Caroline Gwyn-Paquette
Université de Sherbrooke

and

François Victor Tochon
University of Wisconsin-Madison

Preservice Teachers Reflections on Risk-Taking: The Dynamics of Practice and Experience While Experimenting With Innovation During Student Teaching

In this study we explore the reflections of 14 preservice teachers preparing for English as a second language (ESL) or social science teaching in high school. We wished to know what encouraged them to experiment with innovative practice, notably cooperative learning, during their practicum: what they perceived as tolerable and intolerable risk factors, and what helped them to persist in trying the new approach. Inductive analysis of the transcripts of recorded planning and post-observation conversations with the participants reveals that once the impetus for the process is provided, risk-taking in student teaching depends primarily on students' reactions in the classroom, an effective support system for planning, and feedback from either the supervisor and/or the cooperating teacher, as well as from peers, in an atmosphere of mutual trust.

Cette étude porte sur les réflexions de 14 stagiaires destinés à l'enseignement de l'anglais langue seconde (ALS) ou les sciences sociales au secondaire. Nous voulions apprendre ce qui les motivait à adopter des pratiques innovatrices, notamment l'apprentissage coopératif, pendant leurs stages. Quels facteurs de risque jugeaient-ils comme étant acceptables? Lesquels étaient inacceptables? Qu'est-ce qui les incitait à persister dans leurs efforts pour adopter une nouvelle approche? Une analyse inductive des transcriptions de plans de cours et de conversations suivant les observations ont révélé qu'une fois l'incitation fournie, la prise de risque par les stagiaires est surtout dictée par trois facteurs: la réaction des élèves en classe, la présence d'un réseau d'appui efficace lors de la planification, et la rétroaction d'un superviseur ou de l'enseignant coopérant et des collègues, le tout dans un milieu où règne la confiance mutuelle.

Student teaching provides plentiful opportunities for growth and for the development of teaching knowledge while simultaneously exposing the student teacher to a minefield of possible disasters. Although practical experience in schools is considered by many preservice teachers to be the most significant part of their education program, it is fraught with risks: risk that the students fail to learn the designated content, implied criticism of the host teacher if her

Caroline Gwyn-Paquette holds a doctorate and is a lecturer in the Department of Pedagogy, Faculty of Education. Her research interests include student teaching, cooperative learning, and gifted education.
François Tochon heads Foreign Language Education in the Department of Curriculum and Instruction. He has published over 20 books and some 100 scientific articles and book chapters that have brought him international recognition.

or his approach to teaching is not followed, danger of loss of control of the class while using an unfamiliar teaching approach, risk of effects on the student teaching evaluation if things do not work properly. What, then, motivates preservice teachers to experiment? The object of this article[1] is to explore the reflections of preservice teachers about risk-taking during student teaching with regard to experimentation of an innovation, namely, cooperative learning,[2] an approach that is little used in the secondary schools in the region covered by the study. Their reflections reveal various influences that help or hinder their taking of risks. The participants were offered help with planning and coaching during implementation. They themselves found additional help to that normally offered by the university supervisor and the cooperating teacher.

Why Cooperative Learning?

Widely practiced in the United States, the cooperative learning approach was chosen for the study because research has shown its beneficial effects on student learning and social development (Qin, Johnson, & Johnson, 1995; Slavin, 1995, 1996). In a constructivist perspective, theory based on Vygotsky (1978) and Piaget (1928/1995) holds that "knowledge is social and is constructed from cooperative efforts to learn, understand and solve problems" (Johnson, Johnson, & Johnson Holubec, 1994, p. 14). Confrontation of different points of view, questioning of the other's reasoning, verbalization of explanations, summarizing, the mixture of abilities and opinions, as well as peer monitoring and feedback promote cognitive and metacognitive activity and contribute to the adjustment of conceptions, all of which helps to explain the learning of participants in the cooperative group (Abrami et al., 1995).

Since the outset of this study, the issue of using a student-centered approach such as cooperative learning has assumed greater importance in the study area following the Quebec government's (Ministère de l'éducation, 1997) introduction of a school reform that calls for varied teaching approaches and places the student at the heart of the learning process. The ability to work cooperatively with one's classmates is specifically named as a competence to be developed. The trend is clear. Preservice teacher education must prepare candidates for differentiated instruction that respects who the students are and promotes cooperation as a means of mobilizing the strengths of all the students so that they can help each other learn.

Learning to Teach

Teaching is one of the few professions in which the neophyte begins his or her training with a 13-14 year observation period during which he or she has developed well-structured beliefs, attitudes, and values about the nature of teaching and learning, classroom management, and the role of the teacher (Borko & Putnam, 1996; Calderhead & Robson, 1991; Tomlinson, 1999). There is also abundant evidence of the difficulty of altering such preconceptions (Bramald, Hardman, & Leat, 1995; Pajares, 1992; Wubbels, 1992).

It is understandable, then, that preservice teachers tend to reproduce the kind of teaching that they have received and observed (Korthagen & Kessels, 1999). It follows also that it is difficult to persuade them to try what for them are new teaching approaches during student teaching (Zimpher, deVoss, & Nott, 1980). More recently Johnson (1994) remarked that "asking preservice teachers

to test out alternative models of ... teaching means asking them to take major risks" (p. 451). On the other hand, Elliott and Calderhead (1993), Hawkey (1998), Reiman (1999), and Stanulis and Russell (1999) all suggest that preservice teachers need to be challenged in order to promote their learning. Asking them to incorporate cooperative learning into their teaching certainly constituted such a challenge. During their 4-9 week practicum, we asked the participants to risk trying cooperative learning in classrooms where neither the regular teachers nor their students had much, if any, experience with such an approach.

The Risks of Student Teaching

What exactly are the risks of trying a new teaching approach during student teaching? The first risk lies in the attitude of the host or cooperating teacher. New practices may be discouraged during student teaching because they disturb the equilibrium of the class or because they reflect negatively on the cooperating teacher's practice. They may be different from the cooperating teacher's experience of successful practice. Koerner (1992) and Su (1992) found that some of the cooperating teachers they interviewed resisted student teachers' experimentation, "openly declared that they did not like to see change" (Su, p. 249), and did not want "student teachers who had radically different perspectives of education and teaching" from theirs (Koerner, p. 54).

In a context where students have to follow a set curriculum at a set pace or prepare the students to pass a state or national exam, the cooperating teacher and, therefore, the preservice teacher feel they cannot waste time with new-fangled methods. As a student teacher explains, "Student teaching should be a time of experimentation but I feel extremely restricted and restrained because of the structured timetable" (Johnston, 1994, p. 205). Student teachers feel obliged to "ensure that the pace of curriculum delivery [does] not slacken while they [have] responsibility for pupil's learning" (Edwards & Ogden, 1999, p. 6). Aware of their vulnerability, either because of declared opposition on the part of the cooperating teacher to changing the way of doing things or because of the cooperating teacher's role in the evaluation of the practicum, preservice teachers often play it safe and conform to the pattern of teaching they observe in the classroom (Hawkey, 1996; MacKinnon, 1989). Thus they refrain from trying to put into practice teaching approaches that they have learned about in the university, but that they do not see applied in their student teaching milieu.

The final risk, and certainly not the least, is the attitude of the students encountered during student teaching. Are they welcoming or resistant? Do they look on the proposed approach as an interesting change or a disquieting departure from the security of routine? Student teachers risk loss of credibility with their students if the activities that they promote fail to give the desired results. Equally, there is their well-documented anxiety over the risk of loss of control of the group (Kyriacou & Stephens, 1999; Wilson & Cameron, 1996). Students who may be difficult to manage in the best of circumstances can be perceived as unmanageable during activities in which talking and student movement are an integral part of the approach, as in cooperative learning.

What, then, encourages the preservice teacher to experiment? McBride and Skau (1995) discuss the freeing effect of a climate of trust developed in the supervisory relationship that allows the teacher to innovate, to experiment

creatively without the fear of being judged if the experiment does not instantaneously produce positive results. Similarly, Stanulis and Russell (1999) show that the presence or absence of trust in the mentoring relationship greatly affects the engagement, the "jumping in" of the student teacher into the student teaching activities and so influences his or her learning to teach. Tochon (2000) also maintains that a trusting relationship between preservice teachers and their university supervisor is an essential prerequisite for learning in the supervisory process.

Learning to Teach Differently

Both novice and experienced teachers when asked to try something new go through a process of appropriation. In the case of cooperative learning, researchers have developed a number of general models or structures for application in classrooms. These decontextualized models must be interpreted by the teacher and recontextualized, adapted to the curriculum to be covered and to his or her particular students. When the teacher in question is a novice, the process of transfer from a theoretical model to a practical and viable classroom learning activity is much more problematic, particularly if he or she has not seen the structure modeled and if there is a lack of informed support.

In a constructivist paradigm, it is assumed that it is the teacher who must build and organize her or his knowledge in order to carry out a new teaching approach successfully in class. Successful learning by inservice teachers has been found to require training in the new approach as well as coaching and feedback while the practice is being integrated into the regular classroom (Abdal-Haqq, 1996; Hayes, 1995; Showers & Joyce, 1996; Wilson & Berne, 1999). "Opportunities for individual reflection and group inquiry into practice" are also recommended (Abdal-Haqq, p. 1). Several studies indicate that the coaching and supportive feedback provided, particularly by peers who are experimenting with the same teaching approach, is the main predictive factor for persistence in cooperative learning by inservice teachers (Antil, Jenkins, Wayne, & Vadasy, 1998; Ishler, Johnson & Johnson, 1998; Shachar & Shmuelevitz, 1997).

It has been observed that ongoing testing and discussion during student teaching appears to increase the chances of successful integration of new research-based, university-taught teaching approaches by preservice teachers (Cabaroglu & Roberts, 2000; Joram & Gabriele, 1998; Wideen, Mayer-Smith, & Moon, 1998). The few studies on the integration of cooperative learning activities by preservice teachers indicate that because of its complexity, because of the probable difference between this approach and the preservice teacher's preexisting beliefs about teaching, and because of the risks anticipated by the preservice teachers while attempting to implement this approach, coaching support is required if cooperative learning is to be adopted as a teaching approach during the practicum (Bouas, 1996; Ledford & Warren, 1997; Wilhelm, 1997). Quite evidently, there is greater probability of success if both the university supervisor and the cooperating teacher are on the same wave-length and if the recommended practices are already being modeled by the cooperating teacher.

If the cooperating teacher is reluctant about or inexperienced in the innovation, the university supervisor may provide alternative support to preservice

teachers in trying new approaches (Furlong, 2000; McNamara, 1995). The supervisor's greatest potential input with regard to a change in how to teach is in the discussions about lesson planning before student teaching begins. Planning input combined with careful diagnostic feedback, collaborative reflection, and coaching after in-class observation can gradually build the preservice teacher's capacity for finding solutions and may offer an answer to the difficulties of trying a new teaching approach. This, together with informal sources of support, may help to alleviate the perceived risk of trying something new.

The preservice teachers who undertook the planning and integration into their classrooms of cooperative learning activities for this study were fully aware of the risks involved. Both the cooperating teachers and the supervisor/researcher were jointly responsible for their evaluation. Because most of their cooperating teachers did not use cooperative activities, their students were not familiar with this approach. Nonetheless, the preservice teachers accepted the challenge. Why did they decide to experiment with cooperative learning? What did they perceive as tolerable and intolerable risk factors? What support did they find that helped them persist in their endeavor?

Methodology

In this exploratory qualitative study, a heuristic approach was employed together with elements of ethnographic research design. The heuristic viewpoint (Moustakas, 1990; Patton, 1990) originates in the researcher/supervisor's questioning of what was going on as well as in the dialogue that takes place in the supervisory relationship. As the study is concerned with how people behave and react but is not confined to a single site, but rather to several environments, which although similar in nature differ considerably in detail, it can be equated to what Goetz and Lecompte (1984) referred to as *quasi-ethnographic* research. In the manner of ethnographic studies, the researcher/supervisor acted as a participant observer over a prolonged period with her preservice teachers. They were followed throughout the semester of their practicum, including group and individual meetings in the university and observation visits in the schools immediately followed by feedback sessions.

Procedure

Each participant was asked to plan and carry out five cooperative learning activities from among six possible types of cooperative activities (listed in Table 1) during their intensive practice teaching. The cooperative activities had been chosen so as to allow an evolution in difficulty from easy-to-plan, simple-to-manage activities to more complicated activities to plan and manage. Nonetheless, the preservice teachers were free to decide which activity to select, in whatever order they saw as more likely to succeed in the context of their classroom, considering the content that they had to teach.

These preservice teachers had only limited information about the cooperative approach before participating in the study. The approach had been modeled by several of their professors, and they had received a few hours of instruction on the approach in one university course. They were given a document describing how to plan the suggested cooperative activities and were offered help with planning. Although we recognized that their formal training in cooperative learning was far from complete, we reasoned that with coaching

Table 1
Proposed Cooperative Activities

1. Think-Pair-Share (Lyman, 1981)
2. Snowball (Clarke, Wideman, & Eadie, 1990)
3. Learning Together (Johnson, Johnson, Holubec, & Roy, 1984)
4. Jigsaw (Aronson, Blaney, Stephan, Sikes, & Snapp, 1978)
5. Cooperative Review (Slavin, 1995)

or

6. Group Investigation (Sharan & Sharan, 1992).

help they could successfully experiment with simple versions of the suggested cooperative activities.

All participants received feedback on their global planning for the student teaching session and on the detailed planning of the first four lessons. Subsequent help with planning was given if it was requested. Each preservice teacher was observed in class 2-3 times during each student teaching session and filmed in action at least twice. In-class observation was followed by a 20-30-minute feedback session, sometimes, but not always, with the participation of the cooperating teacher. Video-stimulated discussions (Tochon, 1999, 2001) were held with three small groups of participants (analysis of one of these discussions is available in Gwyn-Paquette, 2001a).

A final individual wrap-up interview was held with each participant after the completion of the student teaching session. We tried to keep the supervision process as close to normal as possible, hoping thereby to show that any supervisor could encourage this kind of innovation. The departures from normal procedure were the document on cooperative learning that was given to each participant, the offer of extra planning help, one or more extra observation visits, the video study sessions, and the individual wrap-up interviews.

Participants
Over a three-year period, 14 preservice teachers in the education program participated in the study during some of their regular student teaching periods. They were all volunteers from among the 45 student teachers that one of the researchers supervised over that period. The decision to invite the participation of regular members of the supervisor/researcher's supervision groups was intended to ensure the authenticity of the relationship (Dinkleman, 2000). The most important aspect of this insider position was the possibility of establishing a relationship of trust (Daloz, 1986), an educational helping relationship (Robertson, 1996) that would allow the preservice teachers to experiment without fear of the effects that this might have on their evaluation.

The data for two groups of participants were included in the analysis for this article: a group of four preservice teachers in English as a second language (ESL) in their final year of a three-year education program and a group of 10 preservice teachers in social sciences (history, geography, and economics) for high school, some seven of whom persisted in the research study over both their third and fourth years of a new education program in the same university. The practice teaching experience covers 40 days in two short, intensive sessions in the fall and winter semesters in third year of the four-year program and is

concentrated in 45-50 days of the winter semester in the fourth year. In the ESL program, student teaching in the third year is concentrated in 40 days of the winter semester.

The cooperating teachers with whom the participants worked were those who had offered to take a preservice teacher in the particular subject area and to whom a preservice teacher had been assigned for that student teaching session. They were all volunteers who had at least 15 years of experience in the classroom. As well as supporting, observing, and giving feedback to their student teacher, they were also responsible for 50% of the final evaluation. Only two of the participating cooperating teachers used cooperative grouping regularly for seat work in their classes. In all the other cases cooperative learning was an unfamiliar approach or one that they used rarely. Seat work was done individually or in pairs and dialogue was between the teacher and the students, rather than between students.

Analysis

Data for analysis consists of the verbatim transcripts of recorded conversations that took place in the course of the supervisory relationship between the preservice teacher and the researcher/supervisor including: conversations that prepared for student teaching or followed the observation of classroom interventions during student teaching; and video-stimulated group discussions and the post-practicum wrap-up interviews. Either English or French was used during these conversations depending on the preservice teacher's subject area. Analysis was done in the language of the transcript, but codes are all in English. We have translated quotations from French-language transcripts.

Inductive analysis involved giving codes to each meaning segment (part of a sentence, whole sentences, or even paragraphs (Paillé, 1994; Strauss & Corbin, 1990), using NVivo (Richards, 1999) as a coding program. After preliminary coding when the codes were more or less stabilized, the documents were reread to adjust the coding in the light of those that had emerged. As patterns became evident, codes were grouped into categories (Paillé, 1994; Patton, 1990), which became themes for analysis. At this point one of the overarching themes that emerged was risk-taking, which is the subject of this article. Other major themes were: collaborative reflection (Gwyn-Paquette, 2001a), which illustrates the support for innovation provided by peers; and pedagogical reasoning (Gwyn-Paquette, 2001b), which demonstrates the gradual development of the preservice teacher's autonomy with regard to the new approach.

Using the theme *risk-taking*, a grid of perceived risk factors and effective support elements was built progressively. Codes were grouped into these two subcategories as seen in Table 2. Please note that Table 2 does not represent a classification by numerical importance but a qualitative ranking of factors that emerged in the analysis. The discussion that follows examines those factors that affect risk-taking that emerged as having greater effect. All names are pseudonyms.

Findings

The preservice teachers planned and put into action a number of cooperative learning activities with their students. All the activities included face-to-face interaction, positive interdependence, and individual accountability, minimal criteria used by Antil et al. (1998) to assess the genuineness of cooperative

Table 2
Risk Factors and Effective Support in Learning the Cooperative Approach:
Perceptions of Preservice Teachers

Risk factors	Effective Support
High	*High*
• Disruptive student behavior	• Positive student reactions
• Student insecurity	• Preexisting interest or belief in CL
• Curriculum constraints	• Perceived advantages of CL
• Off-task behavior	• Knowledge of students
• Cooperating teacher opposition	• University supervisor support
• Lack of cooperating teacher support	• Self-confidence
• Lack of control of student learning	• Successful experiences with CL
• Unsuccessful experiences with CL	• Discussion with peers
• Problems that arise	• Cooperating teacher support
Low	*Low*

CL= cooperative learning.

activities. Not everyone tried all five activities, but some, particularly those who participated over two years, not only experimented with all five, but repeated the same type of activity more than once. This was in contrast to the nonparticipants, who tried one or perhaps two cooperative activities or none at all. Each activity that participants tried was repeated with three to four groups of students, so that by the end of the project the preservice teachers had acquired significant experience with the workings of cooperative activities and had learned to avoid the most common problems.

From the relative importance given to situations by the preservice teachers, student reactions, whether positive or negative, proved to be of prime importance in their decisions to attempt or to persist in the use of cooperative activities. As seen in Table 2, the preservice teachers perceived disruptive behavior and reluctant students as the most risky situations for cooperative learning, closely followed by curriculum constraints. The positive reactions of the students and the preservice teacher's personal interest in cooperative learning emerged as the strongest factors encouraging their use of cooperative learning.

Although opposition from the cooperating teacher was seen as representing a relatively high risk, in most cases the cooperating teachers involved were permissive about cooperative learning, if not always actively supportive. Although most cooperating teachers contributed relatively little to decisions about how to plan the cooperative activities, they did, however, provide immensely useful information about group and individual student characteristics and group management. The university supervisor emerged as an important source of practical support and encouragement. The data suggest that a relationship of trust between the supervisor and the preservice teacher is necessary for full exploitation of the teaching experience. An informal source of significant support emerged, that is, exchanges among and coaching by peers both in unstructured situations and in video study groups.

Risk Factors

The preservice teachers perceived risk factors as of varying importance. Some were viewed as so overwhelming as to render the use of cooperative activities impossible, whereas others provided a challenge to be overcome.

Negative student reactions: disruptive behavior, student insecurity, off task behavior
The behavior of the group was considered of primary importance. Thus cooperative learning was either not attempted, or attempted and then rejected in a group that was disruptive and difficult to control. As one preservice teacher declared:

> *Laurie*: In fact, I did have a group that I was not able to do this with.
> *Supervisor*: Because they weren't strong enough or because they weren't used to doing this?
> *Laurie*: Because I had no control. You know, I had to have my eyes on them all the time and I had to be very, very ... I had to have them in a straitjacket.
> *Supervisor*: Strict, firm control.
> *Laurie*: Very firm, all the time.

However, another found that by restricting the size of the group, she was able to carry on with a modified form of cooperative learning.

> *Agnes*: Also, if I see that the groups are more difficult with regard to discipline, I might make them work in pairs or perhaps three or else individually, not in groups of four or five. [That] would be more difficult to control. Maybe they would do the activity but would they have learned anything?

Another reason for eliminating cooperative learning was the insecurity of the students in the class. Thus a weak group, which counted on the highly structured routine set up by the cooperating teacher, asked the preservice teacher not to do cooperative activities.

> *Joan*: The group that didn't do cooperative was a group with a lot of weak students, repeaters, behavior problems. They told me that they felt better with whole group instruction. I respected that.... I think that they felt very insecure. They didn't think that they were learning because the information didn't come from me. It came from their partners. It was a lack of confidence in their own capacities.

Similarly, student insecurity made another preservice teacher alter her co-operative activity or do only a few kinds of activities. In two of her grade 7 ESL classes, pairs were used instead of teams of four or only Think-Pair-Share was tried: "because, when you do something they've never done before, they just panic and go, *What do we have to do?* They just panic."

The students' engagement in the task was another major influence. If the students did not rapidly undertake what was asked, the preservice teachers felt that they should not continue to allow them to waste time. The student teachers had a program to cover and could not allow students to fall behind.

> *Agnes*: Well, if the students don't latch on, you can't continue the activity. If you see that they're sort of waiting, if they don't get into it, I think that it's probably the most important factor to consider.

Curriculum constraints, control of student learning

A closely related inhibitor was curriculum constraints. Some of the preservice teachers were teaching in a discipline that was subject to government examinations and required for obtaining a high school diploma. Even those who were not involved with state-wide exams were worried about what the students would learn on their own. It was as if they felt that they had a better control of the learning of content that they themselves had transmitted.

> *Joan*: I feel that I don't have enough control over what they're learning. Learning Together[3] is easier, as I can complete, change things when they come and present. With Jigsaw[4] it's more difficult.... Sometimes I panic. I don't want to make the students fail. I want them to succeed and at the same time enjoy learning, to learn in the best way possible.

Lack of support from the cooperating teacher

Lack of support from the cooperating teacher made the student teacher hesitate, wondering if the activity would work. If it did not, what would the cooperating teacher think? On the other hand what if it did work and the cooperating teacher had said it would not? Although the preservice teachers were uncomfortable with such situations, they did not necessarily let this stop them from trying.

> *Agnes*: I was even hesitant to do it in level III because Mrs D. had said: "*I don't know girls. I don't want to tell you what to do but it's going to flop. All that movement takes time and when they're working in teams, it always seems to be only one who works.*"

In fact the activity worked well, which pleased the preservice teachers, who felt vindicated, but they had had some difficult moments deciding whether to go ahead with the activity. In another case cooperative activities were frowned on as they gave the impression that the students were not working. "My master teacher goes, he said, *You really have to stop playing games with them.*"

It appears, then, that the most serious factors that stood in the way of trying something new such as cooperative learning were mainly disruptive student behavior, student insecurity, off-task behavior, and curriculum constraints. Other factors, although causing anxiety and calling for more effort on the part of the preservice teacher, could be taken in their stride. However, these less obstructive factors needed to be counterbalanced by positive support. If this was not the case, the preservice teachers might try once, but eventually they would bend to the opposition and restrict their attempts, or finally abandon cooperative activities. Perception of excessive risk clearly restricted the use of cooperative learning.

Effective Supporting Elements

The most important support for continued experimentation with cooperative learning was the positive reactions of the students to the activities that were proposed. Of almost equal importance were values and beliefs held by the preservice teachers. The social and academic benefits of cooperation between students were at the heart of these beliefs. Perceptible positive effects of cooperative learning on the students encouraged participants to continue their efforts. Both supervisor and cooperating teachers helped in the logistics of

organizing and managing the activities and in the search for solutions to improve them. Peers also offered planning and moral support.

Positive Students' Reactions

Students' reactions to the cooperative activity figure strongly in preservice teachers' determination to persist with cooperative learning activities. A positive first reaction reduced perceptions of difficulties in subsequent groups. The first reaction might be lukewarm, but as students became used to what was involved and the results of their team's work, cooperative activities became fun. Students began to look forward to a lesson in which they would work cooperatively.

> *Roger*: It was fascinating, really surprising. At first the students seemed not to like what I proposed (cooperative role play, a variation of Learning Together). *"We're going to have to speak in front of the class?"* they asked, as if I was crazy. I answered, *"Well, try it."* It was all new; their teacher had never done that with them. She herself was curious to see what would happen. And among the eight who presented, there were five who really got into their role, putting in intonation and the class applauded.

The students' reactions, revealing that they had really enjoyed the role-play activity, gave Roger a real boost, encouraging him to try out other activities.

Preexisting Interest or Belief in Cooperative Learning

Preservice teachers' personal beliefs and values were almost as important an incentive to understanding and experimenting with cooperative learning for some participants, as were students' reactions to the activities they proposed. As Roger put it, "I've always believed in collaboration, so I thought that I should try it to see how it works. It's always intrigued me." Cooperative learning corresponded with Agnes' penchant for working with others, whereas George liked the fact of animating and facilitating rather than simply transmitting knowledge. This also relates to Joan's belief in developing student autonomy, whereas Alice saw that the students' having to learn to help each other in cooperative learning activities met one of her profound beliefs.

> *Alice*: I think that cooperative activities make the students more active. They're going to be living in society in the future, so we have to teach them how to live in society. I find that students are too individualistic. They are used to "beating up" on their neighbor and I don't agree with that. So in cooperative learning, you help your neighbor and your neighbor helps you. You learn to be polite because you thank him and ask for his help. I realize more and more that it corresponds with my convictions.

Perceived Advantages of Cooperative Learning: Positive Effects on the Students

Another strong point in favor of cooperative learning had to do with what the preservice teachers saw as its positive effects on the students. They found that when the students learned through their own efforts, they retained more. They also developed social skills that would stand them in good stead all their lives. In addition, choices could easily be given, which meant that more students were being reached. George had tried the same role-play activity as Roger and found it made the students "look at the subject matter themselves, particularly when I asked them to present it to the others. I think they learn more that way." Agnes too found that the students could learn by themselves, that the teacher

"doesn't always have to be up in front to hand them the information." Roger also found significant social development of the students through cooperative learning.

> It develops them socially as well as academically. It develops social skills and qualities. The more effective it is, the more they will learn. They will learn more rapidly and remember more as well. Often they will learn by doing. They won't only read but they will discuss, report, reconstruct, etc. There again the level of retention is higher than when they just read.

Mentoring Support: Supervisor, Cooperating Teacher

The supervisor appears to have had a catalytic effect in launching the idea of cooperative learning. The supervisor's contribution began with inviting the preservice teachers to participate in the research. For some this was all that was needed to set them off. They felt that they would not have tried cooperative learning at all or made fewer attempts had they not had the encouragement of their supervisor. Agnes agreed, stating that it was the supervisor who had started it all and then "gave ideas and ways of doing it. When things didn't work, she gave us help." As Laurie remarked,

> With all these new methods, you need somebody who believes in it.... It's not easy. It's more complicated—it's risky.... So if you don't have the support of somebody that believes in it, at least, that it's possible and that has seen it happen in other places!

Agnes talks about the help received:

> Really, the ideas that you gave us and what the teachers thought as well. Mr C. knew a bit about cooperative activities and he gave us hints so that they would work well. Mrs D. on the other hand, didn't believe in teamwork, but she was open to us trying what we wanted in class.

Alice expressed it differently, "I would say that you shared in our construction. I realize that you helped me a lot to construct." George explains that it was the advice and the documents supplied by the supervisor that gave a head start. "Sometimes you have an idea but you don't quite know how to convert it into an activity. That's where you helped." Without the help of the supervisor they felt that they wouldn't have gone as far or as quickly. George: "I think it would have taken a long personal search before coming up with this approach."

There was a mixed experience of help from the cooperating teachers. Some like Mrs N. and Mr C. knew about cooperative learning and were both willing and able to give sound advice for the organization of the activity. It is interesting to note the difference in the attitude of Roger's cooperative teacher, who is "curious to see what will happen," as compared with Mrs D., whom we see above almost dissuading the student teachers from trying what they had planned. Mrs D. could and did help with management but did not believe in group work, so made no comments about the cooperative activities. On the other hand, she left the way open to experimentation.

Help From Peers

Peers also provided varied support. Working in pairs in their third year of the education program allowed some of the preservice teachers to share ideas while planning their cooperative activities. One pair was nervous about their

first Jigsaw activity, so the supervisor suggested that they try it as a team, one acting as the teacher and the other as an assistant during the monitoring stage. This gave them the sense of efficacy required for them to live through an initial experience.

> *Alice*: Working with Eloise meant that we could do many more activities because we worked well together. We really separated the work. We both had thought about the activity. If one was short of ideas, the other had one. We could really enrich each other in the work on cooperative learning.

The preservice teachers who carried on in the project for two years also participated in video study group discussions in which they could exchange ideas about extracts of videos of their action in class. These discussions exposed them to other types of cooperative activities, gave them ideas, and helped them to visualize what changes could be made to improve their own activities. In addition, Alice and other preservice teachers in her year decided to pool their creations in a sharing session after the fall student teaching session. Each preservice teacher described to the others one or two activities of which they were particularly proud. George comments, "I really learned from that…. It gives you ideas that you can adapt. I really liked it. It helped me a lot."

We observed that the preservice teachers seemed to require a trigger to get them going. They needed something to encourage them to try the new approach, even if some had strong beliefs about its worth. In this case, the trigger was the research project, which offered them extra support during experimentation. Once they had decided to try cooperative learning, the problem was how to articulate their ideas and convert them into viable classroom activities. Here both the supervisor and some of the cooperating teachers lent a hand in the construction process during planning sessions. Feedback sessions were an opportunity to solve remaining problems, to find adjustments that would improve the working of the activity. Other opportunities came from discussions they engaged in with their peers, whether informally or in a more structured way in video study group sessions. However, it was the reactions of the students more than any other factor that influenced the preservice teachers' decisions to persist in working with cooperative learning activities. Theoretically, the students should benefit from this approach, but the preservice teachers had to observe these reactions and effects before they were fully convinced of the viability of the approach.

Conclusion

Research on student teaching has paid scant attention to the risks that preservice teachers must face during the practicum, particularly if they decide to experiment with a teaching approach other than that in use in the cooperating teacher's classroom. Experimentation during the practicum renders them extremely vulnerable. Experimentation, on the other hand, allows them to validate research-based approaches that they learn about in the university (Wideen et al., 1998) but have not experienced themselves as students in school. Despite the risks, the participants in this study chose to try an innovation, permitting us to explore those elements that helped or hindered them.

Why did the participants decide to experiment with cooperative learning? The main stimulus seems to have been their own beliefs and values, a sense

that they would be able to succeed in the endeavor despite the risks involved and the advantages they saw to participating in a research project during which they would receive additional help and support in constructing their knowledge of a new approach. Believing that cooperative learning is a valuable and effective approach to learning stimulated their wish to learn about it and try it with their students. They knew that they could count on receiving information from their supervisor, help with ideas for activities or for their improvement, and feedback on their endeavors as they planned and experimented with cooperative learning in the classroom. They knew that mistakes or mixed success with the cooperative activities they tried were considered part of the learning process and would not affect their evaluation. This trust in the attitude of their supervisor freed them to experiment creatively, to take risks (McBride & Skau, 1995; Stanulis & Russell, 1999; Tochon, 2000). It is probable that many of the nonparticipants had not developed the same level of trust.

All the cooperating teachers helped with management, contributing their knowledge of their particular context or their general practical knowledge of managing a classroom. Most did not display the reluctance to experimentation indicated by Su (1992), and some participated in the construction of understanding of the new approach. Where this was not the case, the help and support from their supervisor as well as from peers seemed to counteract the lack of support from the cooperating teacher (Gwyn Paquette & Tochon, 2002).

Peers provided moral support, ideas, and some coaching help, particularly where the preservice teachers were paired or participated in video study groups (Gwyn-Paquette, 2001a). This would appear to conform to Hawkey's (1994, in Hawkey, 1995) findings: that once trust was established in the coaching pair, student teachers began to take more risks in their teaching strategies and that discussion among peers provided "an opportunity for each to clarify and develop their own thoughts about their own teaching" (p. 6).

It is clear that the preservice teachers who contributed data to this study were aware of and were guided by the reactions of the students in their classes. Negative students' reactions, particularly disruptive behavior, were strong deterrents, leading the student teachers to abandon cooperative learning entirely with such groups or to modify the structure of the activity to a point where it might no longer be considered cooperative. This corresponds to Cooney's (1985) findings in which students' negative reactions to an attempted change in approach forced the teacher to abandon the innovation. On the other hand, a favorable reaction on the part of one group of students encouraged the preservice teachers to try again, although they encountered a certain amount of difficulty with the next group. This positive effect was reinforced when the students showed improvement in their performance, increased their participation, or even better, improved their interpersonal relations in class. This confirms the findings of Veenman, van Benthum, Bootsma, van Dieren, and van der Kemp (2002) on the reinforcement effect of positive student reactions.

The perceptions of the preservice teachers indicate that even with support from all the sources mentioned, the reactions of their students are for them the ultimate test of the effectiveness of a teaching approach. This would correspond to conclusions reached by Jones and Vesilind (1996) and Lauriala (1997) about the role of students as a source of information in learning to teach.

Student feedback, even when unsolicited, would, therefore, appear to be an important element that should be considered in the process of learning to teach. More research is needed, however, on the input of students and of peers into the process of learning to teach. It is not enough to know that they play a role in this process: we need to find out how to channel their action effectively.

The students' reactions helped to guide the participants, but the *how* of the activity required informed support. In this case, the university supervisor played a more important role than expected. In this study the supervisor's planning help and post-observation coaching were essential ingredients for the construction of understanding of the approach and ease of its application. Without an atmosphere of mutual trust, however, this support would not have sufficed. It could be postulated that had there been outright opposition from the cooperating teacher, even the supervisor's efforts might have proved inadequate, whereas had the cooperating teacher been a knowledgeable user of cooperative learning, the supervisor's contribution would have been less central.

Risk-taking during the practicum, particularly when experimenting with an innovation, would appear to depend on a support system that is a blend of various positive factors including some kind of impetus to set the process going, effective planning, and feedback support during implementation stages through shared reflection from either, or preferably both, the university supervisor and the cooperating teacher, as well as from peers. Such tangible support must be coupled with visible positive effects on the students as seen by the preservice teachers and the freedom to learn from their mistakes. Risks will be taken in student teaching if these ingredients are present.

Notes

1. The research reported here is part of a larger study, Tochon (1997-2000).
2. Cooperative learning is considered "the instructional use of small groups that allows students to work together to maximize their own and each other's learning" (Johnson, Johnson, & Johnson Holubec, 1994, p. 3). The groups are "carefully designed to promote positive interdependence," which is "coupled with individual accountability so that students are responsible for learning and contributing to the group task" (Abrami et al., 1995, p. 1).
3. Learning Together: a cooperative approach developed by Johnson et al. (1984) that involves the learning of academic content by a team of four or more students. It involves positive interdependence, individual accountability, and face-to face promotive interaction.
5. Jigsaw: a cooperative approach developed by Aronson et al. (1978). Students in small expert teams learn part of the designated content. They are then responsible for teaching it to their teammates in a Jigsaw team in which each member has learned a different part of the content. All members of the Jigsaw team should have learned all the academic content by the end of the operation.

References

Abdal-Haqq, I. (1996). *Making time for teacher professional development*. (ERIC Document Retrieval No. ED400259)

Abrami, P., Chambers, B., Poulsen, C., De Simone, C., D'Apollonia, S., & Howden, J. (1995). *Classroom connections*. Toronto, ON: Harcourt Brace.

Antil, L., Jenkins, J., Wayne, S., & Vadasy, P. (1998). Cooperative learning: Prevalence, conceptualizations and the relation between research and practice. *American Educational Research Journal, 35*, 419-454.

Aronson, E., Blaney, N., Stephan, D., Sikes, J., & Snapp, M. (1978). *The Jigsaw classroom*. Beverley Hills, CA: Sage.

Borko, H., & Putnam, R. (1996). Learning to teach. In D. Berliner & R. Calfee (Eds.), *Handbook of educational psychology* (pp. 673-708). New York: Macmillan.

Bouas, M.J. (1996). Are we giving cooperative learning enough attention in preservice teacher education? *Teacher Education Quarterly, 23*(4), 45-58.

Bramald, R., Hardman, F., & Leat, D. (1995). Initial teacher trainees and their views of teaching and learning. *Teaching and Teacher Education, 11*(1), 23-31.

Cabaroglu, N., & Roberts, J. (2000). Development in student teachers' pre-existing beliefs during a 1-year PGCE programme. *System, 28*, 387-402.

Calderhead, J., & Robson, M. (1991). Images of teaching: Student teachers' early conceptions of classroom practice. *Teaching and Teacher Education, 7*(1), 1-8.

Cooney, T. (1985). A beginning teacher's view of problem solving. *Journal for Research in Mathematics Education, 16*, 324-336.

Daloz, L. (1986). *Effective teaching and mentoring*. San Francisco, CA: Jossey-Bass.

Dinkleman, T. (2000). An inquiry into the development of critical reflection in secondary student teachers. *Teaching and Teacher Education, 16*, 195-222.

Edwards, A., & Ogden, L. (1999). *Learning to see in classrooms: Developing an understanding of the complexity of teaching and learning during initial teacher education*. Paper presented at the annual meeting of the American Educational Research Association, Montreal.

Elliott, B., & Calderhead, J. (1993). Mentoring for teacher development: Possibilities and caveats. In D. McIntyre, H. Hagger, & M. Wilkin (Eds.), *Mentoring: Perspectives on school-based teacher education* (pp. 166-189). London: Kogan Page.

Furlong, J. (2000). School mentors and university tutors: Lessons from the English experiment. *Theory into Practice, 39*(1), 12-19.

Goetz, J.P., & LeCompte, M.D. (1984). *Ethnography and qualitative design in educational research*. New York: Academic Press.

Gwyn-Paquette, C. (2001a). Signs of collaborative reflection and co-construction of practical teaching knowledge in a video study group in preservice education. *International Journal of Applied Semiotics, 2*(1-2), 39-60 .

Gwyn-Paquette, C. (2001b, April). *Preservice teachers' reflections on cooperative learning: Pedagogical reasoning in learning the cooperative approach to teaching*. Paper presented at the annual meeting of the American Educational Research Association, Seattle.

Gwyn-Paquette, C., & Tochon, F.V. (2002). The role of reflective conversations and feed-back in helping preservice teachers learn to use cooperative activities in their second language classroom. *Modern Language Journal, 86*, 204-226.

Hawkey, K. (1995). Learning from peers: The experience of student teachers in school-based teacher education. *Journal of Teacher Education, 46*(3), 175-183.

Hawkey, K. (1996). Image and the pressure to conform in learning to teach. *Teaching and Teacher Education, 12*, 99-108.

Hawkey, K. (1998). Mentor pedagogy and student teacher professional development: A study of two mentoring relationships. *Teaching and Teacher Education, 14*, 657-670.

Hayes, D. (1995). In-service teacher development: Some basic principles. *ELT Journal, 49*, 252-261.

Ishler, A., Johnson, R., & Johnson, D. (1998). Long-term effectiveness of a statewide staff development program in cooperative learning. *Teaching and Teacher Education, 14*, 273-281.

Johnson, D., Johnson R., Holubec, E., & Roy, P. (1984). *Circles of learning* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Johnson, D., Johnson, R., & Johnson Holubec, E. (1994). *The new circles of learning: Cooperation in the classroom and school*. Alexandria, VA: Association for Supervision and Curriculum Development.

Johnson, K. (1994). The emerging beliefs and instructional practices of preservice English as second language teachers. *Teaching and Teacher Education, 10*, 439-452.

Johnston, S. (1994). Experience is the best teacher or is it? An analysis if the role of experience in learning to teach. *Journal of Teacher Education, 45*, 199-208.

Jones, G., & Vesilind, E. (1996). Putting practice into theory: Changes in the organization of preservice teachers' pedagogical knowledge. *American Educational Research Journal, 33*, 91-117.

Joram, E., & Gabriele, A. (1998). Preservice teachers' prior beliefs: Transforming obstacles into opportunities. *Teaching and Teacher Education, 14*, 175-191.

Koerner, M.E. (1992). The cooperating teacher: An ambivalent participant in student teaching. *Journal of Teacher Education, 43*, 46-56.

Korthagen, F., & Kessels, J. (1999). Linking theory and practice: Changing the pedagogy of teacher education. *Educational Researcher, 28*(4), 4-17.

Kyriacou, C., & Stephens, P. (1999). Students teachers' concerns during teaching practice. *Evaluation and Research in Education, 13*(1), 18-31.

Lauriala, A. (1997). The role of practicum contexts in enhancing change in student teachers' professional beliefs. *European Journal of Teacher Education, 20*, 267-282.

Ledford, C., & Warren, L. (1997). Cooperative learning: Perceptions of preservice teachers. *Journal of Instructional Psychology, 24*(2), 105-107.

Lyman, F. (1981). The responsive classroom discussion. In A. S. Anderson (Ed.), *Mainstreaming digest* (pp. 183-215). College Park, MD: University of Maryland, College of Education.

MacKinnon, J.D. (1989). Living with conformity in student teaching. *Alberta Journal of Educational Research, 35*, 2-19.

McBride, M., & Skau, K. (1995). Trust, empowerment and reflection: Essentials of supervision. *Journal of Curriculum and Supervision, 10*, 262-277.

McNamara, D. (1995). The influence of student teachers' tutors and mentors upon their classroom practice: An exploratory study. *Teaching and Teacher Education, 11*, 51-61.

Ministère de l'éducation (1997). *L'école, tout un programme: énoncé de politique éducative.* Québec: Gouvernement du Québec.

Moustakas, C. (1990). *Heuristic research.* Newbury Park, CA: Sage.

Paillé, P. (1994). L'analyse par théorisation ancrée (Grounded theory analysis). *Cahiers de recherche sociologique, 23*(1), 147-181.

Pajares, M.F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*, 307-332.

Patton, M. (1990). *Qualitative evaluation and research methods.* Newbury Park, CA: Sage.

Piaget, J. (1928/1995). *Sociological studies.* New York: Routledge.

Qin, Z., Johnson, D., & Johnson, R. (1995). Cooperative versus competitive efforts and problem solving. *Review of Educational Research, 65*, 129-143.

Reiman, A. (1999). The evolution of the social roletaking and guided reflection framework in teacher education: Recent theory and quantitative synthesis of research. *Teaching and Teacher Education, 15*, 597-612.

Richards, L. (1999). *Using NVivo in qualitative research.* Melbourne, Australia: Qualitative Solutions and Research.

Robertson, D. (1996). Facilitating transformative learning: Attending to the dynamics of the educational helping relationship. *Adult Education Quarterly, 47*(1), 41-53.

Sharan, Y., & Sharan, S. (1992). *Group investigation: expanding cooperative learning.* New York: Teachers College Press.

Shachar, H., & Shmuelevitz, H. (1997). Implementing cooperative learning: Teacher collaboration and teachers' sense of efficacy in heterogeneous junior high schools. *Contemporary Educational Psychology, 22*(1), 53-72.

Showers, B., & Joyce, B. (1996). The evolution of peer coaching. *Educational Leadership, 53*(6), 12-16.

Slavin, R. (1995). *Cooperative learning* (2nd ed.). Boston, MA: Allyn and Bacon.

Slavin, R. (1996). Research on cooperative learning and achievement: What we know, what we need to know. *Contemporary Educational Psychology, 21*, 43-69.

Stanulis R., & Russell, D. (1999). Jumping in: Trust and communication in mentoring student teachers. *Teaching and Teacher Education, 16*, 65-80.

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research.* Newbury Park, CA: Sage.

Su, J.Z.X. (1992). Sources of influence in preservice teacher socialization. *Journal of Education for Teaching, 18*, 239-258.

Tochon, F.V. (1997-2000). *La coopération dans les dialogues pédagogiques: ce que les enseignantes expertes ont à enseigner aux stagiaires oeuvrant en milieu bilingue* (Cooperation in pedagogical conversations: What the expert teacher teaches preservice teachers working in a bilingual milieu). Ottawa, ON: Social Sciences and Humanities Research Council of Canada.

Tochon, F.V. (1999). *Video study groups: For education, professional development and change.* Madison, WI: Atwood.

Tochon, F.V. (2000). A semiotic theory of supervision as friendship: Cooperative communication as support in second-language education. In S. Simpkins, C.W. Spinks, & J. Deely (Eds.), *Semiotics 1999* (pp. 283-299). New York: Peter Lang.

Tochon, F.V. (2001). Education-research: New avenues for digital video pedagogy and feedback in teacher education. *International Journal of Applied Semiotics, 2*(1-2), 9-28.

Tomlinson, P. (1999) Conscious reflection and implicit learning in teacher preparation. Part II: Implications for a balanced approach. *Oxford Review of Education, 25*, 533-544.

Veenman, S., van Benthum, N., Bootsma, D., van Dieren, J., & van der Kemp, N. (2002). Cooperative learning and teacher education. *Teaching and Teacher Education, 18*, 87-103.

Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press.

Wideen, M., Mayer-Smith, J., & Moon B. (1998). A critical analysis of the research on learning to teach: Making the case for an ecological perspective on inquiry. *Review of Educational Research, 68*, 130-178.

Wilhelm, K.H. (1997). Sometimes kicking and screaming: Language teachers-in-training react to a collaborative learning model. *Modern Language Journal, 81*, 527-543.

Wilson, S., & Berne, J. (1999). Teacher learning and the acquisition of professional knowledge: An examination of research on contemporary professional development. *Review of Research in Education, 24*, 173-209.

Wilson, S., & Cameron, R. (1996). Student teacher perceptions of effective teaching: A developmental model. *Journal of Education for Teaching, 22*, 181-195.

Wubbels, T. (1992). Taking account of student teachers' preconceptions. *Teaching and Teacher Education, 8*, 137-149.

Zimpher, N., deVoss, G., & Nott, D. (1980). A closer look at university student teacher supervision. *Journal of Teacher Education, 31*(4), 11-15.