

# Opening windows on teaching and learning: transformative and emancipatory learning precipitated by experimenting with visual documentation of student learning

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Emancipatory learning can occur through critical reflection grounded in theory. This study describes an action research project in which the author engaged in retrospective structured analysis of an incident involving visual documentation of student learning. It was experienced by a struggling novice teacher educator, who at the time of the incident had neither the theoretical nor structured framework from which to process the experience. Using the transformation theory of adult learning as the basis from which to create a reflection model, the action research examined assumptions about filters and meaning schemes through which insights emerged about a changed paradigm, with implications for other teacher educators about reflective practice.

*Keywords: Action Research; Emancipatory Learning; Reflective Practice; Visual Documentation Transformation Theory*

## Introduction

Teacher educators who hope to teach for emancipatory learning need to both model and facilitate critical reflection grounded in theory. This autobiographical action research study provides an example of what Winter (1998a) calls a ‘journey of self-discovery’ (p. 370) by using curriculum as the ‘site for an on-going action research process’ (1998b, p. 59). In this article, I describe (a) a critical incident that seriously challenged my teaching paradigm early in my career as a teacher educator and raised

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the questions prompting this study, (b) the intentional reflection process grounded in transformation theory (Mezirow, 1991) I devised in order to study my dilemma, (c) the findings indicating subsequent changes to previously held assumptions, and (d) implications of this study for emancipatory learning in teacher education.

A critical incident can be defined and examined in many ways (Flanagan, 1954; Brookfield, 1990, 1995; Tripp, 1993; Woods, 1993; Hole & McEntee, 1999), usually episode(s) from daily experiences recalled from prior experience as significant, isolated for analysis and reflection. Some critical incidents, however, can be described as ‘transcendent’ (Foshay, 1991; Palmer, 1993, 1998; Hopp, 2001; Zuckerman, 2001).

This incident occurred in 1995, the first time I introduced visual documentation of student learning (Gandini *et al.*, 1994) to a class of pre-service early childhood students, after writing a review of the existing literature about Reggio Emilia (Jaruszewicz, 1994) for a course in my doctoral program. Visual documentation is a process and teaching/learning strategy that engages teachers and students in sustained collaboration to make everyday classroom experiences both transparent and public. Originating in the world-renowned (*Newsweek*, 1991) Italian Reggio Emilia programs, teachers use media such as images, narratives, conversational scripts, interpretive captions and learning artifacts to identify, represent, describe and interpret students’ project-based learning. Helm *et al.* (1998) describe it as ‘windows on learning’ because of the insights teachers gain from determining and interpreting for themselves and others their students’ thinking as they engage in student-initiated and self-directed learning.

I was very interested in exploring the potential of the approach with my students. My intent was to help them understand the principles and intricacies of teaching from the emergent curriculum orientation used in Reggio. Because I had no access to classrooms with teachers who were using a project approach with children, I made what I thought was a compromise, but what turned out to be a proverbial can of worms that I have been grappling with ever since.

### **The incident narrative**

In small groups, the students were to undertake a project of their own choosing and using Reggio strategies, create documentation *panels* (i.e. poster or tri-fold boards) to share their projects at the end of the term. The self-selected projects and topics did not begin with pre-determined ends; my goal was for them to learn how curriculum can emerge from students’ interests and questions. They were also required to conduct field work, a critical element in project-based teaching. I encouraged them to choose topics of relevance to their current life-world as college students.

The first question was, ‘Can we *really* choose any topic we want?’ Swallowing hard, I said, ‘Yes, as long as it’s legal!’ The topics selected were diverse: two students had been adopted and another had given a child up for adoption; they chose to study the adoption process. Another group who lived in a ‘haunted’ dormitory pursued local ghost stories and legends. A third group was curious about the historic district in

which our university was located and focused on local architecture. The last group (five students) decided to investigate the ways in which our university students dealt with stress. This was where the trouble started.

This last group began their project by creating an anonymous survey distributed all over campus. They quickly discovered drinking was by far the most popular stress-reliever. Being juniors (all recently of legal drinking age), they tentatively asked my permission (as part of their field work) to interview beer distributor owners and local college watering-hole bartenders to find out what they thought of college students. I couldn't refuse without compromising my original intent. They were absolutely giddy. Visual documentation records the process of learning and is displayed as projects are ongoing; as groups began to post documentation, this group declared that they wouldn't be able to contain it to panels—they had too much, and could they have a whole wall of the classroom to present what they had collected and prepared? The wall began to fill up with a large assortment of bar and beer distributor advertising paraphernalia.

This was a small, conservative university. I received a call and visit from the Provost. Why were there beer advertisements on the walls of my early childhood classroom? He ordered me to get rid of them. I said I couldn't do that, because it was part of a student assignment but that I would fix it, and quickly called the students together. At first, they were offended; they understood what they were doing and wondered whose business it was to interfere with their work. I proposed the *artifacts* simply needed explanation, as all of the elements of documentation are needed to allow a full picture of the process to emerge along with the project. The students put up a detailed explanation of the intent and focus of their project, on neon-green poster board so it couldn't be missed, with an invitation for viewers to keep checking in on their progress.

On presentation day, the finished documentation they prepared did indeed take up a whole wall of the classroom. They explained their data collection process and included many additional artifacts depicting stress-relief strategies revealed on surveys, such as athletic activities, meditation, shopping, volunteering, etc. Their photographs, captions and video-taped interviews carefully documented project progress in great detail. Their posted scripts represented conversations and group meetings that revealed how the project took shape and went in differing directions according to group members' various individual interests. But their original 'we can't believe we have permission to do this' attitude had taken a serious turn. It turned out that during the course of their investigation, someone came up with the idea of conducting interviews at a fraternity party. They learned about a disturbing popular activity well outside the bounds of the usual college student shenanigans. They didn't know how to handle this information and left it out of the documentation, but shared it orally with me and the rest of the class. It was a bombshell.

We all agreed that despite their roles as researchers, they had an ethical responsibility to report what they knew. As the person with ultimate responsibility for the students and the course, I made the report in order to maintain the anonymity of the information sources. However, after seeing the documentation of the entire project

on the wall of the classroom, the Dean of Student Affairs asked if the students would voluntarily share the entire project with university officials, if they were not asked to compromise their sources. They redid all of their documentation to make it portable and made a formal presentation in the university board room to administrators, police and student government representatives, resulting in a major initiative to address the issues they uncovered. Afterwards, many of the people in attendance commented that the visual documentation the students had created provided a meaningful context for consideration of the problem that would otherwise have been missing or possibly misinterpreted. They were commended repeatedly for the meticulous detail with which they had documented their work—no one was complaining at this point about the beer posters.

Where that left me was in a state of confusion about what had occurred that semester. My authority and academic freedom had been questioned and challenged. My faith in my students had been tested. The simple exploratory activity I thought I had carefully planned had ballooned almost out of control. What we learned was clearly not what I had expected.

This exploration with a new curriculum approach did not start out as an action research project, but clearly needed to become one. It began with an idea that by engaging students in documenting their own learning, they could learn something about curriculum. This first experience showed me that was certainly the case; there was clearly much more we could do to explore that avenue. I also couldn't forget about the other three projects. Each of them was interesting, meaningful and diverse in its own right. All the students had learned in a manner with which they were previously unfamiliar. Their written reflections indicated that they were beginning to understand how deep learning can occur from self-directed projects and student learning can be shared and represented visually in different and unique ways.

However, I was left with a burning question that became the basis for this action research self-study. My original goal had been for the students to learn about curriculum. But I had encountered something entirely new related to teaching, learning and myself, only I did not know what it was. Moreover, it was not events as they unfolded around the projects, but puzzling over the role of the visual documentation as the semester played out that was bothering me the most. It did not seem that should be the case—I would have expected to be more focused on the dynamic of project-based teaching and learning and what transpired as a result of the students' investigation, than one method used during the learning process. The essence of the problem was that I was in an obvious state of cognitive dissonance and my questions were: (a) why have I been affected so by this experience; (b) what kind of transformation had taken place as a result of this critical incident; and (c) what kind of impact might this experience have on my future teaching?

### **Teacher reflection as action research**

Reflection as an activity may occur at varying levels of sophistication (Van Manen, 1977; Valli, 1992) or within the context of particular teacher thinking domains

(Shulman, 1986), but McMahon (1999) has cautioned that although reflective processes may follow an action research model, without strategic intent, reflection alone does not qualify as action research. This notion was confirmed in Gravett's (2004) study of transformational learning based on the Mezirow model. Intentional reflection is an activity that provides a means for making the tacit (Polanyi, 1966) acknowledged and concrete; as action research, its intent is to apply understanding to the development of practice (Dewey, 1933; Winter, 1998b). Research incorporating the use of autobiographical inquiry and reflection as part of a structured research process has certainly gained acceptance and validity (Zeichner, 1994; Cochran-Smith, 2003). Further, Feldman (2002) describes existential action research as the process of studying teachers' ways of being and a valuable approach for illuminating and challenging assumptions.

Reflection models and approaches have been developed for use in action research with pre-service teachers (Hatton & Smith, 1995; Conle, 1996; Van Scoy & Freeman, 1998), practicing teachers (Hole & McEntee, 1999; Rodgers, 2002; Sen, 2002; Yost & Mosca, 2002) and university professors (McAlpine *et al.*, 1999). Many of these models and processes value reflection as a reflexive process (Winter, 1998b) akin to Schön's (1983, 1987) concepts of reflection-in-action and reflection-on-action, or reflection-for-action (McAlpine *et al.*, 1991). At the highest level, deliberate, critical reflection hopefully leads to emancipatory learning (Habermas, 1984), liberating one from previously held limiting constructs in favor of a more open, diverse, discriminating and integrated orientation or paradigm.

Storytelling and autobiographical narrative in particular can provide a means for generating the personal, practical knowledge (Elbaz, 1991; Clandinin & Connelly, 1994, 1996; Carter & Doyle, 1996; Patterson & Fleet, 1998; Conle, 1999) and authentic voice (Winter, 1998a) that is a primary goal of learning from experience through action research. As Freema Elbaz (1988, p. 171) wrote, 'reflecting on one's work is not ordinarily a part of teaching'. Writing about experiences encourages and provides teachers opportunities to detach from events and record authentically what they perceive and how they interpret and understand their experiences, because often, as Elbaz further states:

there is a large gap between what researchers produce as reconstructions of teachers' knowledge, even when this work is carried out explicitly 'from a teachers' (sic) perspective' and teachers' accounts of their own knowledge. (p. 172)

My perception of this experience as a phenomenon uniquely outside my present understanding precluded reflection-in-action; the semester was over and I had been too consumed by the other three courses I was teaching and the two doctoral courses I was taking, to have any time at all to engage in reflection; I simply reacted and responded to events as they unfurled. My inexperience and inability to categorize the meaning or implications of the incident challenged beginning a reflection-on-action process (Schön, 1983, 1987) because I had no framework from which to do so. However, based on my phenomenological perception of the entire experience as critical to my future work with college students, I certainly believed that some serious,

intentional reflection needed to take place, i.e. reflection-for-action (McAlpine *et al.*, 1991) that was linked to specific questions I had about this experience. As it turns out, it has taken me 10 years, a doctoral dissertation examining critical incidents as experienced by other teachers and a move to a different university to fully process the experience and grasp its impact on my teaching and research.

Critical incidents are puzzling, because they are initially experienced phenomenologically, but intrinsically demand further hermeneutic or analytic interpretation (Brookfield, 1990, 1995; Tripp, 1993; Woods, 1993) that can be done from any number of theoretical orientations. Mezirow's (1990, 1991) transformation theory and conceptualization of emancipatory adult learning provided the theoretical framework I used to seek meaning out of the events described, in light of its potential for illuminating not only what happened, but how and why it changed me.

### **Transformation theory**

What can be easily inferred from Mezirow's (1990, 1991) work, and is explicitly described by Brookfield (1990, 1995), Tripp (1993) and Woods (1993) from a constructivist perspective, is that a critical incident functions as a discrepant event, creating disequilibrium and producing intrinsic motivation to resolve the conflict between what happened and what is already known and understood. Because the experience cannot be assimilated into already existing mental schemes and requires higher-order accommodation, one of three things may occur. If the individual has neither the disposition nor the ability to engage in intentional reflection, the event may be dismissed or suppressed. Or, the individual may thoughtfully consider what occurred and continue to act as before, but with more information about either the content or processes involved in solving the problem. But if the individual is capable of and motivated enough, and chooses to process events through intentional critical reflection, resulting insights and subsequent changes to understanding of self and others, practice and world view reflect a dynamic that happens infrequently but is highly effective for long-term growth and learning in adults—transformative and emancipatory learning. A critical incident may precipitate intentional critical reflection.

Transformation theory is not a stage theory, but does assume and aim for progress towards transformative learning and is an attempt to synthesize multiple theoretical, philosophical and psychological traditions (Mezirow, 1990, 1991). Childhood socialization and prior experiences shape an individual's existing paradigm (world view); this *meaning perspective* is constructed from *meaning schemes*: the many, varied constructs that make up our self-concept, identity and orientation to inner and outer worlds. We view schemes through many lenses or *filters* that affect the way we take in and understand experiences uniquely, although we may certainly share similar perspectives, schemes and filters with others.

When we engage in intentional critical reflection we are not only posing a problem to be solved but challenging what we believe about our experiences, the premises and assumptions on which those beliefs are based, the filters through which we view our

experiences, the meaning schemes from which those filters are derived and the very perspectives that constitute our orientation to the world and others. Because we interact with the world both through communication and actions, we engage in differing methods for testing the validity of our assumptions. We challenge assumptions and premises about our actions through empirical means, creating hypotheses and testing them. We test communicative means of interacting with others through rational scrutiny of the arguments that support premises and assumptions. If the outcome of this process is confirmation of our original premises and assumptions, we continue to act and interact from the same schemes and perspectives as before, but with additional information and thoughtfulness. If the reflective process results in negation leading to core modifications to either our meaning schemes or perspectives, transformative learning has occurred and we not only view the world with more insight into ourselves and others, but act on those insights accordingly, thus meeting McMahon’s criteria for reflective practice as action research (1999).

**Structuring a critical reflection process**

Generating a narrative of the incident was important, both to represent the event holistically (Leitch, 2000) and faithfully as recalled, and provide data for a structured analysis process (Brookfield, 1995). Transformation theory is complicated, but reflects definite hierarchical and relational structures that Mezirow represented graphically in different ways (2001, pp. 67, 95, 109). I needed a way to organize my thinking about how identified filters and meaning perspectives had been either confirmed and expanded, or negated and changed by my experiences with these projects, and in particular, the visual documentation activities that were most puzzling to me. I considered the following questions embedded in the theory to devise a simple matrix (Table 1) grounded in transformation theory to organize the data generated from my narrative:

1. What are the filtering lenses related to this context through which I perceive and process experiences?
2. What are the affected meaning schemes (constructs) that are part of my meaning perspective?
3. What were the existing assumptions and premises on which these filters and schemes were based?

Table 1. Reflection matrix

|                  | Meaning perspective              |                       |   |
|------------------|----------------------------------|-----------------------|---|
|                  | Confirmed & expanded to include: | Negated & changed to: | Validation role of Visual Documentation |
| Existing filters |                                  |                       |   |
| Existing schemes |                                  |                       |   |

4. How were these meaning schemes and filters confirmed/expanded or negated/modified as a result of the experience?
5. How did the visual documentation experience serve to validate, in terms of my actions and communication with others, changes to my assumptions?
6. What transformation occurred as a result?

As I read and re-read the narrative, I wrote notes (as existing assumptions to be validated) in the margins as one would do when reading a student paper. Then I went over the notes and coded them to potential placement in the matrix. For example, at one point I noted, '[visual documentation] makes teaching public, by inference', and 'the provost did not seem comfortable with [my] teaching and learning style'. Thinking on these statements, I coded the first to assumptions about the visual documentation process, and the second to possibly a negated assumption related to my role as a university instructor.

### **Filter transformations**

As I organized my data, I addressed this first in order to understand the multiple frames from which I would consider the problem, the various dimensions from which I reacted and responded to the experience. Table 2 summarizes the conclusions I reached about filters and the aspects of the visual documentation processes that served to validate both my expanded, negated and changed assumptions.

I identified five lenses or perspectives through which I was processing this experience. Obviously, one of these was my newly acquired role as a university instructor, with tentative confidence and understanding of my position, because I had been hired with only a Master's degree but assigned many responsibilities, as I was a one-woman early childhood program with administrative, as well as teaching, expectations. The visual documentation of my students' projects served to precipitate thinking about my position; my assumptions about academic freedom within a parochial institution had been diminished although the public presentation of student documentation had been perceived as powerful by others in both my academic and civic communities. I certainly understood that what we had done that semester was worth pursuing further, and was committed to forge ahead, regardless of the consequences. Given the conservative nature of my university and the Provost's initial reaction to my class, I still wonder if the issues raised by the Stress Project had not been so serious they could not be ignored, whether I would have had a job the following year.

Secondly, and more specifically, I was (and still am) an early childhood teacher educator intent on providing my students with a repertoire of knowledge and skills representative of research-based and current best practices. The visual documentation students produced certainly represented all the elements of this process as described in the literature I had reviewed. I was definitely more knowledgeable about the process than I was before we started their projects, and beginning to see its potential in representing the thinking of young children.



Table 2. Filters through which experience was considered

| Filters                             |  |  |  |
|-------------------------------------|--|--|--|
|                                     | Confirmed & expanded to include:   | Negated & changed to:  | Validation role of Visual Documentation  |
| University instructor               | Emerging confidence and conviction: this is worth pursuing with enthusiasm | Dichotomy: troublemaker vs. concerned community member; Provost still not happy with me; academic freedom challenged | Precipitant; made project public; positive reaction from university and community representatives; perceived as powerful by others                         |
| Early childhood educator            | More knowledgeable than before   |  | All aspects of visual documentation as described in literature were represented  |
| Doctoral student                    | Researcher; co-learner   |  | Source of information about visual documentation that confirms what I was learning and had already written about Reggio and generates a lot more questions |
| Art education background            | Makes more sense to me than it might to others                             |  | Visual context represents 'aesthetic text' as described by Eisner (Pinar <i>et al.</i> , 1991)   |
| Passive, white, middle-class female |  | Dichotomy: tolerated woman in a 'man's university' vs. competent professional  | Precipitant; made project public; my role as students' mentor acknowledged   |

Thirdly, I could not ignore the influence of my doctoral program in this dynamic, as the source of information and questions about the Reggio Emilia approach and visual documentation in the first place. I was not just the teacher in the course, but a student as well, and the notions of reciprocity (Gandini *et al.*, 1994) and students and teachers as co-constructors of knowledge were becoming more clear to me. I understood that the many new questions I had about visual documentation, particularly about concrete representation of the relationships between problem posing and problem solving, were providing me with insights about a potential line of research (which I have pursued in the meantime).

Fourthly, I could not help wondering if perhaps I was more interested in this process as a former art teacher than if I had not been; where I saw visual documentation as 'aesthetic text' (Eisner, 1985), would someone else with a strictly elementary or early childhood perspective have viewed it differently?

Lastly, I was a member of an all-female department that had been grudgingly merged, along with the nursing programs from a women's college, into a formerly all-male, very conservative institution at which my women colleagues did not consider themselves particularly valued in many respects. I was newly re-entered into professional life, having spent 10 years at home raising two children, and just beginning to explore feminist perspectives in the research literature. The project that became public had certainly been controversial, not well received initially by the administration, and I was not entirely sure that it did not have something to do with my status as a member of the female faculty minority.

Because filters are temporal in nature, it is important to understand that if this had happened to me today, I would now be looking at this event through significantly altered lenses. At the time, I was a fledgling teacher educator with a recent Master's degree in early childhood education and had completed only about a third of my doctoral program coursework. Now, I have a Ph.D. and many more years of higher education teaching experience. I am now at a different, public university where male and female academic staff enjoy equal status. I have directed a Masters program for four years and taken it through a successful external review. My understanding of the Reggio Emilia approach was marginal, although I had read everything I could locate about it before beginning the project. In the meantime, the Reggio Emilia concept has been 'Americanized' as the *Project Approach* (Katz & Chard, 2000) and is one of the four formally approved approaches for early childhood in the state where I currently teach. Coming to early childhood from an art education background, my disposition towards visual learning was especially strong (and still is), although I am no longer current in that field. My confidence as a teacher educator was limited, but growing as a result of affirmation for my work by students and other faculty in my department with more seniority and experience. I knew nothing about transformation theory then. What these data analyses with respect to filter transformations represent are a faithful rendering of my thinking at the time.

### **Meaning scheme transformations**

After reading the narrative several times, I identified meaning schemes about which I knew I had assumptions that were affected by my filters. The constructs I examined were those most closely related to and affected by the situation, i.e. what are teaching, learning, communication and who is a college professor?

#### *Teaching*

Table 3 represents the summarized conclusions I reached about changes to my concept of what it means to teach. I realized that the premises for my existing assumptions about teaching at that time were a product of mostly behaviorist experiences as a child and in my teacher education preparation. With an emerging orientation towards a constructivist approach, I now understand that the visual documentation process, being highly constructivist and heuristic, helped me formulate new ideas and

Table 3. Changes to assumptions about teaching

| Teaching is:                                   | Confirmed & expanded to include:                                     | Negated & changed to:                                   | Validation role of Visual Documentation                             |
|--|--|---|---|
| Control of environment                         |  | Caretaker of environment                                | Becomes the environment   |
| Control of t/l process                         |  | Inspiration for learning                                | Conveys learner freedom   |
| Structured/planned process                     |  | Collaborative planned, but also spontaneous process     | Demonstrates collaboration  |
| Knowing more than my students                  |  | Co-learner; knowing <i>differently than my students</i> | Reflects learning styles, products, & process of learning           |
| 2 way communication between teacher & students | 3 way: includes environment  |   | Becomes the dynamic for communication                               |
| Friendly, but formal process                   | Friendly, informal process   |   | Promotes 'friendliness'; represents level of formality in classroom |
| Respect for students                           | Trust in students  |   | Provides evidence of student ownership                              |
| Private process b/t t & students               | Public, shared   |   | Makes teaching public, by inference                                 |
| Modeling/ demonstration                        |  | Suggesting  | Created by students   |
| Problem posing                                 | Problem managing   |   | Represents problem posing & problem solving                         |
| Sharing existing knowledge                     | Creating the conditions under which new knowledge can be constructed |   | Shares & communicates new knowledge as constructed                  |

assumptions about (a) control, (b) the nature of the relationship between the teacher and students, and (c) the role the instructor plays (or does not play) as 'teacher'. As a result of this experience, my teaching paradigm underwent a shift away from a transmission paradigm (Tyler, 1949) towards a more transactional process that could have extraordinary implications for my subsequent emancipation from previously held notions about the epistemological question of what is worth knowing.

### Learning

Similarly, my assumptions about learning changed in a manner very consistent with those related to teaching (Table 4). The visual documentation process provided concrete evidence of not only what was learned, but how learning emerged and was

Table 4. Changes to assumptions about learning

| Learning is:   | Confirmed & expanded to include:  | Negated & changed to:                      | Validation role of Visual Documentation  |
|--|---|--|--|
| Incremental & linear process   |   | Exploration & Revisitation; Global process | Mechanism for revisitation of earlier stages & characterizations of learning                                       |
| Participatory & Cooperation  |   | Collaborative Ownership                    | Represents co-ownership of process; provides opportunity for reflexive communication                               |
| Concrete to abstract   | Concrete and abstract   |  | Concrete representation of abstract concepts & ideas   |
| Absorbed & processed<br>Problem solving  | Problem posing  | Actively & intentionally constructed       | Intentional product of active construction<br>Depicts how problems were posed & solved                             |
| Closed/private activity<br>2-dimensional;<br>'black & white';<br>learned or not<br>learned | Open; transparent;<br>shared<br>3-dimensional; many<br>nuances & shades of<br>'grey'; |  | Makes learning public explicitly<br>Reflects complex and transparent nature of learning; i.e. 'window on learning' |

revisited over time by students, reflexively as opposed to the linear, incremental process I was familiar with previously. A second significant issue was that previously I did not see myself as a co-learner. I certainly considered myself a learner, being a postgraduate student, but was separating those roles and not seeing the teaching/learning dynamic as a unified construct, a symbiotic relationship between the teacher and students, that I would also benefit from my students' choices.

### *Communication*

Anyone who teaches is immersed in communication on a daily basis and I believe assumptions about communication provide many criteria by which we evaluate the teaching/learning process. Table 5 includes confirmed and changed assumptions about communication.

Key to the changes in these assumptions is the way Reggio Emilia defines communication as the '100 Languages of Children' (Gandini *et al.*, 1994) and how that is enacted through visual documentation. Because young children are not proficient readers and writers, many media are used that, as a trained art teacher, I would have previously considered art materials. While I valued artistic expression as a means to

Table 5. Changes to assumptions about communication

| Communication is:                           | Confirmed & expanded to include:                         | Negated & changed to:   | Validation role of Visual Documentation                |
|---|--|-------------------------|--|
| Reading, writing, speaking, listening, arts | 100 Languages of Children (Gandini <i>et al.</i> , 1994) |                         | Multiple modes of communication explored & represented |
| Dialogue—back & forth                       |  | Meandering conversation | Documents process & products of ‘conversation’         |

convey feelings and impressions, the way art media were used in the visual documentation process expanded my communication scheme immeasurably. In addition, my current orientation towards curriculum is from a discursive perspective. I was just at that time being introduced to curriculum discourse from different philosophical perspectives, specifically, consideration of curriculum as aesthetic text (Eisner, 1985; Pinar *et al.*, 1995). Although I didn't have a well-developed idea at the time of what that meant, I could see that perhaps because of my prior role as an art teacher, this experience with visual documentation certainly helped to move me in that direction.

#### *Who is a college professor?*

I previously described my role as a university instructor as one of the filters through which I translated this experience. However, it was a construct I was just beginning to develop as well, since I was so new at it. Because of the controversial nature of the project the students were engaged in that became both visible and public as a result of their visual documentation, my assumptions about what it meant to be a college professor were changed in many respects that were context specific, independent of the role I played as an instructor in this particular situation (Table 6). In many ways, the changes to the assumptions I made about what it meant to be a professor at that institution provoked my decision to move to a different place, as they were not consistent with what I thought the role of a college professor should be. The validation visual documentation played in this respect was particularly interesting to me, because it was totally unexpected.

The conclusions I reached about transformations that occurred to my meaning perspective through the identified filters and meaning schemes can thus be summarized:

1. Although others might identify similar filters, the manner in which students' visual documentation was perceived by others provided me with insights about both the individual and temporal nature of the lenses through which I viewed my work.
2. Meaning schemes related to teaching and learning were both confirmed and expanded in different ways, and negated or modified to varying degrees.

Table 6. Changes to assumptions about being a college professor

| College professor             | Confirmed & expanded to include:  | Negated & changed to:                         | Validation role of Visual Documentation                         |
|-------------------------------|---|---|---|
| Employee of institution       | Representative of institution   |   | Provided vehicle for shared consideration of problem            |
| Accountable to tenure process |   | Accountable to individuals within institution | Some people are not comfortable with public teaching & learning |
| Teacher                       |   | Subordinate employee                          |   |
| Researcher: studies others    | Poses questions & ponders about self, environment, shared experiences, phenomena & others |   | Rich data source  |
| Symbol of academic freedom    |   | Degree of freedom is controlled               | Precipitant   |
| Trusted                       |   | Someone to be watched & suspected             | Must communicate clearly or risk being misinterpreted           |

3. Visual documentation changed my meaning scheme for communication to the extent that it provided an entirely new lens through which to view curriculum as aesthetic text.
4. Both my constructs of *college professor* and *university instructor* filter through which I viewed my work were jolted severely and much more clearly defined as a context-specific construct.
5. My tentative concept and limited understanding of visual documentation were greatly expanded in ways that were beyond what was in the current literature.
6. A simple commitment to engage in an initial exploration of representing project work through the use of visual documentation was changed to the conviction that I recognized the process as a source and inspiration for future scholarship and critical reflection.

### Implications for practice

The implications of this study for practice can be described from two perspectives: what I learned personally about the potential of visual documentation as a teaching and learning strategy, and insights about emancipatory learning and teacher growth through theoretically grounded structured reflection that could be of benefit to other teacher educators. My initial question back in 1995 was simply, 'How can my students learn about projects and visual documentation by doing them and what do I have to do to stay one step ahead of them?' Most of the subsequent literature on visual documentation focuses on documenting children's work (Goldhaber & Smith, 1997; Beneke, 2000; Cooney & Buchanan, 2001; Currah & Cooney, 2002) or what

teachers can learn about project-based curriculum from using it (Bullard & Bullock, 2002). As a result of my experiences, I believe the process can stand alone as a powerful means by which we can create multiple *windows on teaching and learning*. While engaging in emergent projects has powerful implications and potential for student and teacher growth, the multi-dimensional possibilities of using visual documentation to facilitate metacognition on many levels ‘knocked my socks off’—then, and still. Requiring students to document their own learning challenges them not only to selectively identify what is meaningful to them and how they learned it, but to consider and make subsequent decisions about how to communicate what children are learning, from a more sophisticated, layered orientation. The focus of my current work is three-fold: (a) what students learn about curriculum from documenting both their own and children’s projects; (b) what students discern about their own learning from documenting non-project related learning in other courses I teach; and (c) what I uncover about student learning and my teaching from engaging in my own documentation of their work in my courses, in particular from comparing what I selectively choose to document with what they identify as important. I cannot imagine teaching today without doing that.

The second, and wider, implication of developing and structuring a reflection process is the potential for promoting the very emancipatory education Mezirow (1990, 1991) described, for both students and teacher educators. Zeichner (2003) recently reported in his review of teacher professional development in P-12 (i.e. preschool to twelfth grade) American schools, that this kind of teacher-directed self-study research is sorely needed. I propose two focusing questions that now guide my present teaching. First, how can deep, critical reflection and an orientation to action research be promoted through examination of the assumptions and premises on which students’ ideas are based? Reflection activities must have both a purpose and structure derived from a theoretical base that we make explicit to students. Asking them to simply reflect in their journals, without providing the theoretical orientation on which that process is based, will engage them in thoughtfulness, but without a metacognitive framework from which to analyze their thinking or resulting notions that will impact their future instructional actions. For example, this early excerpt from a student journal about visual documentation is certainly thoughtful:

Visual documentation is an excellent way for children to see the things that they have learned. Since they have chosen the topic they want to study and [have learned] a lot through a project, they take great interest in their products. Visual documentation allows for this to happen. Teachers can display visual documentation in many different ways ... . Visual documentation also gives method to your madness for parents, administration, and faculty. Some people might question the teaching of projects. But if you are able to visually document the children’s thinking, it clarifies things for everyone and really makes you think about what you are doing, because you have to explain and interpret it to everyone else.

However, this entry says nothing about the assumptions on which these observations are based. This next example, however, documents the student’s thinking about meaning schemes that, while not necessarily sophisticated, clearly indicates the student is trying to demonstrate how her thinking has grown (Table 7). Embedded in

Table 7. Excerpt from student journal

| Children   | Teacher's Role   | Curriculum Content   | Teaching Strategies  |
|--|--|--|--|
| Assumption   | Change to assumption   | Assumption   | Change to assumption   |
| - Children learn the same ways.  | - They are unique and learn on different levels.<br>- They need hands-on experiences.  | - Make children think and become curious learners.   | - Children also need to explore, communicate, and be able to work together.  |
| - Children benefit from a certain way of teaching.                           | - Teacher as coach, observer, evaluator, role model.   | - There are not many curriculums.  | - Children need developmentally appropriate hands-on learning.   |
| - Children of early childhood ages need constant structure in the classroom. | - Teacher can play many roles.<br>- Should provide the best setting in which a child can learn.<br>- Should add fuel to the spark of curiosity.<br>- Enables a child to need to know more.   | - There are a limited amount of curriculums.<br>- Curriculums follow a general content and lack structure.   | - Teacher may have to employ many strategies to reach all children.  |
| - Children learn in the traditional classrooms.                              | - The teacher's role is to deliver the information.<br>- The child's role is to absorb that information.<br>- They can learn adequately in other atmospheres other than what I am personally comfortable teaching.<br>- They can learn and excel in other types of classrooms. | - All curriculums are perfect.<br>- Now feel that the teacher can get down on the child's level and incorporate their own ideas and questions into the learning and teaching process.<br>- It is possible to work with children rather than teach 'at' them. | - I knew what I was doing with direct instruction.<br>- Now I realize that Direct Instruction was not what I wanted to be doing.<br>- The various teaching strategies allow us to find the one that feels right. |



her attempt to represent how her assumptions had changed are obvious implications for future strategic action. When she says for example, ‘it is possible to work with children rather than teach “at” them’, and ‘now I realize that Direct Instruction was not what I wanted to be doing’, she is clearly indicating a shift in her thinking about the teacher/learner dynamic that I could then use to help her make a plan for what changes she would need to make to act on those insights.

Second, how do the respective meaning perspectives and schemes of teachers and their students affect the teaching/learning dynamic and expected learning outcomes in the classroom? When we know not just what our students are thinking, but how they came to think that way, we can examine how their ideas are similar and different from those of other students and ourselves and provide them with the authentic voice (Winter, 1998a) that should be a goal of action research. Providing them structured analytical frameworks can be useful to promote, in addition to the kind of haphazard insights that can emerge from autobiographical reflection on perspective transformations (James, 1999), concrete representations of their thinking that consider not just thoughtfulness, but ongoing examination of their world view, the origins of that paradigm, the filters through which they see the world, the assumptions on which they base their ideas, and reflection on exactly how those ideas are being modified as a result of their experiences.

## References

- Beneke, S. (2000) Documentation in a lab school setting: teaching new teachers to document, in: *Issues in early childhood education: curriculum, teacher education, and dissemination of information. Proceedings of the Lillian Katz Symposium, Champaign, IL, 5–7 November*. ERIC Document Reproduction Service No. 470 893.
- Brookfield, S. (1990) Using critical incidents to explore learners’ assumptions, in: J. Mezirow and Associates, *Fostering critical reflection in adulthood: a guide to transformative and emancipatory learning* (San Francisco, Jossey-Bass), 177–193.
- Brookfield, S. (1995) *Becoming a critically reflective teacher* (San Francisco, Jossey-Bass).
- Bullard, J. & Bullock, J. R. (2002) Modeling collaboration, in-depth projects, and cognitive discourse: a Reggio Emilia and Project Approach course, *Early Childhood Research & Practice: an Internet journal on the development, care, and education of young children*, 4(2). ERIC Document Reproduction Service No. ED 471 907.
- Carter, K. & Doyle, W. (1996) Personal narrative and life history in learning to teach, in: L. Sikula (Ed.) *Handbook of research on teacher education* (2nd edn) (New York, Macmillan), 120–142.
- Clandinin, D. J. & Connelly, F. M. (1994) Personal experience methods, in: N. Denzin & Y. Lincoln (Eds) *Handbook of qualitative research* (Thousand Oaks, CA, Sage Publications), 413–427.
- Clandinin, D. J. & Connelly, F. M. (1996) Teachers’ professional knowledge landscapes: teacher stories—stories of teachers—school stories—stories of schools, *Educational Researcher*, 25(3), 24–30.
- Cochran-Smith, M. (2003) Learning and unlearning: the education of teacher educators, *Teaching and Teacher Education*, 19, 5–28.
- Conle, C. (1996) Resonance in preservice teacher inquiry, *American Educational Research Journal*, 33(2), 297–325.
- Conle, C. (1999) Moments of interpretation in the perception and evaluation of teaching, *Teaching and Teacher Education*, 15, 801–814.

- Cooney, M. & Buchanan, M. (2001) Documentation: making assessment visible, *Young Exceptional Children*, 4(3), 10–16.
- Currah, D. & Cooney, M. H. (2002) Documenting children's learning activities: advancing professional development in early childhood teacher education, *Journal of Early Childhood Teacher Education*, 23, 227–233.
- Dewey, J. (1933) *How we think: a restatement of the relation of reflective thinking to the educative process* (Boston, Heath).
- Eisner, E. (1985) Aesthetic modes of knowing, in: E. Eisner (Ed.) *Learning and teaching the ways of knowing: eighty-fourth yearbook of the National Society for the Study of Education* (Chicago, IL, University of Chicago Press), 23–36.
- Elbaz, F. (1988) Critical reflection on teaching: insights from Freire, *Journal of Education for Teaching*, 14(2), 171–181.
- Elbaz, F. (1991) Research on teacher's knowledge: the evolution of a discourse, *Journal of Curriculum Studies*, 23(1), 1–19.
- Feldman, A. (2002) Existential approaches to action research, *Educational Action Research*, 10(2), 233–251.
- Flanagan, J. C. (1954) The critical incident technique, *Psychology Bulletin*, 51(4), 327–358.
- Foshay, A. F. (1991) The curriculum matrix: transcendence and mathematics, *Journal of Curriculum and Supervision*, 6, 277–293.
- Gandini, L., Edwards, C. & Forman, G. (1994) *The hundred languages of children* (Norwood, NJ, Ablex).
- Goldhaber, J. & Smith, D. (1997) 'You look at things differently': the role of documentation in the professional development of a campus child care development center staff, *Early Childhood Education Journal*, 25(1), 3–10.
- Gravett, S. (2004) Action research and transformative learning in teaching development, *Educational Action Research*, 12(2), 259–272.
- Habermas, J. (1984) *The theory of communicative action, Vol. 1: Reason and rationalization of society* (T. McCarthy, Trans.) (Boston, MA, Beacon Press).
- Hatton, N. & Smith, D. (1995) Reflection in teacher education: towards definition and implementation, *Teaching and Teacher Education*, 11(1), 33–49.
- Helm, J. H., Beneke, S. & Steinheimer, K. (1998) *Windows on learning: documenting children's work* (New York, Teachers College Press).
- Hole, S. & McEntee, G. H. (1999) Reflection is at the heart of practice, *Educational Leadership*, 56(8), 34–37.
- Hopp, C. W. (2001) Transcendent experiences and teacher transformation, *Journal of Curriculum and Supervision*, 16(3), 273–276.
- James, P. (1999) Rewriting narratives of self: reflections from an action research study, *Educational Action Research*, 7(1), 85–103.
- Jaruszewicz, C. (1994) *Reggio Emilia: an in-depth view*. ERIC Document Reproduction Service No. ED 376 936.
- Katz, L. & Chard, S. (2000) *Engaging children's minds: the project approach* (Norwood, NJ, Ablex).
- Leitch, R. (2000) Action research and reflective practice: towards a holistic view, *Educational Action Research*, 8(1), 179–193.
- McAlpine, L., Frew, E. & Lucas, M. (1991) Mechanisms for helping becoming practitioners develop professional ways of knowing, in: M. Baskett, V. J. Marsick, T. G. Pearson, D. R. Klevans & J. Delehanty (Eds) *Proceedings of the continuing education preconference of the American Association of Adult and Continuing Education* (University Park, PA, Penn State University), 67–73.
- McAlpine, L., Weston, C., Beauchamp, J., Wiseman, C. & Beauchamp, C. (1999) Building a metacognitive model of reflection, *Higher Education*, 37(2), 105–131.
- McMahon, T. (1999) Is reflective practice synonymous with action research?, *Educational Action Research*, 7(1), 163–169.
- Mezirow, J. (1991) *Transformative dimensions of adult learning* (San Francisco, CA, Jossey-Bass).

- Mezirow, J. & Associates (1990) *Fostering critical reflection in adulthood: a guide to transformative and emancipatory learning* (San Francisco, CA, Jossey-Bass).
- Newsweek* (1991) The 10 best schools in the world and what we can learn from them, 2 December, 51–64.
- Palmer, P. (1993) *To know as we are known: education as a spiritual journey* (New York, Harper Collins).
- Palmer, P. (1998) *The courage to teach: exploring the inner landscapes of a teacher's life* (San Francisco, CA, Jossey-Bass).
- Patterson, C. & Fleet, A. (1998) Early childhood teachers: writing to explore professional experience, *Journal of Early Childhood Teacher Education*, 19(1), 71–78.
- Pinar, W. F., Reynolds, W. M., Slattery, P. & Taubman, P. M. (1995) *Understanding curriculum: an introduction to the study of historical and contemporary curriculum discourses* (New York, Peter Lang).
- Polanyi, M. (1966) *The tacit dimension* (New York, Doubleday).
- Rodgers, C. (2002) Seeing student learning: teacher change and the role of reflection, *Harvard Educational Review*, 72(2), 230–252.
- Schön, D. A. (1983) *The reflective practitioner* (New York, Basic Books).
- Schön, D. A. (1987) *Educating the reflective practitioner* (San Francisco, CA, Jossey-Bass).
- Sen, J. (2002) Understanding teachers' professional growth through their articulation of personal practical knowledge, *Journal of Education for Teaching*, 28(1), 75–78.
- Shulman, L. (1986) Those who understand: knowledge growth in teaching, *Educational Researcher*, 15(2), 4–14.
- Tripp, D. (1993) *Critical incidents in teaching: developing professional judgement* (New York, Routledge).
- Tyler, R. (1949) *Basic principles of curriculum and instruction* (Chicago, University of Chicago Press).
- Valli, L. (1992) *Reflective teacher education: cases and critiques* (Albany, NY, State University of New York Press).
- Van Manen, M. (1977) Linking ways of knowing with ways of being practical, *Curriculum Inquiry*, 6, 205–228.
- Van Scoy, I. J. & Freeman, N. K. (1998) Through our eyes: helping emerging teachers see themselves, *Journal of Early Childhood Teacher Education*, 19(1), 43–53.
- Winter, R. (1998a) Finding a voice-thinking with others: a conception of action research, *Educational Action Research*, 6(1), 53–68.
- Winter, R. (1998b) Managers, spectators, and citizens: where does 'theory' come from in action research?, *Educational Action Research*, 6(3), 361–376.
- Woods, P. (1993) *Critical events in teaching and learning* (Bristol, PA, Falmer Press).
- Yost, D. S. & Mosca, F. (2002) Beyond behavior strategies: using reflection to manage youth in crisis, *The Clearing House*, 75(5), 264–267.
- Zeichner, K. (1994) Research on teacher thinking and different views of reflective practice in teaching and teacher education, in: I. Carlgren, G. Handal & S. Vaage (Eds) *Teachers' minds and actions: research on teachers' thinking and practice* (Bristol, PA, Falmer Press), 9–27.
- Zeichner, K. (2003) Teacher research as professional development for P-12 educators in the USA, *Educational Action Research*, 11(2), 301–325.
- Zuckerman, J. T. (2001) Veteran teachers' transformations in a collaborative mentoring relationship, *American Secondary Education*, 29(4), 18–29.