



Personal Construct Psychology for Developing Reflective Teaching in Physical Education: A Story of Decentering 'Self' as Teacher

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This study examines how a semi-autobiographical process associated with personal construct psychology (PCP) assisted student teachers in developing reflective teaching practices. This paper introduces how the repertory grid process from PCP offers a tool to develop reflective thinking in a teacher preparation course. The repertory grid process encourages student teachers to question the autobiographical roots of their personal beliefs on effective teaching. Using a case study of a student teacher, this paper examines how, after a nine-week school teaching practice, a student teacher used the repertory grid to re-frame her understanding of teaching. The findings from the study suggest that the repertory grid procedures offers student teachers a reflective process for self-evaluation, self-referencing and self-awareness that enables them to realize more effective teaching practices.

Cette étude porte sur le processus semi-autobiographique de la psychologie de la construction personnelle (PCP) pour aider les étudiants en enseignement à élaborer des stratégies d'enseignement axées sur la réflexion. Ce mémoire explique comment le processus de la grille du répertoire de PCP peut aider à l'enseignement de la réflexion à ces étudiants. Ce processus encourage les étudiants à remettre en question les fondements de leurs convictions personnelles à l'égard de l'enseignement efficace. En se fondant sur une étude de cas auprès d'une étudiante, l'auteur a étudié comment, après un stage d'enseignement de neuf semaines, l'étudiante utilise le processus de la grille du répertoire pour situer à nouveau sa compréhension de l'enseignement. Selon cette étude, le processus de la grille de répertoire permettrait aux étudiants d'adopter un processus de réflexion pour l'autoévaluation, le raisonnement autoréférentiel et la connaissance de soi afin d'adopter des pratiques d'enseignement plus efficaces.

Introduction

It is a common belief that student teachers will initially teach the way they were taught (Britzman, 1991; Lortie, 1975). To explain this belief in physical education Locke and Dodds (1984) note two possible scenarios. In scenario one, student teachers are socialized by a strong influence to conform to common practices in the field. In scenario two, student teachers already possess traditional, custodial values about teaching acquired through their long apprenticeship of observation: Re-entry into schools activates their latent proclivity for custodial behaviour as they look to the revered models of their youth. This study explores how student teachers can examine their latent values for teaching physical education in a systematic manner, as they resist the influence from the field to conform. In conclusion, it is suggested that this examination enables student teachers to

reflect and counter the socialization influences of field experiences as they develop their teaching practice.

For those wishing to teach physical education, sporting experience is a strong factor (Gore, 1990; Macdonald, 1992). This experience is often focused on elitist, single sex programs, where winning is valued above all else. Furthermore, for prospective physical educators there are social reifiers related to the social construction of the body (Gilroy, 1994; Kirk, 1993; Kirk & Spiller, 1994) and what Tinning (1985) has termed the Cult of Slenderness. What is needed in PE is a way of helping prospective physical educators understand how their previous sport experiences and associated ideologies influence their growth as a physical educator of all children.

In teacher education generally it has been argued that schools socialize student teachers into traditional, outdated pedagogy or that teacher preparation programs do not equip pre-service teachers to handle the demands of teaching (Tabachnick & Zeichner, 1984; Zeichner & Liston, 1987). In a review of current literature on learning how to teach, Wideen, Mayer-Smith, and Moon (1998) point out that our understanding of how people learn to teach has greatly expanded in recent years. However, they highlight that what is discovered depends on how one conceives of what is to be learned by prospective teachers and how they learn it. This study has focused more on what Wideen et al. (1998) have termed a progressive tradition based on understanding what student teachers know and how that knowledge is acquired. As such, this study draws on principles of learning associated with a constructivist orientation to teacher education (Richardson, 1997).

From a social constructivist perspective, the foundation of student teachers' sense of effective teaching is developed from their experiences of being taught (Gergen, 1991; Goodson, 1990; Richardson, 1997). The pattern of these experiences can be examined through the anecdotes recalled by student teachers. Such patterns either screen out much of what is taught in teacher preparation or create the framework for personalizing professional knowledge into practice. Based on this understanding of learning to teach, the reflective practitioner movement advocates that we need strategies that enable teachers to frame (Schön, 1983) and re-frame (Schön, 1987) their sense of effective teaching. Such a re-framing would enable student teachers to develop their patterns of thinking about teaching from their experiences of being taught, and thereby affect their own experiences of learning to teach. This paper will explain how the repertory grid process leads to conversations with student teachers that enabled them to frame their personal, often pre-articulated beliefs about teaching. Using a case study of one student teacher, this paper examines how, after a nine-week school teaching practice, a student teacher used the repertory grid to re-frame her understanding of teaching.

Background To The Repertory Grid

The repertory grid was developed by George Kelly (1955) as a tool to research his personality theory of personal construct psychology (PCP). The premise of the theory is centered on constructivist notions that we construct what we experience based on our previous experiences. Kelly was a psychologist who worked in an age that promised much from rationalism and scientific rhetoric to understand and predict human behaviour. However, Kelly grew skeptical of such promises and goals; he believed that individuals had the same capabilities as scientists to observe, analyze and predict their own behaviour as they constructed the reality before them. In Kelly's (1955, p. 79) words, a person "does not learn certain things merely from the nature of the stimuli;" rather a person "learns only what his [sic] framework is designed to permit him [sic]" to learn. The repertory grid allows participants to systematically examine elements from a field of interest that construct their frameworks for understanding that field. For example, teachers from individuals' pasts represent elements that have influenced their construction of meaning for effectiveness in the field of teaching. The grid allows many elements (teachers) to generate characteristics that individuals feel distinguish one teacher from another. The repertory grid does this using a matrix format. Along the hori-

zontal axis are the elements. Up the vertical axis are the characteristics as bi-polar constructs.

In this study the field of interest was effectiveness in teaching with an emphasis on physical educators. Participants were asked to consider PE teachers, junior high and senior high school teachers, and coaches from their past. The bi-polar constructs are opposite descriptors with a one to five numbered rating scale (see Figure 1). This rating scale is used to assign an ordinal rating for the elements being examined. For example if a participant generated the bi-polar construct "interesting or dull" to describe teachers, he may rate one teacher as somewhat interesting giving them a "2" and another teacher as very dull giving them a "5" (Figure 2 gives examples of a grid with ratings for each teacher). A key characteristic of the repertory grid is that participants consistently rate elements from their past, in relation to a field of interest, the same unless they engage in an experience that questions how they interpret that field of interest (Adams-Webber, 1982; Bannister & Fransella, 1986; Fransella & Bannister, 1977).

The Repertory Grid and Physical Education Teacher Education

Drawing on the work of Diamond (1991), Hunt (1987) and Pope and Keen (1981) this study uses the repertory grid as a reflective tool. In physical education teacher preparation, Rossi (1997) has shown how effective the repertory grid has been in helping students 'see differently' their experiences of teaching as they learn to integrate professional knowledge into their teaching. Hopper's (1996) research using PCP focused upon ten physical education student teachers over the final two years of their undergraduate program. This research showed how student teachers could evolve and transform their personal beliefs about effective teaching into practice.

The Case Study

Developing from Rossi (1997) and Hopper (1996) studies, this research operationalized the repertory grid process into a teacher preparation course. Participants were forty-five student teachers participating in their final instruction and curriculum course for secondary school physical education at a major university in North America. After the course, all the student teachers completed a nine-week practicum before entering the work force. Within the course, the repertory grid process was used to help student teachers understand the idea of becoming reflective practitioners. To allow findings from the process to be reported the student teachers completed an informed consent form. These consent forms were confidential until course requirements were completed.

Within the confines of the course it was impossible to analyze all of the forty-five student teachers interviews as with the Hopper (1996) study, and although general patterns across the participants can be reported, the value of the repertory grid process lies with its ability to help the individual construct autobiographical meaning. Within the course, all the student teachers were able to develop their own themes for effective teaching. After the practicum, five of the student teachers were available to be re-interviewed to discuss how their themes had evolved in their practice. As a case study, the findings from one of these student teachers, Stacy, will be reported.

Stacy was in her final year of a four-year joint honours degree in physical education and secondary education. She had previously taught in a school in a four week teaching practice. Stacy was a very good sportswoman who as a student in a school had always been one of the best athletes. During the teaching practice associated with this study Stacy taught for nine weeks in a large Suburban high school. The school was situated in middle to high socio-economic catchment area, with a population of approximately eight hundred students.

The Repertory Grid Methodology

To create the repertory grid matrix student teachers selected, from a pool of teacher role titles, a cross-section of their past effective and ineffective teachers. These teacher roles represented the type of teachers most physical education teacher education students would have experienced through their school experiences. For example, "Most effective

PE teacher High School (HS)", "Least effective PE teacher Junior High (JH)" or "Most effective coach". Student teachers recall approximately eight to nine teachers from their past to represent each of the role titles.

To elicit the grids, student teachers worked in pairs. One person was assigned the role of interviewer and the other of participant. The interviewer wrote the participant's selected teacher roles onto flash cards. The interviewer then randomly dealt three flash cards. The participant was asked by the interviewer to rearrange the three cards to indicate, in relation to effectiveness in teaching, which two teachers were in some way similar but different from the third teacher. The interviewer changed any of the flash cards if the participant struggled to find any contrast between the teachers. From the comparison of the teachers each participant constructed a descriptor for the two similar teachers compared to the third single teacher. For example, for Stacy the teachers representing the teacher role titles "Least effective teacher (HS)" and "Least effective coach" generated the descriptor UNORGANIZED when compared to the teacher representing "Most effective PE teacher (HS)" who was INSPIRATIONAL. The descriptors "INSPIRATIONAL - UNORGANIZED" were connected to make a bi-polar construct. Stacy repeated this process of creating bi-polar constructs until she felt a reasonable stock of bi-polar constructs had been elicited from her pool of teachers. All the student teachers completed this process.

By asking a student teacher to select from a pool of teachers from different times and contexts, the repertory grid creates a process where the student teacher is comparing, contrasting and synthesizing the similarities and differences between teachers. By using their own teachers, student teachers have a very personal connection to the grid; they are the experts on each teacher. An interview with the repertory grid is very conversational because the grid allows the interviewer to make meaningful connections between the student teachers' teachers.

It is interesting to note here that the words "Inspirational" and "Unorganized" do not seem naturally to connect. However, for Stacy the connection was meaningful. As she explained, "They go together because you have to inspire kids to learn...cannot if you are unorganized."

Love what they do-Not genuine
 Kids improved-Not a lot of learning
 Important students learn-Tried to be too cool
 Inventive ideas-Students hated class
 Fair/impartial-Was annoying
 Energetic-Unprofessional
 Enthusiastic-Inconsistent
 Inspirational-Unorganized

Figure 1. Show's Stacy's completed list of bi-polar construct.

Using a 1 to 5 rating scale, the students then rated their selected teachers based on the list of bi-polar constructs. For example, with Stacy's bi-polar construct "Inspirational - Unorganized" '1' would represent VERY "Inspirational", '2' would represent SOMEWHAT "Inspirational", '3' represent NEUTRAL, '4' would represent SOMEWHAT "Unorganized" and '5' would represent VERY "Unorganized". This rating process produces a repertory grid where each teacher had a number pattern of ratings related to the elicited bi-polar constructs. Fig. 2 shows Stacy's original repertory grid. This grid is a matrix with the bi-polar constructs as rows and the teacher role titles

as columns. The rating for each teacher on the bi-polar construct is shown where the row and column meet. For example on Stacy's grid the "Least effective PE teacher (HS)" has the rating "4" on the bi-polar construct "Inspirational - Unorgnized". This "4" indicated that Stacy felt that this teacher was SOMEWHAT "Unorgnized."

After completing the grids, the student teachers entered the grids into the computer software package REPGRID 2 (Shaw, 1991). The computer software calculates how the number patterns for each of the student teachers' teachers correlates with other teachers number patterns within their respective grids. As shown in Figure 3 the software application creates a tree diagram to show how the clustering analysis indicates the correlation of number patterns for teachers and bi-polar constructs (from 100% to 70% similarities). This clustering process shows the ratings teachers that the participant gave similar ratings on the bi-polar constructs. The clusters of teachers offer a frame of reference for what the participant construed as effective and ineffective teachers. Similarly, when the computer software clusters the number patterns of the bi-polar constructs, it indicates the bi-polar constructs that have similar ratings for all the teachers considered. Such clusters construct the student teachers' themes on effective teaching.

Elements : 8, Constructs : 8, Range : 1 to 5, Context : effective teaching in PE

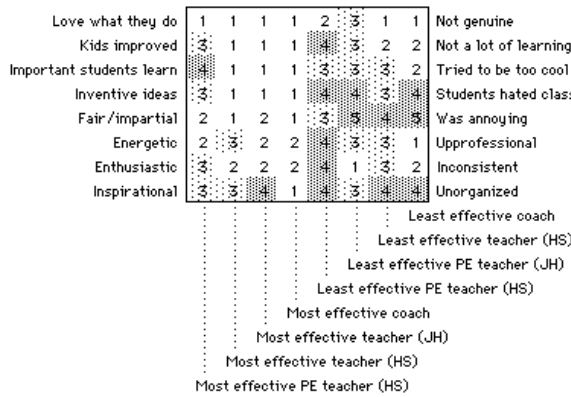


Figure 2. Stacy's grid showing the ratings of the teachers she selected on the bi-polar constructs.

Elements : 8, Constructs : 8, Range : 1 to 5, Context : effective teaching in PE

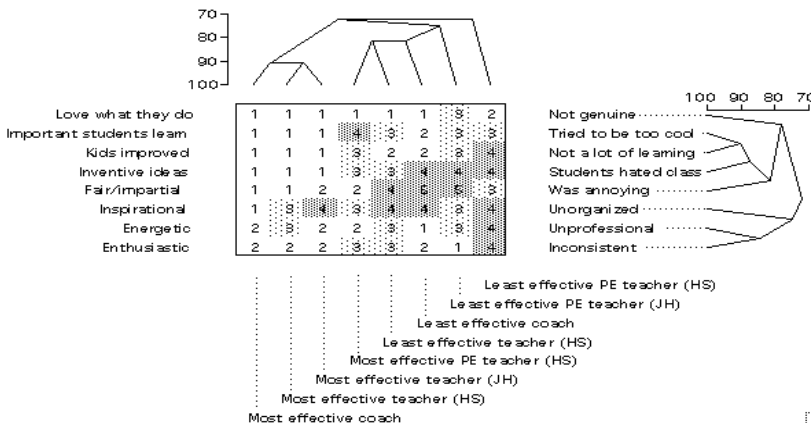


Figure 3. Stacy's repertory grid produced by the computer software. Interpreting the Repertory Grid

Each student teacher had a twenty-minute taped interview on the grid with the course instructor. In the interview, the student teachers interpreted the clusterings on the grid to elicit their initial themes on effective teaching. The role of the interviewer is to focus attention on the associations in the grid, indicated by the clustering analysis.

For Stacy, the construction of the grid made her reflect on how her PE teachers had favoured her. As she said, “At school I was one of the strongest athletes...My PE teacher at high school gave me so many privileges...We would be playing floor hockey I would be chatting with the teacher all class and the other kids...go and play! I never thought anything of it as a kid.” Stacy felt that her ineffective PE teachers tended to be elitist, favouring the “Jocks.” On the other hand, her effective teachers were able to inspire learners. As Stacy said, “The most effective teacher (JH) was chaotic off the wall...she did not seem organized but...in her activities we were, maybe she was organized, doing experiments and demos and all, it just seemed chaotic though...doing a million things...different things for different learners.” At this point Stacy was struggling to understand how a teacher could not be organized with every student doing the same thing, but at the same time inspire learning.

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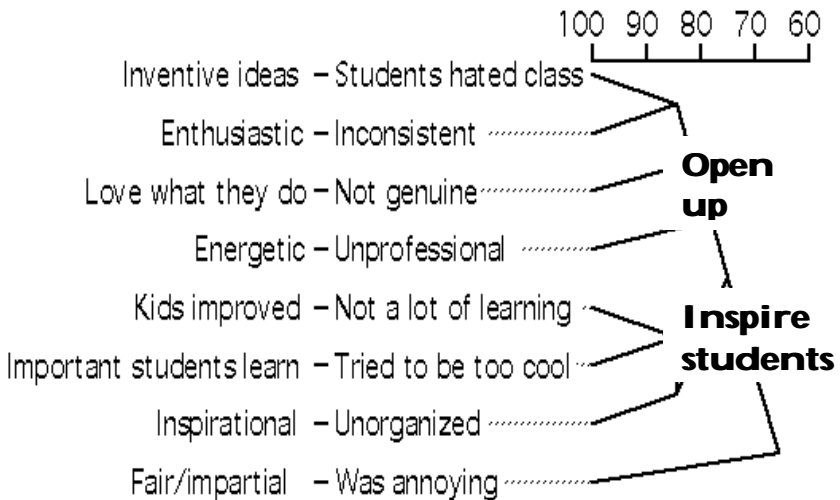


Figure 4. The original clustering of bi-polar constructs with Stacy’s themes for these clusters

In conversation about the cluster of the bi-polar constructs, Stacy felt that effective teaching comes from “teachers being fair and impartial because they allowed different options for students. They were inventive...addressed different learning modalities.” Rather than shutting learners down with “my way or the high way,” effective teaching meant you had to “Open up learners.” As shown in Figure 4, for Stacy, “OPEN UP LEARNERS” became a theme for effective teaching. In addition, Stacy felt that the bi-polar construct “Love what they do - not genuine” really referred to teachers being “RECEPTIVE TO NEW IDEAS.” The bi-polar constructs “Energetic - Unprofessional” and “Enthusiastic - Inconsistent” were important in constructing the theme of “INSPIRE STUDENTS WITH ENERGY” As Stacy said,

Energy and enthusiasm are very personal to me...people will feed off my energy or if I want to I can feed off other people’s energy or stay away from other people because they suck the life out of me.... For a kid who is apathetic towards school, if

you are super energetic person I think they just sense that 'I am not going to beat this person, I might as well give it a shot.' You have to get through to those kids.

At this point Stacy felt she could attract students to an activity with her energy, could inspire students to learn.

Stacy's Findings Post Teaching Practice

On completing her teacher practice, Stacy was able to do another interview on her repertory grid. In the second interview, Stacy re-rated her teachers on her bi-polar constructs. This re-rating produced a second grid with a new cluster pattern for the bi-polar constructs. Fig. 5 shows this new cluster pattern; in response, Stacy's themes were re-constructed in light of her experience teaching in the school.

Theme "Open Up Learners"

Stacy clarified the "Open up learners" in the following way:

Interviewer (Int.): This cluster on the new grid ["Inventive ideas - Students hated class", "Enthusiastic - Inconsistent" etc.] is very different from the first repertory grid. Why is that?

Stacy: Well like in Badminton, basically I made a transition I think...I am really "gun ho" on making things new and being enthusiastic and having different things, and it was too much all at once...not appropriate. Did not develop kids learning though I thought modified games were fun. With them [students] the whole thing they were not into it, they just wanted to play. So I would make up tournaments and had them run their own tournament.

Int.: Energy associated with this cluster but not the most important thing (Ya). Whereas before energy was right up front.

Stacy: I realized energy could not carry you for very long. Because, like you said before, you can give out all this energy but if you never get it back you die. I think I started to fizzle out. I thought 'This does not work I have to be more perceptive of their needs than almost my needs.'

Int.: Need of teacher being at the center, everything rotating around them?

Stacy: Yes. I had to step back.

Int.: How does that work with "inventive ideas" construct?

Stacy: I have thought about "inventive ideas" a lot. Something I am keen on and always wanted to try...I think a lot of the stuff I am really drawn to work with is for younger kids. Maybe, I should be teaching younger children...The reality of it, rather disappointing to me, is you cannot be as inventive in high school, or maybe I have not found out how.

Int.: So what would you call this cluster?

Stacy: I still think that it is open up learners. I just think I was trying to open-up learners with the wrong strategies sometimes...Appropriateness I mean I had to eventually just run a badminton tournament. How boring, I don't do a thing...if all lessons like that I would not feel very important. I changed things in the tournament but still it was not what I loved about teaching.

Stacy seemed to have re-defined "Open up learners" as something that is not centered on the energy or charisma of the teacher. Rather, to get students to learn relies more on finding what is appropriate for the learners, what would relate to what they want. Stacy was still struggling at seeing the teacher at a high school as somebody who was not the center of attention. However, as the interview continued it became apparent that Stacy's belief in being inventive led her to create alternatives that were effective at the high school level.

Elements: 8, Constructs: 8, Range: 1 to 5, Context: effective teaching in PE

100 90 80 70

Love what they do - Not genuine.....

Figure 5. The clustering of bi-polar constructs with Stacy's themes for these clusters after her teaching practice

Theme "Inspire Students to Learn"

When asked about the connection between the cluster of bi-polar constructs indicated by "Kids improve", "Important students learn", "Inspirational" and "Fair/impartial", Stacy replied: "It just makes sense. If it is important that kids learn then they usually do improve. In order to make them learn you have to inspire them to learn." During the teaching practice Stacy had struggled initially to get students to listen to her or even acknowledge her as a teacher. Initially, Stacy found it was impossible to get students to improve in a skill performance way. As Stacy said,

Improvement was more in a general sense because we were not doing skill testing. By changing the structures, I saw an improvement in group dynamics, responsibility and attitude. For example, I introduced half court singles in Badminton. They hated the idea and then ended up liking it because it was challenging, like they were busy, more tired at the end of class. I think they felt good about themselves.

From these comments it seemed that Stacy was moving away from being at the center of the lesson teaching students how to improve their physical skill performance. She was now able to take a more de-centered role of teacher facilitating students taking responsibility for their own learning, developing a positive attitude to physical activity and choosing what, with whom and how to play.

Referring to the re-rated grid it was noted that the bi-polar construct "Inspirational - Unorganized" was now closely associated with the bi-polar constructs indicated by "Kids improve" and "Important students learn." The rating pattern on this bi-polar construct had changed as it aligned itself with the "Kids improve" and "Important students learn" bi-polar constructs. It seemed that for Stacy it was inspirational for the teacher to find out what the kids needed to learn. Stacy recounted the following anecdote to explain the theme of **Inspire Students to Learn**:

It was the first day of the team handball unit. In the gym there was an upper part where there were weights for a work out. I had been told that the procedure in this

unit was that...half of the class play, and the other half go upstairs to do weights and watch...This put the students in an area where you could not see what they were doing. My co-operating teacher planned to sit upstairs, but he forgot and the students were kind of out of control...voices from above. I could not supervise while I was officiating...I could just feel that I was losing it.

The next day my co-operating teacher was away sick and I had a substitute teacher ("sub"). The kids are like "Ha!! Fun time with the 'sub'." The "sub" went upstairs but that did not turn out much better. Another disaster...I thought I was almost going to die. This class was on the verge of out of control...that's bad.

I had to make the kids accountable for their lack of sportsmanship, lack of respect for me and for each other...I turned the court into two courts which they had never done at the school...I dropped the curtain...I posted the tournament up [two pools of teams] and for each game that was playing there was two teams plus one team officiating. One team was assigned to "ref.", score keep and assign sportsmanship points. Instead of having half of my kids sitting off I now had everybody busy...They flicked the score charts and assigned sportsmanship points which could be from plus three to minus three. This total would be tacked onto a team's goal score at the end of the game. The officiating team was from the other pool so they were neutral.

I worked on this plan all weekend. They were going to kill me...after the next class was over I sunk down with relief, sitting on the floor in the empty gym...In the lessons I...watched what was going on, I totally needed that. I needed to take myself out of the center of attention...

On that first day with the new system, they were very quiet, thought I was going to tell them off. At the end of the class I told them I had done it because I wanted to reinforce sportsmanship and how hard it was to referee. I said "You want the ref. to be fair to your team, and you know you are going to be reffing [sic] somebody else so all of a sudden it is important to be fair." I did not say you guys [sic] were not fair to me...

They still complained but not at me. They would say, "This is so unfair." It was perfect I was so happy. They would say, "Bring back better refs. We want you to ref." On the last day I went back to full court, they played fine. I then gave them the choice of a full court or my new game structure. Only two people in the whole class wanted to play full court. They all wanted to play my new game.

Int.: That seems inspirational to me.

Stacy: Well my co-operating teacher said, "That was awesome to get the kids to accept a different game. That has never been done here before. You beat the system. We will use that."

The theme "INSPIRE STUDENTS TO LEARN" showed how Stacy now construed her teacher role in PE, especially at the high school level, as enabling students to take responsibility for their learning environment and for each other. She was able to be inventive and inspirational as she "opened up learners" and inspired them to learn how to take responsibility for their play. In doing this Stacy took herself out of the situation of being the center of attention and the focal point for the lesson.

Conclusion

The key of the repertory grid process is to focus on the themes. The grid helps student teachers to create connections about teaching that they can then put into words. In Kellian terms Stacy used the repertory grid process to observe, analyze and explain how she started to construe student learning based on her beliefs about effective teaching. From Stacy's perspective, her stories showed how she was able to identify problems ("I had to make them accountable for their lack of sportsmanship, lack of respect for me and each other"), and she was able to go against tradition ("that has never been done here before") to "inspire students to learn." Stacy expanded her construction of PE from a focus on physical skill performance to the importance of "improving group dynamics"

and developing students' attitudes to physical activity, as she said, "feeling good about themselves."

Stacy wanted to be the teacher that led by example, whose energy attracted others to be physically active. The whole sense of being at the center of a PE lesson had developed from Stacy's experiences of being a top student athlete in school. Stacy recognized that as a student she was favoured, "given special treatment." Although she saw this as ineffective teaching practice, the experience may well have framed her initial actions and expectations as she tried to be at the center of the lesson, the "super energetic person." However, when students did not respond and in the case of the Team-handball unit "verged on out of control," Stacy's response was to "take herself out of the center of attention." She sought to "open students up to learning" and "inspire students to learn" by making them accountable for all the roles in running a game. Gore (1990) and others have commented that the PE profession attracts a largely homogeneous population of successful sport players. As students in schools these sport players have been privileged in their PE lessons. Stacy indicates how experiencing this "favoured" position shaped her desire to be the center of attention as a teacher of PE lessons. Such a desire in prospective physical educators needs further research.

Rossi (1997) notes that the PCP process allows student teachers to 'see differently' the meaning of their memories and their unquestioned understandings. This re-seeing connects to Schon's (1987) notion of re-framing because the repertory grid elicits storied snapshots of participants thinking at a particular time. Diamond (1991) explains that the narratives about self and teaching which the repertory grid reveals teaches student teachers "to compose their own narratives...chart their way through their present and towards their future stages of development as teachers" (p. 41). Rather than complain that "teachers teach the way they were taught" we need to use teachers' frames of reference for teaching to enable them to see alternatives, to construct reality with a more enabling frame (Pope & Keen, 1981). This paper was a case study to highlight the method and potential of the repertory grid process. Hopper (1998) offers a case study of another pre-service teacher who was able to transform his beliefs about effective practice into practice, despite traditional practices that coerced him into more didactic practices. Future papers will highlight the experiences of a whole class of student teachers using this approach. Current findings show that this approach has led student teachers to reflectively consider how they understand teaching as they reason on their own autobiographical lenses which frame their realities of teaching. The themes developed from the repertory grid process enables a personal, reflective process that systematically allows student teachers to evolve and construct their own effective teaching identities.

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