Learning to Respond: Supervisor Novice Physical Educators in an Action Research Project

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ABSTRACT Action research guided the development of an after school community based physical education programme. Student-teachers, supported by supervisory teachers, taught 10 lessons to elementary school children. A cultural circle [Freire, B. (1982) Pedagogy of the Oppressed (New York, Seabury Press)] made up of student-teachers and supervisory teachers met once a week. The group's thematic concern was 'effective teaching of games in physical education'. The conversation at meetings developed from student teachers' reliance on supervisors to lead the teaching of lessons, to student-teachers' able to take the responsibility for teaching and guiding how lessons would be supervised. The evaluation of the study is based on Kemmis and Mc Taggart's criteria for action research [Kemmis, S. & Mc Taggart, R. (1982) The Action Research Reader, 3rd edn (Victoria, Dean University)].

Introduction

The purpose of this paper is to describe and interpret an action research project initiated to develop a collaborative supervisory support system between supervisory teachers and student-teachers. The teachers supervised student-teachers learning to teach games to children in a community based, after school, programme. The action research group was comprised of ten student-teachers, three supervisors, and one programme co-ordinator. In the community programme eight separate courses were taught. Each course focused on recognized game forms such as soccer, tennis, volleyball, football but in modified form related to the ability of the pupils. Lessons were based on thematic concerns such as body management for change of direction, or equipment handling for keeping possession in running type games (Wall & Murray, 1990).

The supervisory teachers had strong content knowledge developed from experiences teaching children. They had developed a reputation within the institutions where they taught for being excellent physical educators. As indicated by Rovegno (1992a) these teachers 'described their goals for helping pupils beneath surface-level knowledge of facts and formulas to the understanding of deeper meanings of concepts and the processes of coming to know in a discipline' p. 253). When teaching, the supervisory teachers seemed to have knowledge that related to what children were doing, they were therefore able to challenge the children's learning in the cognition, psychomotor, social and affective learning domains. Conversely the student-teachers' content knowledge was only at a surface level, at a level of labeling that had limited experiential meaning. The student-teachers were enthusiastic about teaching physical education, but had a tendency, which they acknowledged, for leading children from one activity to another in the hope that exposure would facilitate child learning. This comparison is similar to research comparing experts and novices. Novices tended to have knowledge structures that are surface-level and less differentiated; expert teachers' knowledge of pupils, classroom events, and subject matter was broader, deeper, more complex, more differentiated, and more integrated (Carter et al., 1987; Griffey & Housner, 1991; Kagan, 1992; Peterson & Comeaux, 1987; Rovegno, 1992a; Rovegno, 1992b). The difference between novice and expert teacher is associated with experience. However, not all experienced teachers become experts. It is the quality of the experience that develops expert teachers. This study tried to develop a quality experience using a collaborative action research process.

This distinction between expert and novice teachers, though useful, only supplies a dichotomous construct, a sense of space in which teachers develop from beginners to competent teachers. In reality teachers never become experts; they are always evolving, always learning. Conversely, not all beginning teachers are novices, they have experiences throughout life that

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inform and construct their ability to teach. Understanding how expert teachers can support the development of novice teachers, to provide quality experiences, is a focus of this paper.

Considering the supervision of novice teachers Billups (1987) comments, 'many supervisors and administrators are comfortable repeating the same ineffectual process imposed on them in the past, which did very little to improve their teaching or supervisory skills' p. 636). Even if supervisory teachers know effective practices for teaching they cannot necessarily show or tell the novice teachers how to be effective teachers. As Carr (1989) has noted, in a teaching context solutions to problems 'do not present themselves as givens, but as "messy", "indeterminate" and "problematic" situations which arise because of "conflicting values"' p. 9). Many action researchers have noted the difficulty of 'pre-packaging' solutions to meet the problematic demands of teaching (Altrichter, Psch & Somekh, 1993; Di Chiro, Robottom & Tinning, 1988; Grundy 1982; Tinning, 1987). Such solutions tend to be technically based (Carr, 1989); surrounding the judgment of the perceived 'expert' (Kirk, 1988) and based on an assumption that professional development can be controlled (Proefriedt, 1994). However, teaching is an enabling activity based on a 'dialectical process between public structures of knowledge and individual subjectivities' (Elliott, 1991, p. 5). With this understanding of teaching, the action research project in this study sought to create a collaborative process where the 'public structures of knowledge' were negotiated and developed with the 'individual subjectivities' of the participants, which developed through their contexts of teaching games.

The purpose of the action research group was to develop relationships between the supervisors and the student-teachers, which enabled the student-teachers to self-direct their own development into effective teachers of games. This purpose lends itself to the criteria that Kemmis & McTaggart (1982) outline for research to be considered as action research. They state that action research should lead to '(1) the improvement of practice, (2) the improvement... of the understanding of the practice by its practitioners, and (3) the improvement of the situation in which the practice takes place' p. 84). To meet this criteria practitioners must develop a particular sense of knowledge about their practice. After reporting the study this criteria will be used to analyse phases of the action research project.

The Action Research Process

Each week student-teachers and supervisors attended an action research meeting. Each participant received a summary of the minutes taken at the previous meeting before starting the current meeting. The action research process followed the stages of PLAN, ACT & OBSERVE, REFLECT then RE-PLAN as advocated by Kemmis and McTaggart (1988). This process did not always offer clear evidence upon which to make judgments. In reality, common problems between classes did not afford simple solutions. Group discussions developed many possible solutions but it became apparent to the action research group that problems and solutions were slippery and difficult things to pin down. With the courses involving different teachers, supervisors and children of varying ages and backgrounds it was not surprising that collecting clear empirical evidence was difficult. The most useful data came from anecdotal stories arising from the teaching experiences of the participants. The stories not only captured contextual information but indicated possible cause-effect relationships taking place in the teaching situations. For example, one student-teacher had a problem with a child who he had to reprimand for continuously misbehaving. The group suggested he removed the child from his lesson for a short period of time, then when she returned to the lesson to give her positive feedback. This simple action resulted in the child becoming one of the best performers in the student-teacher's lesson.

Subjects and Procedure

The supervisors and student-teachers entered into situations that were new to both. Before the first lesson the supervisors and the student-teachers agreed to operate a team-teaching process where the supervisor was the initial teacher. The student-teacher would take more responsibility in subsequent lessons. Though the intent of the exercise was for the student-teachers to improve their ability to teach physical education, an important focus was the quality of the lessons for the pupils.

To understand what constituted a quality lesson the supervisors and student-teachers engaged in close dialogue before and after each lesson and attended weekly meetings involving all the participants of the action research project. The group defined a quality lesson as children having enjoyment from high physical activity levels requiring problem solving skills of the children.

Each course involved ten classes made up of children aged 7-9 or 10-12. Class sizes ranged from 10 to 26 pupils. These children paid a nominal fee to attend the sessions. The children were not particularly accomplished at physical activity and varied considerably in physical ability. Weekly classes ran for one hour after school for a ten week period. Student-teachers and supervisory teachers were paid to teach and supervise, but there was no assessment requirements to any university course; this experience was additional to their programs.

Data Sources

Minutes from the weekly meetings fed into a journal kept by myself as a supervisor. I kept minutes of the group's meetings by recording significant ideas developed by the group and relevant quotes from individuals. The minutes maintained the focus of the conversation from previous meetings and helped to clarify philosophical beliefs that provided the foundation for the group's practices. The journal followed a format suggested by Altrichter et al. (1993) where recorded observations (written text or diagrams) were organized into theory or hypothesis notes, methodology notes and planning notes. The journal became a companion to the whole research process. Continuous writing and re-reading of entries in the journal enabled ideas from the meetings and teaching episodes to be recorded and brought recursively to the group's attention at the weekly meetings. In writing the journal I constructed a narrative of my perceptions of the group's evolving ideology on effective teaching of games.

Another data source included notes made during lessons. Each supervisor acted as a team teacher or observer for their respective student-teachers. As the student-teachers became more confident and showed better general teaching abilities, these observations became more focused. Student-teachers often requested that these observations be focused on certain elements of a lesson or a particular pupil's behavior. The supervisors used data collection techniques such as (1) pattern analysis, (2) coding of motor engaged time, 2 (3) qualitative comparison of skill performance among children, (4) description of the impact of questioning on pupil behavior and the effect of pupil demonstrations on class activity and (5) observational notes of teacher and pupil actions during a lesson. This information enabled participants to better perceive and understand the world to which they were relating when engaged in the act of teaching.

Data Analysis

The descriptions held in the journal became more focused on the needs of the student-teachers as more of the lessons were taught by student-teachers and the student-teachers had a larger input into group discussion at meetings. As descriptions became more focused a community sense of the meaning for actions, words and objects used in lessons became evident. These meanings were compared and contrasted creating the themes of the study. For example, the technical needs for teaching a lesson or a practical theory for teaching games to children. The themes represent the phases of development for the action research group. This analysis was shared with group members for clarification and consensus.

The Results: A Re-presentation of the Process

The action research cycles evolved in three phases. Each phase consisted of a number of cycles of the action research process plan, act/observe & reflect). Although these phases resulted in the growth of knowledge and understanding of teaching for the action research group, individuals within the group did not uniformly appear to be at the same level of teaching understanding, but all displayed progress in becoming more responsive to the needs of the children. To assist the reader in recognizing the relationship between PLAN, ACTION/OBSERVATION, REFLECTION and RE-PLAN, these aspects in each cycle have been indicated at the beginning of the paragraph. This labeling is for reader clarity. It is somewhat arbitrary and did not happen uniformly for all the student-teachers. In reality aspects of each cycle were experienced at different times and in somewhat different ways for each individual within the group.

Phase 1: Defining Role Expectations and Recognizing 'Teachable Moments'

Cycles 1 and 2 Acquiring knowledge of pupils and defining teaching role. PLAN: Through initial conversations between the supervisors and the student-teachers it was decided that the first two lessons would be team-planned and team-taught. It was understood that the student-teachers gradually take more responsibility for the teaching of lessons.

ACTION/OBSERVATION—REFLECTION—PLAN: The team teaching situation, however, resulted in supervisors teaching a majority of the lessons despite their intent to give student-teachers a dominant role. The action research group decided that this occurred because the supervisors had a strong influence on lesson planning, a clear idea of what was expected, and a genuine enjoyment of teaching. The response to this situation was the establishment of a system for supervisors to use before taking over the teaching of a lesson. This system had three categories of supervisory involvement in teaching. Supervisors (1) prompted the student-teacher with alternative ideas, (2) requested to input into the lesson, or (3) lead a short teaching stint, returning the teaching role to the student-teacher when possible. These categories gave ownership of the teaching process to the student-teacher but responsibility for the effectiveness of the lesson to the supervisor.

ACTION/OBSERVATION REFLECTION: Lesson appraisals negotiated by the supervisory and student-teachers from the first two lessons focused upon: (1) student-teachers' concerns about the control of groupings, (2) transitions between activities, (3) establishment of fair and manageable discipline, and (4) degree of explanation needed in lessons by student teachers. The group felt these were predictable observations which needed the benefit of being experienced to be realised.

PLAN: Student-teachers planned to be clearer in their preparation for organizing pupils, to ensure that activities flowed in a meaningful way, to keep explanations simple, and to get activities going and then respond to what the children did.

ACTION/OBSERVATION: Lessons flowed better as a result of these plans. However, supervisors noted that the student-teachers tended to 'tell' the children too much in an attempt to define exactly what should happen so that the children would not make mistakes.

REFLECTION: This problem of 'telling' was understood by the action research group as a natural development relating to the student-teachers' desire to maintain control because of their nervousness in teaching situations. With practice and guidance from the supervisors it was felt that 'telling teaching' would evolve into more 'enabling teaching'.

From these first two cycles the roles of the supervisors were clarified and the student-teachers saw ways in which to improve their teaching. It was important that the group took responsibility for defining these roles after the experience of teaching. This meant that the roles were agreed upon based on the reality of teaching with two people, not imposed by the co-ordinator of the action research project.

Cycle 3—Recognizing supervisors' use of 'teachable moments'. ACTION/OBSERVATION: When supervisors prompted student-teachers it was usually to encourage them to use pupils' names with general and specific feedback when pupils were on task, or suggestions such as changing partners because pupils were messing about. Prompts such as these helped the student-teachers to get lessons flowing. However, student-teachers noticed that when supervisors took over the teaching it was in response to something happening in the class and not what was in the lesson plan.

REFLECTION: This form of improvised teaching became known as responding to 'teachable moments'. When the supervisors taught, the children responded enthusiastically to their teaching. The student-teachers wanted to do the same form of teaching but felt unable to improvise. The anecdote that follows is constructed from an account by a supervisor and student-teacher of an ethical takeover following the recognition of a 'teachable moment'.

Throughout the whole game Emily never smiled. She did as asked, but showed no emotion. She never made an effort to get a partner; Emily always needed a partner assigned.

In the tennis-type lesson the student-teacher had started the children were in partners trying to keep a ball bouncing by hitting it up into the air. There was a tendency to whack the ball, not control it as the student-teacher had instructed. Circulating throughout the class the supervisor sensed the need for a class focus. The children were exploring the equipment playfully, but now it was becoming 'whack' a ball, especially with the boys. Just then a ball hit the roof richocheting off two pupils. The student-teacher was absorbed with helping one particular child so the supervisory teacher coached the whole class. 'Try not to swing aimlessly get beneath the ball and hit up and to your partner.' The supervisor spoke as the class played. 'Good Jason.'

'Bend your knees Emily; good, well done, you kept that going. That's it, Dawn.'

In an improvised moment the supervisor stopped the class.
'Now most of you are having a tendency to hit the ball too hard.' He started. 'The idea is to see how many hits you can keep the ball going for with your partner ....' As if a natural progression he continued; 'now watch Emily and me ...'.

There was a surprised shock. Giggles and muted whispers prophesied imminent disaster.

'Now hit the ball up Emily.' The supervisor encouragingly looked at Emily. His eyes communicated confidence. As if hypnotized she obediently responded. The ball bounced and the supervisor responded, cueing Emily to hit the next. An impressive rally of 12 hits was demonstrated; the supervisor caught the twelfth hit. More were possible.

'Now see if you can match Emily.' The supervisor challenged the class. 'Try to bend your knees like Emily,' he emphasized.

The class rushed to try. 'Thank you Emily.' The supervisor patted her back sensing a hint of a smile.

The ability to respond to the 'teachable moment' as exhibited by the supervisor in this previous anecdote became an indicator of a successful teaching episode. Responding to what children were doing with the material of the lesson implied that teachers gave the children credit for having abilities. In this sense, learning came from an appreciative relationship quality existing between teacher and pupil. Schon (1987) noted this form of responding as a 'reflective conversation with the situation' p. 31). Within the story Emily could have failed to hit the ball up, but the supervisory teacher sensed an opportunity to inspire Emily and to teach the class of children.
Both student-teacher and supervisory teacher told stories similar to this one to the rest of the group. The sharing of such stories enabled the group members to partake in each other's reality of teaching. This sharing strengthened the group's belief that they were learning how to teach games more effectively.

REFLECTION—PLAN: The supervisors found it difficult to tell the student-teachers how to recognize and respond to a 'teachable moment'. Their feeling was that this would come with experience. The group sought to realize 'teachable moments' by setting more open-ended tasks (i.e. 'show me how you can ...'), then try to respond to what the children did.

By the third group meeting the student-teachers were focused on the question 'how do you get children to 'buy-in' to what you are teaching?' The student-teachers planned progressions in their lesson but also tried to respond to what the children did within their lesson. This question seemed to represent the desire of the action research group.

Phase 2: A Practical Theory for Games Teaching Cycle Game vocabulary. ACTION/OBSERVATION: Lessons by student-teachers tended to follow a pattern - a warm-up activity with a body management focus, a skill development segment to teach a skill or set of related skills, then, if time permitted, a modified game. In order for student-teachers to respond to their pupils' they required the ability to recognize the pupil's needs in a situation as it develops. Supervisor prompts were successful in encouraging student-teachers' use of general and selective motor-skill feedback to pupils as they engaged in tasks.

REFLECTION—RE-PLAN: A prompt, however, was not effective in helping student-teachers perceive what the pupils could be gradually aiming towards in the modified versions of the adult games being played. To help student-teachers make connections between body management type activities (tag type games), equipment handling (closed or invariant skill manipulation of objects and equipment), game strategies, 4 game tactics, 5 and the ability to effectively use skills in game situations, summary sheets known as BESTAT (Body management, Equipment handling, Strategies, Tactics And Technique) were developed by the group.

After consultation with the group I took responsibility for authoring the BESTAT sheets making reference to Ellis (1985) and Almond (1986) for the classification of games. An example of a BESTAT sheet is shown in Fig. 1. The BESTAT sheets listed aspects of territory or invasion type games (i.e. football, soccer), court or net/wall type games (i.e. tennis, squash), and field or fielding/run type games (i.e. cricket, baseball). Each section of the BESTAT sheets listed generic components common to all games within that classification. For example, typical of territory-type games is the body management skill of sprinting and changing direction; whereas, rapidly changing direction in a small space by moving sideways, forwards and backwards is more typical of court games (see Hopper, 1994; Sanford-Smith & Hopper, 1996).

The BESTAT sheets supported the methodology associated with a TGFU (teaching games for understanding) approach advocated by Thorpe, Bunker & Almond (1986). This method influenced the teaching of games in Great Britain during the 1980s and had been taught to some of the student-teachers in the university culture. This approach advocates the teaching of modified games that allow learners to appreciate the game before being taught skills and tactics to improve their performance in the game.

ACTION/OBSERVATION: The group members used the BESTAT sheets to give a vocabulary to describe what children were doing and to focus on the possibilities for helping pupils play the games more effectively. This information also helped student-teachers to make the activities purposeful for playing the recognized adult game better. For example, a student-teacher, through questioning got the pupils to acknowledge that changing direction without falling was important in a modified flag-football game the children were playing, then started a tag game that concentrated on balance and change of direction. This practice improved the children's agility and balance in the tag game as well as in the modified flag-football game subsequently played. The tasks say by the student-teacher seemed to make more sense to the children, resulting in them buying-in much more to what was being taught.

STRATEGY - This refers to the planned playing procedures for attaining the game objectives. TACTICS - These are the practical maneuvers used to gain advantage over opponents or situations. TECHNIQUE - This is the way in which to effectively play skills in the game.		
	COURT	
TYPE	SHARED	DIVIDED
ASPECT OF	GENERIC	
GAME Body Management [Technique}	Side-stepping Lunging Forwards and backwards movement.	
Equipment Handing [Technique]	Hitting Receiving (getting in-line, prepare to hit)	
Principles of Strategy	CONSISTENCY ACCURANCY DEPTH SPIN/CONTROL POWER	
Tactics	Positioning in relation to opponents options/target area. Disguise. Defensive: 1. Allow more time and options, 2. Open up target area, i.e. centre of court. Offensive: 1. Reduce time and options, 2. Crowd target area, i.e. hit deep into corners Pressing: 1. Safely pressurize, 2. Cover options and target area, i.e. keep deep in court.	
Technique	Falling Ball (i.e. waist/knee in tennis).) Grip - backbone. Early preparation, get in-line for shot, body to degree side ways on. Force for control Flat face at contact in direction hitting. Follow-through line of shot.	

Fig. 1 An example of a BESTAT sheet for court (net/wall) type games.

Cycles 5 and 6- Working from game situations. Starting to realize a "teaching games for understanding" (TGFU) approach. ACTION/OBSERVATION-REFLECTION-RE-PLAN-ACTION/OBSERVATION-REFLECTION: It was observed that by examining the BESTAT sheets and reflecting on discussions with their by examining the student-teachers being more confident about working from game situations with the children. This confidence led to more personal concerns being expressed by individual student-teachers regarding what they wanted to achieve. For example, some student-teachers wanted children to make more intelligent choices. They found that pupils teachers wanted children to make more intelligent choices. They found that pupils tended to choose adult equipment even though they were unable to play the game with such equipment. The action research group decided that teaching children how to intelligently choose equipment initially involved providing only limited equipment choices. The result was that children played with the equipment provided and were more able to address the challenges set by the student-teacher. It was concluded that though children complained about not being allowed to use adult size equipment, they soon learned that playing with the modified (shorter, lighter or in a case of balls slower bouncing) equipment enabled them to play more vigorous and exciting games than before.

RE-PLAN: Student-teachers planned to get the children thinking about what they were doing by asking focused questions such as, 'Why do we need to change direction?'; 'How does a wide base help you change direction?'; 'What can a player do to stop an opponent from receiving a ball in space?'; or 'What was the most effective way to hit a ball accurately?'.

ACTION/OBSERVATION: Questions from the student-teachers asked the pupils to think, explain, and show through demonstrations that they understood. Questioning also developed tactical awareness for pupils in game play. For example, earlier on in the courses the teacher defined all rules for games. The teacher introduced the games by showing and explaining them to the children. If a game was too easy the children considered it boring and if a game was too difficult some children did not participate. lf the children had played the game before, depending on their previous experience, they considered it to be either brilliant or boring. Once the children began to determine initial rules and subsequent rule changes to make a game better they started to take responsibility for the game. Children started to realize the need for certain rules and how they could tactically take advantage of situations that rules created.

REFLECTION: One student-teacher indicated that initially she confused the children in her lessons when she tried asked them questions. The children did not expect to be asked questions or to ask questions themselves, they would stand passively waiting to be told what to do. The children were not used to making decisions. In later lessons the children asked, 'What happens if ...?' She indicated that she was now able to respond to pupils' needs in a way that made sense.

Another student-teacher agreed with this perspective. When she had initially asked children about how they should score in a game, a child responded, 'Don't you know how to play the game?' However, later in the course the same child had suggested a way to improve the slow-pitch game by saying, 'Well the game would work better if the batter did not have three strikes, only one, then the fielders would always be busy and the waiting batters would have less time to wait'.

I and the other supervisors had modeled a Teaching Games for Understanding (TGFU) approach, but we did not tell students to teach in this way. Student-teachers were encouraged to teach the best way they could. It is my belief that supervisors modeling teaching behaviors as situations arose in classes enabled student-teachers to construct their own style of teaching with consideration of the TGFU model. At the beginning of the action research process all the supervisors avoided telling student-teachers what to do. Lesson planning sessions for a 50 min lesson initially took over an hour to plan. During lesson planning, supervisors tried to explain possibilities and encourage student-teachers to come up with their own ideas based on what they thought the pupils needed.

Cycle 7-—Blue print lesson plan. REFLECTION: With this increased insight into possibilities for lessons, a concern arose about the need for detail in lesson planning. Student-teachers would list objectives related to the learning domains (cognitive, affective, social and psychomotor) but when teaching they were more focused upon managerial problems with children, equipment and the available space. The desire to respond to pupils as they responded to the learning environment tended to work against detailed lesson plans that indicated exactly what the children should be doing. As one student-teacher said, 'You are told in your university courses to write a detailed lesson plan that seems to take a month to write but which you can scrap at a moment's notice if you need to—sure you will.' The group agreed that the need for detail in lesson planning was to help see what was possible, but until one had experience to reflect upon, then one had limited ability to see

lesson needs and possibilities. The writing process prepared the student-teachers to see more in their lessons, especially if things did not go according to plan.

RE-PLAN: The conclusion was that planning required the influence of knowledge of real pupils to be meaningful, but detail in lesson planning was needed initially to enable a novice teacher to realize what was possible in a lesson. Reflections on the degree lesson plans met objectives guided the construction of subsequent lesson plans. It was impossible to plan more than one lesson ahead for the student-teachers; however, the supervisors, based on their previous experience teaching games courses, had a sense of what would be needed in the course being taught. In a sense the lesson plan was seen as a blueprint from which to work rather than as a map to follow.

ACTION/OBSERVATION: Lesson planning became more flexible with student-teachers relying more on diagrams and less upon written descriptions of what they wanted to happen. Student-teachers were able to respond to the situations they created. Children started to play with ideas. For example, a supervisory teacher recalled how one student-teacher, Erin, taught batting-fielding type games with pupils of 10-11 years of age.

The children's games had been moving towards baseball so Erin wanted to get them to use the body management skill of sliding into a base. Rather than telling the children to slide, a skill that can hurt especially on a smooth but hard wooden floor, she set up a tag game. Four children stood on mats that were two meters apart, the other eight children had to run through the mats without being tagged. Initially, with Erin's encouragement the children ran through the mats fast, some got through in the confusion, but in the first assault most of the children were tagged. In the second assault only 3 children were left. It looked like none of them had a chance. All three ran at the same time for different gaps. Two were immediately caught, but one pupil, Don, dove to the ground as he approached the mats sliding beneath the tagging pupil's hand. All the children were very impressed. Erin was excited. This was a 'teachable moment', one she had hoped for. She asked Don to demonstrate his slide emphasizing how he bent his knees, and while keeping his body rigid, took his lowered body weight on his hands, sliding forward. The class erupted with sliding bodies dusting the floor. Even Erin joined in. Some children found it difficult but repeatedly tried, after 2 or 3 minutes all the children could slide to some degree.

I watched the lesson. Erin owned the idea and responded to the moment. She told me it was a turning point, a point where she felt she had made a large step towards becoming a physical educator.

Phase 3: Teaching from 'telling' to 'creating need to know'

Cycles 8 and 9: Realizing theory of teaching by observing others teach. PLAN: In the seventh and eighth lessons the community courses were used as the practical experience for one of the university courses engaged in the study of teaching of games to children. This use involved 15 different university students teaching the community courses with the action research student-teachers. The university students taught in groups of three—two team-teaching and one observing. Using the same process that had operated with the student-teachers at the beginning of the term, the university students taught with guidance from the now more experienced action research student-teachers. The supervisors observed and appraised the teaching process for analysis after the lesson.

ACTION/OBSERVATION: It was noticeable to the student-teachers that the university students wanted everything clearly defined in this lesson and wanted to be in complete control of the lesson. This control ignored the possibility that some of the children might be able to do the skill being taught and tended to limit the potential for the unpredictable to happen. This resulted in children being herded around from task to task. The children seemed to have little sense of reason for their actions.

REFILECTION: The university students, who quite naturally felt unsure of them-selves, found it difficult to allow children to learn from mistakes. Similar to what the student-teachers had done initially, the action research group noted that the university students seemed to dictate what the pupils learned, teaching from the basis of 'telling' the pupils. The student-teachers wanted teaching based on the pupils' 'need to know'. It was felt that student-teachers' change from 'telling' to 'creating need to know' teaching came from a process of instructing based on a desire to respond to pupils' actions and ideas. As student-teachers gained confidence in responding to pupils their approach to teaching became increasingly close to the 'teaching games for understanding' (TGFU) method.

RE-PLAN: The TGFU approach linked to the more progressive theoretical ideas taught at the university. The student-teachers decided to focus their feedback to the university students on how to manage children based on a TGFU approach.

ACTION/OBSERVATION: It seemed that the student-teachers belief in this approach encouraged the university students to teach with a less autocratic style in their subsequent lesson. The university students, supported by the student-teachers, all taught better in subsequent lessons. The university students commented that the feedback from the student-teachers enabled them to re-plan their second lesson with a clear sense of what could be done to improve. The student-teachers with the supervisory teacher learned to express how they were teaching and explain why it worked.

REFLECTION: In this cycle there seemed to be three levels of responsibility, (1) The supervisor teacher who had ultimate responsibility for the lessons, (2) The student-teacher who had earned responsibility for the lessons through their efforts to teach in a way to which the children would respond, (3) The university students were keen to have the responsibility to teach but they lacked experience and knowledge of the particular children being taught in the class. In the group members' opinions these levels of responsibility allowed recognition of the theoretical and practical development of the student-teachers from where they had come (university students as novices) to where they were heading (supervisory teachers as experts).

Discussion and Recommendations: Interpreting the Phases

The purpose of this study was to examine how a collaborative action research process supported the learning of teaching and supervisory skills for novice and expert teachers in a games teaching context.

Between the supervisors and student-teachers a difficulty arose as to who should lead a lesson to ensure the pupils had a quality experience. This difficulty was overcome through group agreement on a process of intervention that gave ownership of the lesson to the student-teacher but responsibility for the lesson quality to the supervisor. Authority over the lesson was shared based on the needs of the children being taught. Student teachers gained complete ownership of the lesson when they showed the capacity to respond to pupils and reflectively plan lessons appropriately to the needs of pupils. The practical action research process allowed the student-teachers to free themselves from the didactic teaching they had experienced in physical education as pupils, and learn from the progressive but prescriptive teacher education they had experienced as students at the university. As one student-teacher commented, 'I learned more from this experience than all four years at university. I learned to apply some of the ideas from the university.' This student-teacher learned how to make sense of what she had been learning at university from her developing practical knowledge of teaching games.
To interpret the action research process Figs 2 4 have been developed. These figures summarize the action research process that developed as a conversation on how to get children to buy into what the teacher taught. As Gadamar (1975) explains, 'To conduct a conversation means to allow oneself to be conducted by the object to which the partners in conversation are directed. It requires that one does not try to out-argue the other person, but that one really considers the weight of the other's opinion' p. 330). Initially this conversation grew from difficulties relating to handling children, then to setting tasks and responding to the pupils. When inexperienced colleagues from university taught in their classes student-teachers had a new perspective in the action research conversation, now they had to supervise but still have responsibility for the quality of the lesson. The conversation then revolved around how to help others teach in a way that was less didactic and more responsive to what children did. The conversation went through three phases that characterized the student-teachers increasing level of responsibility for the teaching of games to children. Using Kemmis & McTaggart (1982) criteria for action research the development of this action research process will be analyzed.

In Fig. 2 we have the first three cycles of the action research process. These cycles embody a technical approach to action research. The supervisors as the 'experts' directed planning and teaching. This was not the desire of the supervisors but in response to the request of the student-teachers. Similarly, Almond (1987) indicated when trying to implement an action research project in British schools, 'all the time I come in contact with teachers who want to be told what to do, how to do it, and they ask for recipe-based guidelines' p. 4). Student-teachers were interested in knowing what and how to teach effectively, they focused on prediction and control.

With encouragement student-teachers taught more of the lessons but before they taught they came to appreciate how the supervisors responded to their pupils. However, this ability was seen as magical; student-teachers did not understand how

to do this or what to do to enable themselves to respond to pupils. This ability to respond to the play of children became a fundamental focus to understanding the practice of effective teaching of games. During this phase the situation of team-teaching was negotiated between the supervisors and the student-teachers. However, supervisors still had ultimate power of lessons.
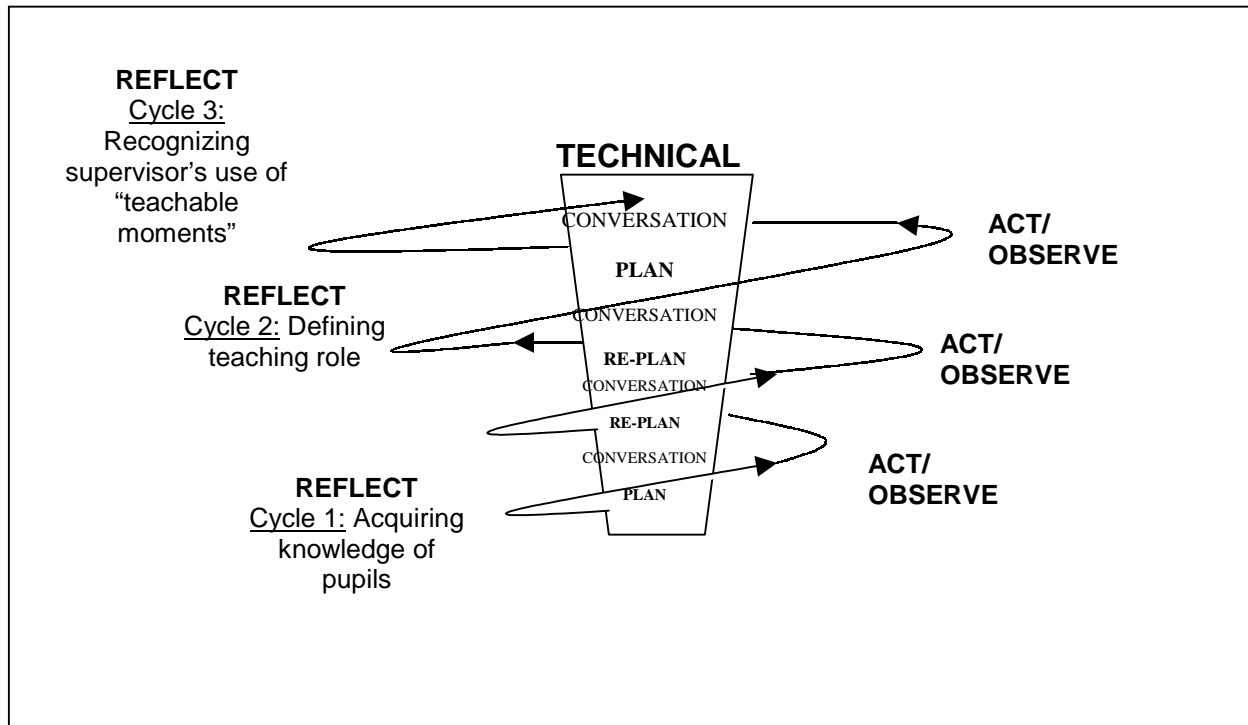

Fig. 2. Phase 1: following supervisors technical advise on teaching as he role of teaching in negotiated.

power over lessons. Based on Kemmis & McTaggart's (1982) criteria for action research, the research, could not be considered as action research. The student-teachers were making an improvement in their practice, but they did not fully understand how they were improving. The situation was still one where the supervisors were in charge, however the tem-teaching approach allowed the student-teachers to gradually take responsibility for the lesson as their confidence grew.

This initial phase of action research process lay the foundation for the second phase summarized in Fig.3. The four cycles of this phase are more characteristic of practical action research. As student-teachers took more responsibility for teaching, their lesson planning became more detailed; they were able to plan how to handle equipment, space, pupils and important information. As student-teachers took more responsibility for teaching, their lesson planning became more detailed; they were able to plan how to handle equipment, space, pupils and important information. As student-teachers took responsibility, tried things out, modified and scrapped plans as situations arose, they started to direct the action research conversation to more personal needs.

A common focus was getting all the children to buy into what was being taught. The action research group members had learned that they could not force children to do what they had planned, but they could guide what children did towards better ways of playing. The desire to guide the play f children resulted in the development of the BESTAT sheets. These sheets helped student-teachers to plan and teach lessons in a more responsive way. Student-teachers did not require supervisors to teach, but more to observe and give guidance to aspects if the lesson to which they had personal concern..

In this phase student-teachers were coming to terms with interpreting how they taught based on belief that all children should be successfully involved in physical activity. Though student-teachers taught better and were far more able to articulate what they needed to teach more effectively, the supervisors were still in situation of power with ultimate responsibility for the lesson. Student-teachers were taking ownership for the project of teaching and were focusing the observers attention to aspects of the lesson they wished to be assessed. They were reflecting on themselves as teachers, taking an increasing responsibility for planning, teaching and over observation of lessons Based on Kemmis &

McTaggart's (1982) criteria, the research had become action research with student-teachers improving their practice, understanding how and why improvements were possible and operating in situation where the supervisor was a colleague.
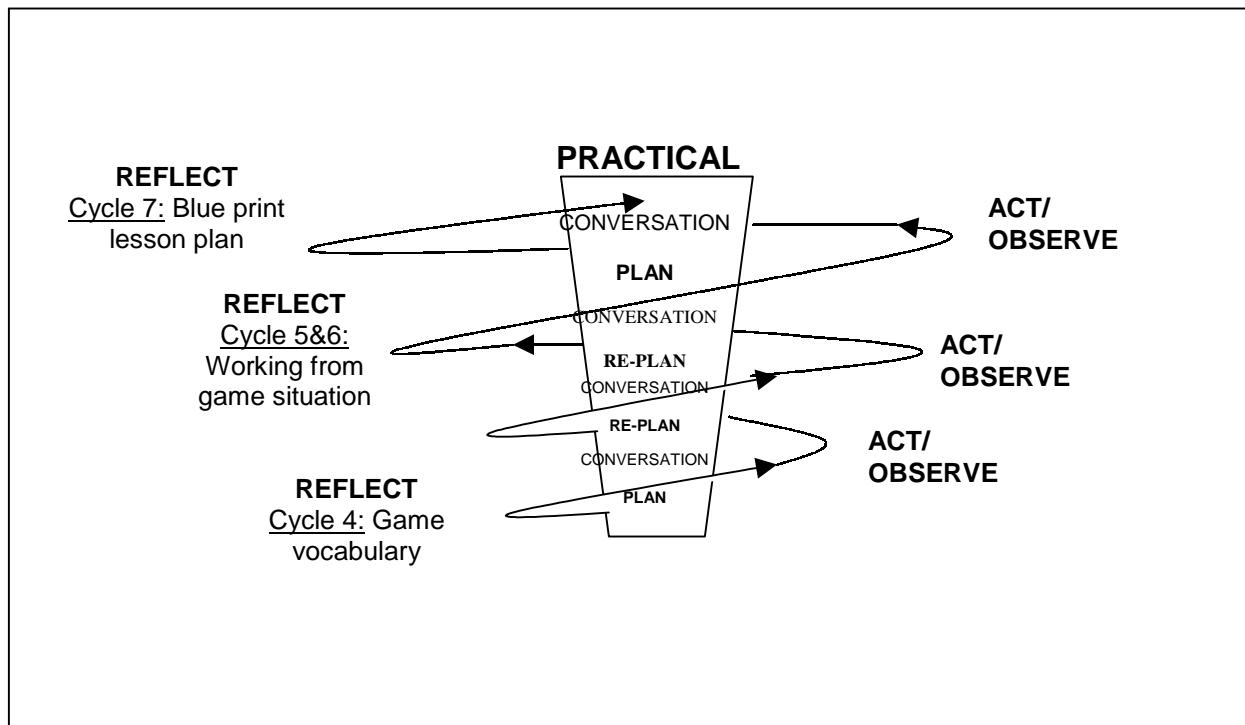

PRACTICAL

REFLECT
Cycle 7: Blue print lesson plan

CONVERSATION

PLAN

CONVERSATION

ACT/ OBSERVE

REFLECT
Cycle 5&6: Working from game situation

RE-PLAN

CONVERSATION

ACT/ OBSERVE

RE-PLAN

CONVERSATION

REFLECT
Cycle 4: Game vocabulary

PLAN

ACT/ OBSERVE

Fig. 3. Phase 2: practically developing a theory for teaching games.

Kemmis & McTaggart's (1982) criteria, the research had become action research with student-teachers improving their practice, understanding how and why improvements were possible and operating in a situation where the supervisor was a colleague.

In Fig. 4 the final phase of the action research process is summarized. The conversation focused on how to assist novice university students to teach the classes the student-teachers had taught. In this phase, student-teachers made a connection between their understanding of teaching games before the project and their current level of understanding. In communicating to the university student-teachers had sense of their reality as teachers and reality of the apprehensive university students. The student-teachers were able to connect to the theory that the university students were learning. The student-teachers were able to offer sensitive criticisms on the university students teaching based on what they recognized as their own difficulties when they started teaching in programme. Student-teachers were able to offer practical remedies to concerns the university students had discovered in the reality of teaching. Student-teachers made comments that helped the universities students become more awareof what was happening in their lessons. A language of teaching PE had developed between supervisors, student-teachers and later the university students for critical reflections on ways to teach games to children, This language for teaching was based on narrative that embodied theory and personal knowledge (Clandinin & Connely, 1991), and was shared with mutual concern by group members for the difficulties in specific contexts for each teacher.

By the final phase the action research group was self-directing. Nobody had the answers, but everybody had ideas. Student-teachers did not copy how their supervisor taught, but taught based on belief in responsive teaching. University students did not teach the same as the student-teachers, but they did follow advice given by the student-teachers. The university students felt free to try things out. The university students were not worried about passing or failing in a way, and if things went wrong in their lesson the student-teachers were always ready and willing to help out.

In Nettle's (1988) article on teacher supervision innovation in teacher preparation he explains the benefits of third year students supervising first year students engaged in micro-teaching. He states that third year students believed that their involvement as a 'supervisor/teacher' helped them to better understanding of teaching in general and of their own teaching own teaching particular… opportunity to consolidate skills learned in previous courses' (p. 131). This same realization was

articulated by the student-teachers in the action research project. Similarly, the supervisors discovered how to help and support student-teachers in ways that allowed them to develop into observers who assisted, not as observers who evaluated.

The supervisors as expert teachers were involved in the process of team-teaching and then observing the lessons. This allowed them to discover how to teach, help and support student-teachers in a way that allowed the student-teachers to take ownership of the lesson. The supervisors modeled a liberation form of supervision. As Nettle (1988) concludes and others have supported (Byra, 1994: Wedman, 1985), there is a need for supervision where the supervisor focuses on teaching the teacher, not simply evaluating the teacher's teaching.
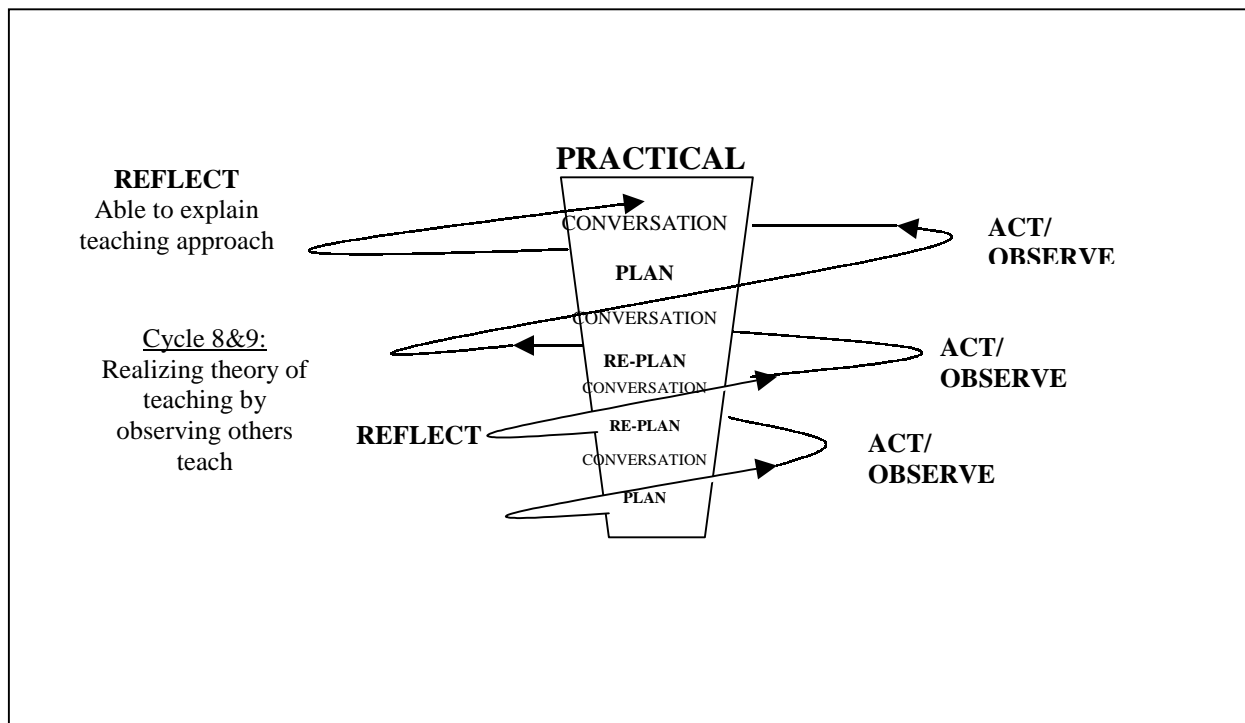

Fig. 4. Phase 3: a liberating form of practical action research.

The process of supervision in this study evolved from the needs of the group members moving from technical, to self-directing practical form of action research. Such a form of supervision offers potential for teacher preparation that genuinely wants novice teachers to aspire to responsive practices modeled by experts. The conversation that centred the action research group focused on changing practice in games teaching from a didactic, controlling style to a more inquiry oriented, responsive style of teaching. The action research process, by maintaining the content of the conversation from week to week, developed based on the many perspectives from participants sharing stories, concerns and plans for evolving their teaching. The student-teachers applied ideas from the university after they had tried to simplify the teaching context by controlling it, teaching with more traditional practices. The student-teachers changed their practice as they learned, guided by the supervisors and the shared anecdotes on teaching, to read the signs that enabled them to handle the complexity of the teaching situation (Altrichter *et al.*, 1996; Carr, 1989; Elliott, 1991; Zuber-Skerritt, 1992).

Teacher education is based upon the assumption that practice is grounded in knowledge derived from scientific research. This assumption can produce a form of knowledge that can help to inform practice aimed at pursuit of fixed educational ends. In teaching, however, the 'ends' are always contentious and often conflicting so this ends. In teaching, however, the 'ends' are always contentious and often conflicting so this form of knowledge only has a limited use (Carr, 1989; Schon, 1987). In reality teacher education is only a beginning. As Elliot (1991) comments 'the "theories" of learning, teaching and evaluation … are derived from our attempts to bring about change, rather than from our professional training universities and colleges of education' (p. 3). As Di Chiro *et al.* (1988 note such a desire to bring about change comes form a person's

personal drive to improve education not form incentives associated with competitive grading systems that are common in institutions of teacher education.

For the novice teachers to grow into evolving expert teachers we need to support the initial experiences of learning to teach more openly, collaboratively and systematically. At present we allow cooperating teachers in schools to operate student teaching on a day-to-day basis as virtually cost-free volunteers (Dodds, 1989).This school based teacher training is often very distant from what is taught at the university and is a riddle of hidden complexity. The action research process described here, developed through conversation on shared issues of concern, offers possibilities to collaboratively bring the complexity of the school culture within the reality of teacher preparation.

Acknowledgements

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Notes

1. [1] These are forms of interaction that occur repeatedly (Altrichter *et al*, 1993, p. 134). In this study it refers to the input of the teacher and response of the pupils in relation to explanations, feedback, use of demonstrations and questions.
2. Motor engaged time refers to an analysis of the time spent by the pupil performing and the time spent by the teacher explaining and organizing.
3. These phases were connected to those highlighted by Kagan's (1992) comprehensive study of 40 learning-to-teach studies where generally notice teachers went from learning their role as they familiarized themselves with the nature of children, to then acquiring procedural skills related to the context and finally developing problem solving skills to adapt to the needs of the situation.
4. This refers to the planned playing procedures for attaining the game objectives. The way of playing, i.e. initially you need to be consistent in court games as in tennis and squash, then you try to be consistent and place the ball to make it difficult for your opponent, etc.
5. These are the practical maneuvers used to gain advantage over opponents or situations, i.e.

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