

Early career teachers' changes to practice, confidence and understandings in cooperative learning: a case study doctoral project update

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Abstract

Teacher retention is an issue in many education systems, and retaining early career teachers is even more problematic. There is a need for support and professional learning for beginning teachers. This paper explores results from classroom observations and interviews with two early career teacher participants after professional development in cooperative learning (CL). The classroom observations focussed on the implementation of cooperative learning, with follow-up interviews focussed on understandings of practice. Difference was found in the impact of professional learning between the two teachers (an early career teacher in her third year and another in her first year of teaching). Whilst both teachers made gains, the more experienced teacher made greater gains in understanding and practice, while the inexperienced teacher, improved in knowledge and practice but also struggled with other factors related to beginning teaching. The prevailing culture of the school also had a huge impact on the practice of these teachers. It is important to have a focus on pedagogy to enhance early career teachers' professional accomplishment, as well as maintain the enthusiasm that they portray in these early years, if we are to retain quality teachers in the profession.

Introduction/ setting the context

It is acknowledged that there is a need to retain early career teachers in the profession by providing them with professional learning focused on their pedagogy. Gore, Williams and Ladwig have identified a distinct "neglect of pedagogy in the induction of early career teachers" (Gore, Williams, & Ladwig, 2006a, p.17). There has been a great deal of research that advocates the use of CL in schools to improve both social and academic outcomes. However there have been no previous studies that focus on early career teachers and their use of cooperative learning. A decision was made in the current study to focus the professional learning on CL as a pedagogical strategy that will help to sustain these teachers' enthusiasm early in their careers, as well as develop and improve their students' academic and social outcomes. In addition, the professional learning would teach them how to use action research when focusing on CL in their classrooms. This research methodology can be used as a tool to help teachers improve teaching practices, as well as gain confidence about their teaching

and a deeper understanding about their practices. Competence in using action research can provide teachers with skills to examine various aspects of practice, and can be applied on an ongoing basis depending on the teachers' individual needs.

The focus of this paper is on two teachers, one in her first year of full time casual employment at an independent school in the Hunter Region, NSW, Australia, the other a teacher in her third full year of permanent work at an independent school in the same region. The present study examined the impact of professional development in CL (using an action research approach) on the development of two early career teachers' teaching approaches and this is the focus of this paper.

What kind of professional learning for early career teachers?

Cooperative learning

This research project focused on the professional development of early career teachers in CL using an action research focus. An abundance of research attributes both academic, as well as, social benefits to the use of CL (see Gillies, 2007a, for a recent literature review on CL). The Australian National Goals for Schooling for the Twenty-First Century (MCEETYA, 1999) suggest that "schooling should develop fully the talents and capacities of all students. In particular when students leave schools they should: have the capacity for, and skills to collaborate with others (1.1)."

CL is a structured style of learning which teaches children how to work collaboratively. It involves heterogeneous groups participating face to face in clearly structured tasks with a common goal, ensuring all students participate through careful allocation of roles or sub-tasks, to ensure positive interdependence and individual accountability (Gillies & Boyle, 2006; Johnson & Johnson, 1994; Slavin, 1987). Groups need to be structured for social interdependence (Johnson, Johnson, & Holubec, 1990) and students need to be taught social skills so that they can successfully cooperate (Johnson & Johnson, 1990). Student reflection, based on both task outcomes and social skills, is also important if we wish the students to reflect and develop both academically and socially.

CL has strong research evidence suggesting it as an effective strategy in maximising learning outcomes of all students (Gillies, 2003; Johnson & Johnson, 1994; Johnson, Johnson, & Smith, 2000; Slavin, 1995, 1996) as well as social skills development (Johnson et al., 1990; Slavin, 1995, 1996; Stevens & Slavin, 1995). Another positive outcome of CL is teachers are more likely to ask more cognitive and metacognitive

questions with students required to “provide reasons for their answers, connect their ideas to previous learning, and justify their conclusions” (Gillies, 2007b, p.25). They are more likely to be engaged in higher order thinking (King, Staffieri & Adalgais, 1998) and pose questions to challenge other’s perspectives (Palinscar & Herrenkohl, 2002, as cited in Gillies, 2007b). The benefits for both high and low ability students are demonstrated in a longitudinal study of 192 primary students in eight schools in Brisbane, Australia. Higher ability students are more likely to give elaborated responses and provide explanations when cooperating in learning activities which helps promotes cognitive reorganisation (Terwel, Gillies, Van den Eden, & Hoek, 2001) and lower ability students are required to verbalise and articulate a request for help which requires them to review their prior knowledge in this request. Although there are benefits for both types of students there are obviously increased benefits for higher ability students who by providing high quality explanations develop their learning with this cognitive reorganisation.

Action research

My study linked the use of an action research approach to assist teachers to improve their skills in the use of CL with a professional learning program. The professional learning was designed in a way to provide sustained learning opportunities, based on flexibility to allow individuals to shape their agendas according to their context (Feiman-Nemser, 2001, as cited in McCormack, Gore, & Thomas, 2006). Action research can be used as a tool to help teachers improve teaching practices and can be used to help enhance classroom practice with other foci after the end of the study, therefore encouraging ongoing teacher research using an action research model. At the same time it was anticipated that by using an action research approach in this project, it would have long lasting career impact with each teacher being able to use this process to confirm, affirm or expand “particular instructional practices and curriculum programs to continue future changes in their classrooms” (O’Connor, Greene, & Anderson, 2006, p.22). Therefore it can be seen as a sustained learning opportunity and also as flexible as it can be related to each teacher’s context.

The positive changes that have occurred as a result of action research projects in schools have included self reflection and teacher improvement as well as learning that can enhance classroom practice (Ferrance, 2000; Johnson & Button, 2000; Ross, Rolheiser & Hogoboam-Gray, 1999 as cited in O’Connor et al., 2006). Sax and Fisher’s study found that teachers’ confidence about their teaching and a deeper understanding about their practices was obtained as a result of involvement in action research (Sax & Fisher, 2001). Action research has been used as a method of educational

improvement for at least three decades as an “opportunity to learn involving collaboration, dialogue, reflection, inquiry and leadership” (Lambert, 1998, as cited in Peters, 2004, p.536). It is carried out with the main aim to develop insights and understandings to make their work more professional and improve their teaching practice (Elliott, 1991).

Why we need to support early career teachers’ pedagogy

As previously stated there is little focus, when inducting teachers in their first years of teaching, on supporting teachers with their pedagogy. In New South Wales (NSW), Australia, one in five new teachers leave the profession in their first five years of professional practice (Manuel, 2003). Previous research has demonstrated that the quality of teaching demonstrated by early career teachers does not differ significantly to more experienced teachers (Gore, Williams, & Ladwig, 2006b) but without continued support for their pedagogy their initial pre-service training can be forgotten. The first year of a teacher’s career can be particularly crucial and problematic and can “shape teaching patterns and influence teacher retention” (Ingersoll & Smith, 2004, as cited in Wang, Odell, & Schulle, 2008, p.133). As they grapple with all the other responsibilities, which they are expected to manage in the same way as an experienced teacher, it is obvious that no other profession expects so much from their new practitioners in their first years (Ramsey, 2000).

“There is enormous consensus that teaching quality makes a significant difference in learning” (Cochran-Smith, 2003, p.95) so enabling beginning teachers to keep enhancing their teaching is important. Current research has indicated that student learning is very much dependant on the quality of the teacher’s pedagogy (Sanders & Horn (1998) as cited in Cochran-Smith, 2003; Ingvarson, 2002; Rowe, 2003) so assisting teachers to further develop their teaching skills is important if we are to improve student outcomes (Zbar, 2003). Darling-Hammond puts it strongly, “Well prepared capable teachers have the largest impact on student learning and they need to be treasured and supported” (Darling-Hammond, 2003, p.7).

Surviving the ‘survival year’

If we are to create a supportive climate that enhances teacher retention and leads to better student outcomes then it is necessary to ensure that beginning teachers do more than survive the early crucial years of teaching. “‘Survival’ is the very first stage all beginning teachers encounter and for most they are generally overwhelmed and under prepared for the workload they encounter” (Dinham, 1992 as cited in McCormack &

Thomas, 2003, p.126). Expectations put upon these teachers “which include programming, catering for a range of student needs, assessment and reporting and the overriding issues of classroom management” (McCormack et al., 2006, p.96) are enormous. Researchers, such as Katz (1977); Kagan (1992) and Lang (1999) cited in McCormack and Thomas (2003) claim that this survival stage can last throughout the whole of the first year of teaching and beyond with beginning teachers often needing to “compromise between their own ideas and recent pedagogical training and the prevailing culture of the school and supervisor” (Khamis, 2000 as cited in McCormack & Thomas, 2003, p.126). However, when selecting early career teacher participants, it was with the understanding that as “commencing teaching resembles a process of transition or rite of passage that is often described as ‘reality shock’ (Veenman, 1984, cited in Carter & Francis, 2001, p.249), that these teachers would be juggling the “complex and diverse demands, knowledge bases and contexts for teaching, ...and as a result... the very best of teacher education programs will only ever be able to prepare graduates to begin to teach” (Martinez, 2003, p.8). Often schools do not make the most of these beginning teachers’ enthusiasm and ability to be more innovative in their teaching practices and do not provide positive feedback. This, with the tensions of dealing with parents in these beginning years, can provide further stresses on these early teaching experiences (McCormack & Thomas, 2003).

How do first year teachers differ to those later in their early careers?

A useful framework of teacher learning for this study is Feiman-Nemser’s (2001) framework which is based on a set of Central Tasks of Learning to Teach (CTLT). This framework explains there is a continuum from pre-service, to induction, to continuing professional development. Feiman-Nemser asserts beginning teachers, in their induction phase, are concerned with learning the context; designing responsive programs; creating classroom communities; enacting a beginning repertoire, and developing a professional identity. However, those teachers who have moved beyond this phase (and it has been noted this can be throughout the first three years of teaching) are ready for continuing professional development where they are able to “extend and refine *their* repertoire in curriculum, instruction and assessment” (Feiman-Nemser, 2001, as cited in McCormack et al., 2006, p.98). The impact of professional development on CL on the teachers in this study will depend therefore on what phase these teachers are within, and whether they are ready to “broaden their early repertoire of teaching skills by not abandoning these completely for safer, less complex activities or actions” (McCormack et al., 2006, p.105).

Continuing professional development for all beginning teachers is crucial to support their retention in the teaching profession and ensure this can have positive impacts on not only curriculum and pedagogy, but also teachers' sense of efficacy. (Talbert & McLaughlin as cited in Muijs & Lindsay, 2007). It is also important to note that many of these beginning teachers have new ideas and teaching styles that they bring to the school. These should be accepted and encouraged and by providing good professional development will encourage these teachers to remain in the profession. Early support for beginning teachers with their pedagogy is "critical to the quality of their immediate professional experiences as well as to their longer-term professional learning" (Carter & Francis, 2001, p.249).

What about school context and its influence?

Beginning teachers often have inadequate knowledge of school context, for example socio-cultural factors and expectations of parents of a particular school. This can affect and challenge their prior knowledge and beliefs and their self image as a teacher (McCormack et al., 2006). How they are prepared to teach is not always sustained by their school cultures (Wang et al., 2008) and we know that "School context influences teachers and the quality of their instruction, which in turn influences student achievement" (Amosa & Cooper, 2006, p.4).

Avoiding burnout

Another factor cited recently as providing an explanation of high attrition rates in many countries, especially in beginning teacher populations, is burnout with many seriously contemplating leaving their chosen profession (Goddard & Goddard, 2006). "Burnout is known to be influenced by both work demands and by the levels of inner and outer resources that an individual can draw upon to address the work demands" (Goddard & Goddard, 2006) and has been described as a "syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment" (Maslach & Jackson, 1981, as cited in Skaalvik & Skaalvik, 2007, p.613). Skaalvik and Skaalvik have found a strong correlation between teacher self-efficacy and burnout and also acknowledge that when these early career teachers have to organise teaching in ways that are in conflict with their own beliefs can also diminish their autonomy Skaalvik & Skaalvik, 2007). If teachers are not supported in these early years it is more likely that they will not 'persevere', that these environmental impediments and other obstacles will remain too great.

A reflective practitioner and professional learning

As International research literature recognises the importance and power of professional development for teachers in order for growth and success of teachers (Muijs & Lindsay, 2007), and it is important that early career teachers are supported with professional learning that focuses on their pedagogy, Muijs and Lindsay claim we can also assume that continuing professional development does have a positive impact on curriculum and pedagogy. Classroom improvement is also more likely to occur as teachers reflect, experiment, and share. The reflective process in this study will be built upon the ideas of Ponte (2002); Carr and Kemmis (1997) and Grundy (1995) who perceive the development and application of professional knowledge as cyclic processes that teachers themselves are responsible for, with professional knowledge being knowledge that is intrinsically connected with practice. "This is not knowledge that informs practice, or that has practical intent, but knowledge which is embedded in 'praxis': reflective knowledge in and through action" (Ponte, 2002, p. 341). Noffke (1995) also explains 'praxis' as the integration of intellectual and theoretical engagement (cited in Somekh, 2006) and Somekh states it is often a "collaborative endeavour" (Somekh, 2006). This study follows this process as each teacher is expected to give critical thought to making changes in their CL lessons, and through reflection with others at meetings and as a result of this critical thinking, should continue to revise these changes to thinking about CL teaching and learning tasks / activities.

Becoming practitioner researchers and being a critical interpreter of practice in ways that allow them to explain and understand what is happening in their classrooms, allows these teachers to be reflectively analytical taking on a holistic view of their practice (Radford, 2007). On-going learning should therefore be an integral part of a teacher's professional life. The NSW Institute of Teachers' policy on continuing professional development "acknowledges that all accredited teachers need to be active in determining their professional learning needs... and in taking responsibility for their continuing professional development" (NSW Institute of Teachers, 2008, p.1). By focusing on action research these teachers can use this model for future professional learning in their classrooms.

Methodology

This project's professional learning program consisted of three two hour sessions focusing on developing beliefs and attitudes about CL as a strategy that will enhance

student outcomes. The program consisted of developing understandings in and implementation of CL in their classrooms whilst using action research. Reflection on action, after classroom practice in implementing CL, occurred alongside these three professional learning sessions which tried to develop a deeper understanding of CL in the teachers. Additionally classroom observations of classroom practice in cooperative learning occurred. An original observation coding sheet was designed for observing these teachers cooperative learning lessons (see appendix 1) to see if CL was occurring.

The professional learning sessions also supported the teachers' collaborative efforts to introduce cooperative strategies in a collegial group situation. Dialogue, reflection and inquiry occurred as teachers shared experiences and difficulties with implementation of this strategy. Opportunities arose to allow teachers to share best practice and reflect on the strategy in relation to quality teaching. This project supported the teachers' collaborative efforts to introduce cooperative strategies in a collegial group situation. It encouraged teachers to keep action research plans and reflect on these at three professional learning sessions held in a six month period.

This particular paper explores two teachers' understandings and practices in CL and the professional highlights and lowlights of this year of teaching. The two teachers both taught stage three students (in NSW these are years 5 and 6 and students who were aged between 10 and 13). Classroom observations were implemented over a period of six months (initial, middle and final) and interviews were held at both the beginning and end of the study to determine any changes in understandings about use of CL in their classrooms.

Professional learning sessions and action research

The three professional learning sessions included reflection on CL and its key components. The planning of carefully structured lessons was encouraged throughout the professional learning sessions and teachers were encouraged to ensure students coordinated their efforts in order to complete a group task when planning lessons. A focus on unit planning and consideration of which lessons were most appropriate for CL were also workshopped. Their lesson preparation in particular needed to ensure the following essential elements; face to face interaction; positive interdependence; individual accountability; appropriate use of small group skills, and reflective thinking about group functioning. Careful structuring of lessons ensured these essential elements were planned for to help facilitate CL in groups. Teachers were also taught

some CL strategies that could be used in classrooms to ensure individual accountability of students.

During each of the professional learning sessions teachers were also taught about using an action research approach. As teachers developed their use of CL in the classroom, and as my analysis of their classroom observations, reflective journals and action research plans began to show what understandings they had about CL, the professional learning program was developed. The program was therefore based upon “shaping their development and professional growth through reflective participation and collaboration” {Achinstein & Athanases, 2006; Clarke & Hollingsworth, 2002 as cited in McCormack, 2007 p.2}. Each teacher’s action research project guided the professional learning sessions. The self reflection process, that the teacher used when keeping diaries, which involved cycles of planning, observation, action and reflection, ensured that teachers selected a focus for their own classrooms in relation to CL and planned to act on that particular aspect in their classrooms. After reflection on lessons they were able to act on new aspects of CL as their understandings developed.

Classroom observations of cooperative learning

Participating teachers’ classes were observed during three phases for each participating teacher and included eight lessons in total – three initial observations at the beginning of the study, one after the first professional learning session, one after the second professional learning session and three final lesson observations at the end of the study, after the third professional learning session. The CL (CL) coding instrument (see appendix 1) used for these initial observations was devised by the researcher (2006) and is based on recent research examining CL in Australia (Gillies & Boyle, 2006) as well as internationally (Veenman et al., 2000) and has been developed also on Johnson and Johnson’s model of CL (Johnson & Johnson, 1994). The CL coding instrument recorded the grouping practices; how the task was structured, and if any CL strategies used in the lesson (for example think-pair-share; placemat strategy; bundling; jigsaw; silent jigsaw; hot potato/cumulative brainstorm and talking tokens). Classroom observations focussed on the teachers’ language use to see if it reflected the use of CL and to see if encouraged students to work together as a resource. The observation also focussed on whether student reflection was utilised in the lesson and finally to determine if any attempt was made in the lesson to establish interdependence in the students’ groups.

Final interviews

The semi-structured interview design was adapted from the interviews developed in a number of CL studies (Gillies & Boyle, 2006; Siegal, 2005; Veenman, Kenter, & Post, 2000). The questions focussed on teachers' perceptions of CL and teacher's practices in CL and asked them also to reflect on some of the professional lowlights and highlights of their year of teaching.

Results

Understandings and practice in cooperative learning

The following graphs focus on one first year teacher and one third year teacher and the differences in understandings demonstrated by practice (from classroom observations) and in comments made in their interviews are quite considerable.

First year teacher

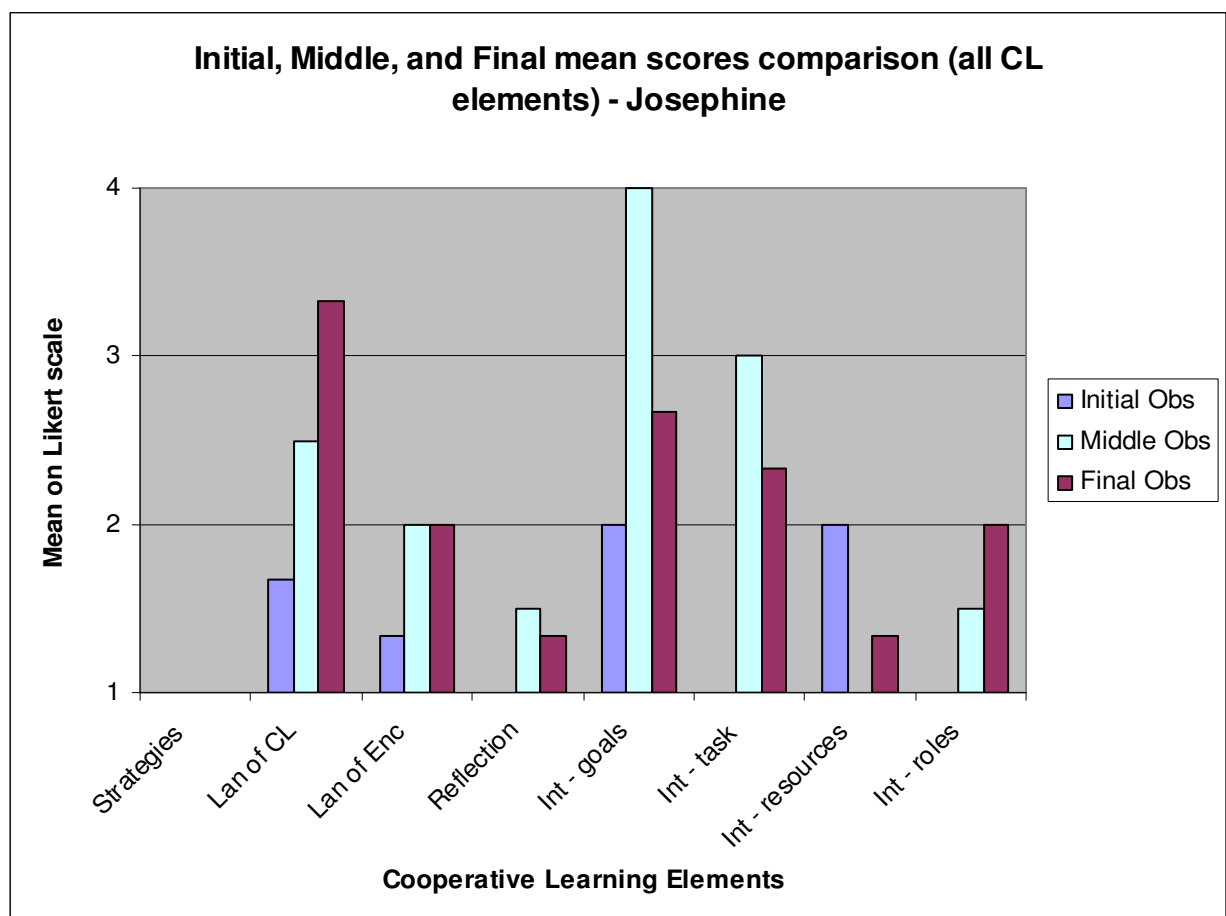


Table 1

There were three periods of classroom observation (June/July; August/September/October and November /December). The most marked improvements for this first year teacher occurred at a mid point during the intervention period (after two professional learning sessions in CL). This may be ascribed to the time of year as comments from Josephine indicated a winding-down in terms of teaching at the stage of the year the final classroom observations occurred. Mid study classroom observations support a growth in understanding about CL, whereas by the end of the study, when Josephine acknowledged all her assessments were over, it emerged she was unplanned and unready for her observed lesson. Her comments to the students also indicated that assessments were finished giving the impression that learning in the classroom at that particular time was not important. Final observations occurred in November and if embarking on a similar study again the timeframe would be changed to ensure that final observations occurred earlier.

Josephine in her first year commented in her final interview that she “enjoyed the socialisation of school, growing with the students” and how “we all built the positive relationships” and how she “wanted to look after them beyond my point but as a teacher you can’t”. In this induction phase of teaching she was concerned with creating her classroom community, enacting a beginning repertoire and developing a professional identity (McCormack et al., 2006). She had come across frustrations with trying to fit into her school context / culture. She mentioned grappling with “the amount of textbooks at the school, the amount of assessment tasks” as well as with the difficulties of being a ‘core teacher’ who had to focus on English, Maths and HSIE and how she “struggled with not being able to do the whole big picture”. She also mentioned “Assessments are rarely group based at this school”. The burden of “an imposed curriculum ...and lack of professional freedom” (Schamer & Jackson, 1996) can make new teachers like Josephine feel particularly unappreciated and inadequate. Not only do we want to retain Josephine in the teaching profession it has been recognised that not only do we want her physical continuation in the role but also her “maintenance and commitment” as these are key indicators of quality (Gu & Day, 2007).

Most significant improvements in practice in CL were found in terms of attempts to establish interdependence (see table 1-Int-roles, task, resources, roles). This is a key element of CL, in particular she demonstrated serious attempts to establish mutual goals, ‘goal interdependence’, and division of the task to ensure ‘task interdependence’. Ongoing student reminders from the teacher observed throughout the lesson. Other marked improvements occurred in the use of language by the teacher that reflected that CL strategies were being employed (see table 1- Lan of CL),

for example teacher is observed talking about roles, responsibilities for tasks, compromising or decision making. This is to be expected as Josephine becomes more aware of what is included in a CL lesson.

Josephine's use of CL in her classroom increased from once a month at the beginning of the study to a few times a week over the course of the study. At the beginning she was also asked to attempt to define her understanding of CL. Josephine stated:

"Cooperative learning is, no matter what situation you're found in, and no matter what people, you can actually all work together to achieve the task."

This definition does not really demonstrate that she understands how important her role is when designing CL tasks in her classroom. It is almost as if she is defining what she understands by collaboration. She earlier has stated when asked about what the essential elements of CL are:

"well you need to teach the students how to work cooperatively, how to take turns and respect other people and you need to teach them roles and you need to really know your students...and that "I'd need to move around the room and help dig deeper and help the students with their task- so I'd need to be fluid"

By the end of the study she clearly stated:

"It is a small group of carefully chosen students that can work together to produce or achieve the lesson outcome and maybe more, just engagement, higher order thinking, that's it."

When prompted she went further to explain that by carefully selected she meant,

"knowing your students, knowing who they're friends with, knowing their abilities, knowing their strengths and weaknesses, knowing them as well as you can.."

Josephine was trying to articulate that it was important in CL that each group was a heterogeneous group so that each child's strengths could be nurtured in the group as well the group being able to support any weaker areas. She also demonstrated that when a task is open-ended, students are more likely to extend themselves- they can "achieve the lesson outcome and maybe more." She verified that when using CL students are more likely to be engaged and be involved in tasks that require higher order thinking. She also acknowledged that she had learnt to make sure each individual had something to contribute- she confirmed an understanding of individual accountability, and that "if you don't plan for that you're stuffed before you walk in".

She was beginning to see the links between CL and good teaching. She understood that by using CL “some students scaffold other students’ learning” and it encouraged “risk taking” and if the school year went for another few months maybe we would have seen further developments”. She acknowledged the benefits of using CL as her students,

“interact and discuss things and someone will have another comment, someone will question something and they just go deeper and deeper...and that we’d talk about our group work in values education. So you sort of linked it all together.”

She acknowledged that the professional learning had made an impact on her and her students,

“well after one of your PDs, you told us what they need to know to work in groups (referring to social skills) and once they learnt what a good group member looks like and all that sort of thing it worked better. You know with eye contact and the taking turns, it’s just so basic but so important so once I taught them how to do it they were a lot better at it”.

She continued to reflect on the professional learning sessions and the use of reflection, indicating at the beginning of the study she didn’t know about,

“the different ways you can design tasks around group work...my knowledge I realised was very small...and that it was good having other people to talk to before the sessions”

For such teachers, struggling in this induction phase, she is concerned with learning the context and creating her classroom community whilst beginning to develop a professional identity. A focus on pedagogy is not foremost in her mind, although as Gold (1996) states, “Few experiences in life have such a tremendous impact on the personal and professional life of a teacher as does the first year of teaching” (as cited in McCormack et al., 2006, p.96), which indicates a professional learning program focussed on pedagogy and action research is important and will impact on these teachers for the rest of their career. Josephine’s comments, about her use of reflection in the study, really indicate its impact on her as a teacher, and show the professional learning, using action research, is starting to make a difference to her teaching:

“when you have to put in writing your reflections, you’re sort of harder on yourself and make yourself lift your game”

Third year teacher

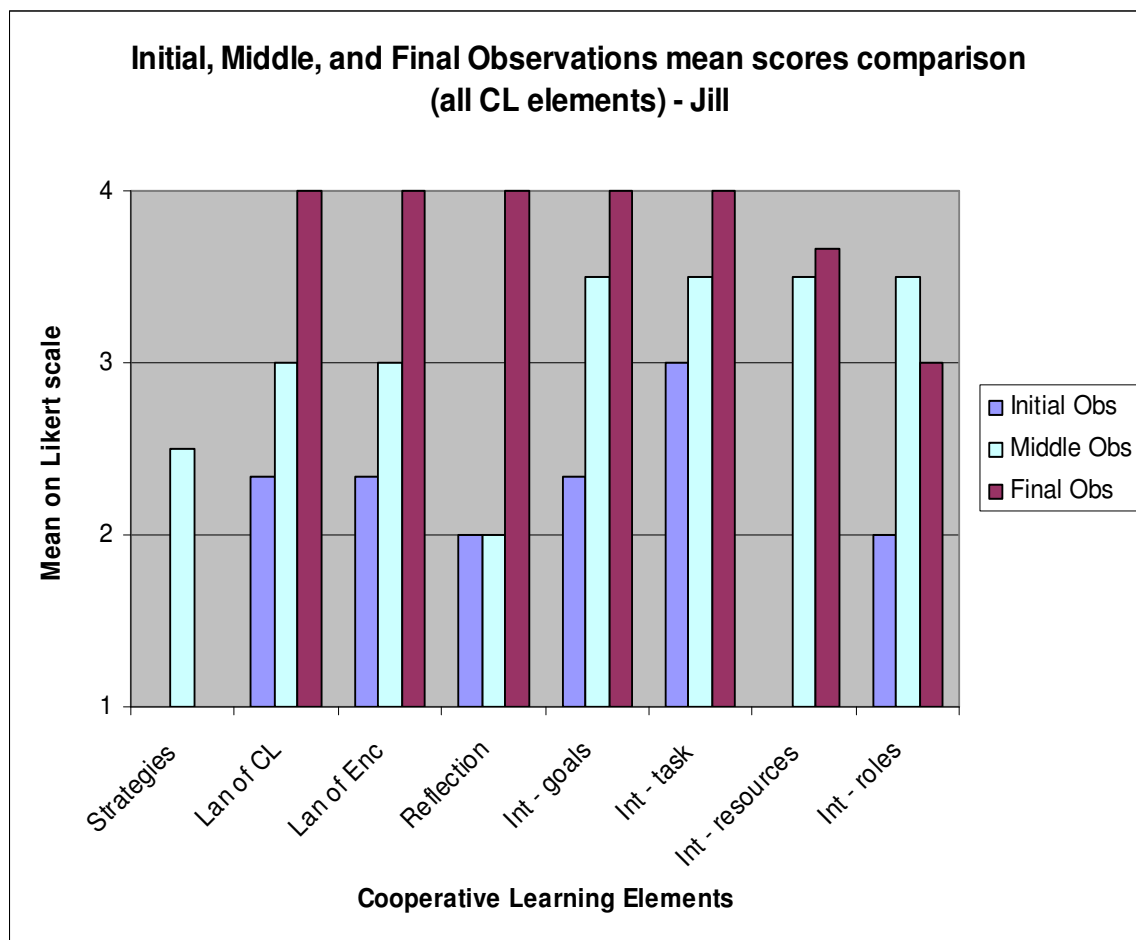


Table 2

Jill demonstrates noticeable improvements in all areas of the CL observation schedule. Jill initially stated that she used CL one teaching session per day and finally stated it was being used for five sessions a week. Her usage did not greatly change throughout the study- she was using it frequently at the beginning and remained doing so throughout. Her improvement from initial to final observations is significantly higher in the area of reflection (see table 2-Reflection), and in establishing interdependence both through ensuring a common goal, as well as through sub-task distribution and in the giving of roles.(see table 2- Int-task; Int-roles). The division of resources (see table 2- Int-resources), to ensure individual accountability and positive interdependence, was markedly improved showing no initial use of this key element. Jill's use of CL strategies also improved (see table 2-strategies), however it is noted that in a class where CL is already quite well established the use of these strategies was not really needed to demonstrate cooperation was occurring. Many of these strategies are excellent when starting out with CL as they ensure students take turns (e.g. talking tokens) and are individually accountable (e.g. placemat). In Jill's classroom the students were mostly doing these things already, in a class established on trust and respect and where high

expectations from the teacher do not allow students to freeload, these strategies were not required as much.

These notable improvements in all areas suggest that Jill, in her third year of teaching, was ready to concentrate on her pedagogical skills and CL and that the professional learning using action research was beginning to demonstrate. She acknowledged that already that year, *"I had to re-change the whole structure of group work as Larissa was very bored, that was a lesson I learnt...to....bring in different ways of presenting, bring in all other things like drama plays and video footage"*. She was reflecting on her teaching, her organisation, on students learning outcomes at the beginning of the project. She also outlined, in the initial interview, how she had a clear set of classroom guidelines; how she used a lot of brainstorming; open discussion; concept mapping; PMI's (Positive, minus, interesting brainstorms), and how students had learnt to take ownership for their work, as well as be held accountable for the work they have failed to produce in groups. This demonstrates a teacher well on the way to understanding about the key elements of CL, such as individual accountability and positive interdependence. Jill's initial definition also shows sophistication in understanding about CL:

"you need to be constantly monitoring those children, and giving them that sense of achievement for them to be able to give you what you want them to give you. The students are important and the environments important, the classrooms important, you know, the task, the questioning, the information, there isn't one part that's less important for the chain, if you were to connect it like a chain, every link, everyone is an important link, if there was a crack in one of the links the whole thing, I believe, would fall apart..."

She demonstrates an understanding of her role in CL in designing the task, supporting the students with appropriate questioning and locating information required for the task. She also demonstrates the importance of interdependence- the chain with links- all students connected and needing to work as a team to achieve that common goal.

She is a teacher who is ready to learn more deeply about her job and is challenging her thinking and enabling her to flourish (Wilson & Demetriou, 2007). She has grappled with the early challenges of beginning teaching- parents, classroom management, day to day organisation, assessment (McCormack et al., 2006) and school culture/context and is now ready to reflect more readily and embark on a journey of professional knowledge *"knowledge which is embedded in 'praxis': reflective knowledge in and through action"* (Ponte, 2002, p.341).

Her final definition is a demonstrates an even more holistic viewpoint of CL as she sees it as,

“an essential strategy to give the best learning chances of learning and developing for our children...it’s an essential tool and I’m so grateful that I learnt about it and I love using it.”

She is beginning to relate CL as a strategy to both student learning outcomes and student social development demonstrating equal importance of the two. Further comments indicate her growth as a teacher and a growth in her understandings of practice in CL,

“I wish I’d videotaped my first term of CL to what I do now as I’ve grown a lot...I realised the students were individually doing their set task and they weren’t gluing together. “

This statement confirms that although she was using CL prior to the study, it was not very successful CL. Some of the terms she used when describing why CL is important to her included,

“respect is a key issue in CL, learning to respect each other as another human being; with a CL group everybody’s responsible for the content; modelling is important; the whole team gets the gold medal at the end”

She demonstrated her deep understanding of CL by the end of the study. The success for her also came when she was promoted at the end of the year,

“I don’t believe I would have got that position had I not done this study as well because I think I’ve included a lot of what I’ve learnt in the study in my application and had evidence to back that up. I’m going to be able to have the opportunity to team teach and have professional development days there where I’ll hopefully be able to encourage others.

She sees the value in the professional learning for her continued professional learning, especially as a teacher leader, as she is at a stage where she is ready to extend and refine her repertoire (Feiman-Nemser, 2001).

“It has stimulated me, I was having a sense I was thirsty for more knowledge and I have responded well and I have learnt so much...you get bogged down in the day to day but the time to seek out more professional development wasn’t there, where this has really kept me on task, and it’s, yeah my heart is pounding with passion for this again and my brains going nineteen to the dozen!”

Conclusion

Difference was found in the impact of professional learning between the two teachers. Jill, in her third year of teaching, made greater gains in understanding and practice, and

demonstrated she was ready to flourish as she had come to terms with the demands of initial teaching. She was more able to cope with the demands of initial teaching, the context, the parents, and classroom management. Jill, the less experienced teacher, improved in knowledge and practice in CL but struggled with these other factors related to beginning teaching. She particular found the disparity between her pedagogical pre-service training and her school context a challenge. Both teachers demonstrate enthusiasm at this stage of their teaching career and it is this that needs to be sustained in order to retain these teachers.

Cooperative learning is a pedagogical strategy that can help to sustain teachers' enthusiasm early in their careers. These teachers have been able to focus on a strategy that research has shown improves students' social and academic outcomes. It has allowed them to focus their attention on developing their classroom culture in a way that supports collaboration between students. The study, with its focus on reflection and action research, has also developed their enthusiasm for ongoing teacher research which hopefully will be sustained throughout their career. A focus on pedagogy is critically important to enhance all beginning teachers' professional accomplishment and should be ongoing throughout the early years of teaching in order to retain quality teachers in the profession.

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Appendix 1

Cooperative Learning Observation

(Designed by Ferguson-Patrick, 2006)

Class:

Date:

Grouping practices	Tick the grouping practice used	Comments
Heterogeneous groups by ability		
Heterogeneous groups by gender		
Heterogeneous groups by ethnicity		
Heterogeneous groups by social skills		
Pupil selected groups		
Pairs		
Three to four member groups		
More than 4		

Task structure (relates to observations in E)	Tick the appro. sections	Comments
Group task with individual task assigned (group goal)		
Group task with group product (group goal)		
Resource interdependent (positive interdependence)		
Role interdependence (individual accountability)		

Cooperative <u>strategies</u> used in the lesson							
<u>Any other</u>	<u>Think/pair share</u>	<u>Placemat strategy</u>	<u>Bundling</u>	<u>Jigsaw</u>	<u>Silent jigsaw</u>	<u>Hot potato /cumulative brainstorm</u>	<u>Talk tokens</u>
<u>Comments</u>							

Class:

Date:

Teacher observation (Cooperative Learning lesson)

	1 (obs not at all in the lesson)	2 (obs in one part of the lesson, seldom mentioned)	3 (obs a number of times in the lesson)	4 (obs almost always-throughout the lesson language used, strategies selected to support appro parts of lesson)
A. Strategies selected Uses a range of cooperative learning strategies designed to encourage student discussion / cooperation (see above list)	Uses no cooperative learning strategies designed to encourage student discussion / cooperation	Uses cooperative learning strategies in one part of the lesson designed to encourage student discussion / cooperation	Uses a range of cooperative learning strategies in different parts of the lesson designed to encourage student discussion / cooperation	Uses a range of cooperative learning strategies designed to encourage student discussion / cooperation which appropriately support those parts of the lesson
B. Language of cooperation Teacher uses language that reflects the facts that cooperative learning strategies are being employed (ie talks about roles, responsibilities for tasks, compromising, decision making)	Teacher use of language that reflects the facts that cooperative learning is being used not observed	Teacher seldom uses language that reflects the facts that cooperative learning is being used – observed maybe once during the lesson	Teacher use of language that reflects the facts that cooperative learning is being used observed a number of times throughout the lesson	Teacher use of language that reflects the facts that cooperative learning is being used observed consistently throughout the lesson
C. Language of encouragement Encourages children to work together and use each other as a resource (ie encourages listening, taking turns, seeking clarification, building on ideas)	Teacher encourages children to work together and use each other as a resource not observed	Teacher encourages children to work together and use each other as a resource observed maybe once during the lesson	Teacher encourages children to work together and use each other as a resource observed a number of times throughout the lesson	Teacher encourages children to work together and use each other as a resource observed consistently throughout the lesson
D. Reinforces student reflection Utilises a proforma, or language, that encourages monitoring of cooperative skills	Teacher utilises a proforma, or language, that encourages monitoring of cooperative skills and reflection not	Teacher utilises a proforma, or uses language, that encourages monitoring of cooperative skills and reflection	Teacher utilises a proforma, or language, that encourages monitoring of cooperative skills and reflection	Teacher utilises a proforma, or language, that encourages monitoring of cooperative skills and reflection

and reflection eg use of encouragement, reflection sheets for group processes and tasks	observed	observed maybe once during the lesson	observed a number of times throughout the lesson	observed consistently throughout the lesson
E. Establishes interdependence in the students' groups	1 (no attempt to establish interdependence)	2 Some attempt but minimal to establish interdependence	3 Several attempts to establish interdependence	4 Serious attempts to establish interdependence with ongoing teacher reminders)
E1. mutual goals in order to promote <i>goal interdependence</i>	No attempt to establish interdependence in the students' groups with mutual goals in order to promote <i>goal interdependence</i>	Some attempt (but minimal) to establish interdependence in the students' groups with mutual goals in order to promote <i>goal interdependence</i>	Several attempts to establish interdependence in the students' groups with mutual goals in order to promote <i>goal interdependence</i>	Serious attempts to establish interdependence with ongoing teacher reminders Establishes interdependence in the students' groups with mutual goals in order to promote <i>goal interdependence</i>
E2. division of the task in order to achieve <i>task interdependence</i> ;	No attempt to establish interdependence in the students' groups with division of the task in order to promote <i>task interdependence</i>	Some attempt (but minimal) to establish interdependence in the students' groups with division of the task in order to promote <i>task interdependence</i>	Several attempts to establish interdependence in the students' groups with division of the task in order to promote <i>task interdependence</i>	Serious attempts to establish interdependence with ongoing teacher reminders Establishes interdependence in the students' groups with division of the task in order to promote <i>task interdependence</i>
E3. division of resources to achieve <i>resource interdependence</i>	No attempt to establish interdependence in the students' groups with division of resources in order to promote <i>resource interdependence</i>	Some attempt (but minimal) to establish interdependence in the students' groups with division of resources in order to promote <i>resource interdependence</i>	Several attempts to establish interdependence in the students' groups with division of resources in order to promote <i>resource interdependence</i>	Serious attempts to establish interdependence in the students' groups with division of resources in order to promote <i>resource interdependence</i>
E4. assigning different roles for <i>role interdependence</i>	No attempt to establish interdependence in the students' groups with assigning different roles in order to promote <i>role interdependence</i>	Some attempt (but minimal) to establish interdependence in the students' groups with assigning different roles in order to promote <i>role interdependence</i>	Several attempts to establish interdependence in the students' groups with assigning different roles in order to promote <i>role interdependence</i>	Serious attempts to establish interdependence in the students' groups with assigning different roles in order to promote <i>role interdependence</i>

3 and 4 would need to be achieved in all categories (A-E) in order to determine that cooperative learning has occurred