and structure to enable students, teacher associates and faculty to document, understand and assess the development of professional practice of student teachers? The simple answer is yes. Yes, portfolios developed through the processes of considered reflection, collaborative goal-setting, and clearly rationalized and illustrative documentation (as our students' portfolios were) can be guiding lights that enable clearer vision of teachers' professional growth. The themes that emerged and dissipated, those that emerged and were sustained, and those that manifested as students neared completion of their undergraduate program all speak to the dynamism of the portfolio process. As Holly's story and those of her colleagues illustrate, portfolio development is a dynamic process that, over time, scaffolds meaningful assessment of growing skills, increasingly astute insights, and, ultimately, the blossoming of teaching selves.

Schulman (1992) has likened teaching to dry ice at room temperature-it evaporates and leaves no visible trace. That is, tangible evidence of instruction that might be examined and become the basis for change and improvement is difficult to accumulate. While it would be hyperbolic to suggest that professional portfolios solve the problem of producing evidence of teaching, our experience suggests that they are one giant step forward in the pursuit of authentic and effective appraisal of student teachers' professional development.

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