Danielle Raymond and
Hélène Hensler-Méhu

Interpreting Curriculum Changes

Teachers' practical knowledge as revealed in group planning

"Reforms" in education initiated from the top down, no matter on what scale, have been notorious failures for many years. Do the specialists and researchers who made their livings from this sort of activity never learn? The Ministry of Education in Québec recently brought into play the massive changes of its Orange Book on the Québecois School, which illustrates in many ways the producer-consumer paradigm it should have been warned against. Raymond and Hensler-Méhu set out to learn from twelve elementary teachers in rural schools who faced the task of implementing its measures: the teachers made the running, the researchers were there mainly as observers and to provide purely technical assistance. In the year-long project, as each party became sensitized to the competence and concerns of the other, the authors were able to learn things about the skills, style, needs, and priorities of the teachers (including a total inversion in practice of the curriculum-makers' notion of the status of objectives) that should surely be fundamental knowledge among researchers and planners if their activities are to be of any real use.

Following the diffusion of "Le Livre Orange sur l'Ecole Québécoise" (1979), the Ministry of Education articulated a policy directing the operations to be conducted during the elaboration, implementation, and evaluation phases of the educational reform (1980). We hereafter briefly outline the elements of the first two phases.

For the first phase, the curricula are elaborated by education specialists from the Ministry. They determine the orientations of the curriculum guidelines in consultation with committees composed of various local representatives, including teachers. These specialists also supervise the writing of the guidelines, making sure that the committees' productions are in line with the orientations. The guidelines are periodically sent

to a region, a board, or a school for examination and feedback. Only exceptionally are any programs subjected to testing at the local level.

The implementation phase is conducted in three stages. First, the Ministry of Education introduces the curricula to various agents responsible for making operational the implementation at the regional board level. Second, teacher preparation which involves presentation of the guidelines and workshops is organized and conducted by the school board. Third, teacher preparedness for adaptation of a given program has to be evaluated by the school board. The operationalization of the three stages is achieved through program-specific implementation plans involving a comparison of the old and the new program, teacher preparation guidelines, a list of deadlines, specification as to material and human resources allotments, and so on. Adaptation to local characteristics is addressed by the design of regional implementation schemes.

The producer-consumer paradigm

Several features of this reform illustrate what Aoki (1983) calls the producer-consumer paradigm in program implementation. Elements of this paradigm can be observed in how the implementation is conducted as well as in the implied view of the teacher. Program implementation is seen in terms of a unidirectional flow going from the Ministry to the individual teacher and classroom; it is made compulsory for all school boards and private institutions. But to our knowledge no serious pilot studies were conducted which might have modified the contents, or the implementation strategies, or might even have questioned the reasons for undertaking this reform in the first place. It is unquestioningly assumed that the new product is better than the old. Therefore, all energies are used in marketing the products from the top of the educational pyramid to the bottom.

At the top of the pyramid, this process is analyzed and segmented, each phase involving a series of administrative **operations** described in terms of **objectives** and responsibilities. In the "Cadre relatif à l'implantation des programmes d'enseignement" (1980), and in the program-specific implementation guides, no attention is paid to either cultural, sociological, or psychological **conditions** created by the educational change represented by the implementation of new curricula. Just as in the sixties and seventies, the **object,** and not the **process of change,** remains that which channels the energies and the resources (Fullan, 1982).

More interesting for our purposes is how the teacher is conceived by the reform. The teacher is seen as a **consumer** of products elaborated by "experts". The teacher preparation guidelines have as their priority the acquisition of information. Sessions organized by school boards aim at making the teachers

aware of the programs' general orientations. The teachers are then either left to themselves or given quite chaotic conditions of support to understand what the change entails for their practice.

It is assumed that simply as a consequence of the receipt of information, without the benefit of adequate support, the teachers will transform their classroom practice. The potentially problematic relationship between theoretical knowledge, as contained in the guidelines' descriptions, and the teachers' practical knowledge is reduced to the examination and discussion of local adaptation. It is also assumed that the information conveyed is objective and not subjected to multiple interpretations as it is handed down (program developers → regional "multipliers" → local supervisors → teacher); as well, the inevitable transformations of written ideas as they are kneaded into practice (Olson, 1980, 1983) are not taken into account.

It could be argued that teachers were involved in the reform, since, at the program development phase, some teachers deliberated with curriculum experts and ministry officials. However, even if all this work resulted in "curriculum guidelines, classroom-ready this time, written in teachers' language" (Butt, 1982), it does not seem to be effective when it comes to other teachers using these results. As Fullan says

"One of the great mistakes in North America in the late 1960s and 1970s was the naive assumption that involving **some** teachers on curriculum committees **or** in program development would facilitate implementation, because it increases acceptance by other teachers. Of course, it was such an automatic assumption that people did not use the words "some" and "others". It was just assumed that "teachers" were involved because "teachers" were on major committees **or** project teams... As far as most teachers were concerned, when the change was produced by fellow teachers it was just as much **externally experienced** as if it had come from the university **or** the government". (1982, p.113)

Moreover, as we mentioned above, the Ministry's education specialists kept on checking the work produced by the committees for their compatibility with established "general orientations". What ended in the "blue books" was rubber-stamped by technocrats, not teachers.

It might be alleged that the vagueness of the means of implementation set out in the policies could reflect the Ministry's commitment to decentralization, aimed at correcting some of the defects of the top-down approach. This argument, however, becomes short-lived when the conditions under which school boards operate are brought into full view. These organizations do not have the time or resources to develop teacher preparation policies and means of implementation commensurate with the scope of the reform; preparation is thus

limited to one-shot workshops or orientation sessions with trainers or program consultants.

In the Fall 1983 issue of a working paper, the Ministry acknowledged some of the difficulties in the implementation process, such as the information overload for the elementary school teacher and the sporadic character of teacher preparation activities. However the proposed measures do not question the assumptions underlying the reform or the implementation process: solutions such as "providing teachers with simple, accessible instruments" epitomize a view of the teacher as a consumer-user of educational products designed by curriculum experts.

We can see, with House, that "invectives leavened with reason" (1979, p.3) aimed at government officials do not deter technocrats from pushing education systems into the type of unsuccessful massive reforms which have plagued teachers' and students' lives for the last twenty years. The extent of the burdens carried by teachers, who have seen it all come and go, has begun to receive much attention in the past five years through literature related to teacher stress and burnout associated with the bad quality of their working lives (Kratzmann et al., 1981; Fullan, 1982; Flanders, 1983). Both Flanders (1983) and Lortie (1975) document feelings of inadequacy and powerlessness resulting from the general devaluation of the teacher's judgment.

This devaluation is further sanctioned by the type of reform we are witnessing. The massive implementation of more than a dozen programs indeed robs teachers of their sense of power over their working lives by either ignoring or making invalid their practical knowledge of curriculum and classroom realities. An examination of the contents of the new curricula shows that the reform aims at changes that are multidimensional and fundamental. All aspects of teaching (materials, aims, approaches, beliefs) must undergo extensive revisions. The ensuing feeling of dispossession is illustrated by a quotation from one of the teachers in our project at our first meeting:

> "Avec les nouveaux programmes on ne sait plus rien." ("With the new curricula we do not know anything anymore.")

The type of language used in the documents reinforces this feeling. It is different from the language teachers use to describe their daily practice, and some key concepts like "objectivation", "réinvestissement", and even "objective" are vague or are inconsistently used. As teachers try to function with this borrowed terminology, they attempt stop-gap measures that fall between the programs' concepts and their understanding of their own practice. The need for this way of working leads them to feelings of insecurity, frustration, loss of self esteem, and alienation.

In our project (to be described shortly) an example of this alienation may be observed in the teachers' use of the programs' objectives. After agreement over a teaching activity for their respective groups, they skim the list of official objectives, read a few, and select one that seems to "fit" the activity. This selection is often based /n the fact that the formulation of the objective contains no more than one word compatible with the activity and the meaning of the objective as a whole is not discussed. Furthermore, while reading the objectives, teachers barely conceal their irritation with the formulation - "C'est quoi qu'ils veulent dire par là?", ("What do they mean by that?" - and the long lists of objectives - "C'est donc détaillé pour rien." - "All these details for nothing."). The intrusiveness of the reform adds to the "endemic uncertainties" (Lortie, 1975) of the profession, which undermine the teacher's efforts at achieving minimal control over the daily tasks. Carefully constructed successful teaching practices are now perceived as obsolete or fragile - "Dans l'enseignement tout est toujours à recommencer" ("In teaching one must always start from scratch.").

Finally, by forcing the teacher into the role of consumer-user, such an implementation process limits the teachers' awareness of their otherwise widely-recognized central role in educational change (Fullan, 1982). Teachers feel victimized and retreat into their classrooms where a minimum of control can be assumed. The teacher's energy is channeled into the development of survival strategies: curriculum matters, rather than being the locus of public and ongoing deliberations, become a taboo, whether subliminal or private, and are banned from teachers' conversations. No shared constructive strategy can therefore be developed to deal with the problems posed by the reform.

Planning an integrated teaching activities project

A. The Perspective

A previous study performed with the help of practitioners working their way through more than a dozen new elementary education curricula (Hensler-Méhu et al., 1983) brought to our awareness the centrality of a practitioner's subjectivity and personal practical knowledge in understanding the mandated programs. A study of the implementation process would have to include, if not start with, the teachers' interpretations of the curriculum guidelines as they try to make sense of them while attempting to build them into their practice.

The practitioners' reactions to our probes and to our interpretations of the programs confirmed our position as outsiders to the classroom culture. It then became quite obvious that any project involving us as researchers and/or consultants, however helpful and well intentioned we could be, should have "as the starting point... an issue which teachers

themselves identify as a problem worth working on" (Elbaz, 1983). Teacher ownership of the implementation project in its inception as well as teacher control over its directions and productions appeared as sine qua non prerequisites for a project to be started at all. The centrality of teachers' interpretations and the importance of teacher ownership constitute the main ingredients of the perspective of our work. We see the teacher as an **agent** who (re)defines the implementation project in his or her own terms and brings to bear on it an extensive knowledge of teaching acquired in the context of practice.

Based on these premises, our tasks as researchers/consultants/outsiders would be to educate ourselves to the teachers' culture, perspective, and knowledge - and, if called for, to act as technical resources. In addition, given the fact that, under normal conditions, teachers do not have time, energy, or guidance to engage in reflection or analysis of their practice, we would provide some of the necessary intellectual and affective support for them to do so (Day, 1983). The research process would be one of mutual education for both teachers and researchers; as they engaged in dialogue over practical problems, the knowledge and interpretations embedded in their practice would be articulated, revealed, and progressively opened to criticism. And we contend, with Aoki, that "it is within this critical turn, a precious moment in praxis, that there exist possibilities for empowerment that can nourish transformation of the self and the curriculum reality". (1983, p. 27)

B. **The project**

In early October, the educational services directorate of a school board located in a remote rural area invited us to join twelve teachers in a project they called "Integration des matières". The decision to proceed with the project, which was taken by the teachers at the end of June 1983, received full support from the principal and from the educational services director. The project was seen as a possible solution to the problems posed by the massive implementation of more than a dozen curricula in multiple grade-level classrooms. Difficulties such as overwork, exhaustion, and lack of preparation time were seen as being aggravated by the fact that scarce resources precluded the assistance of subject-matter specialists for the development of curriculum materials or classroom activities, and because scattered in very small schools all over the board's territory, the twelve teachers could not work in teams on a continuing basis. At the end of June it was thus decided that the project would involve the planning of integrated teaching units and would be conducted in 3 teams of 4 teachers (grades 1-2, grades 3-4, grades 5-6); nine one-day long meetings were scheduled between the end of August and May. We were invited to join the project in October, after the first meeting for each group.

As verbalized by the teachers on our first encounter, they

expected us to help them gather and organize curriculum materials and to develop some working methods for planning integrated units so that they would not have to "start all over again" the following year. As expressed, the required assistance was essentially technical, since what was asked of us was to put it all together - "ramasser tout ça" - and write it up in documents that could be used directly for teaching purposes. At this first meeting, we on our part revealed our interest in the extensive knowledge they could bring to bear on the planning of the units and the examination of the curriculum guidelines. We also communicated our desire to educate ourselves to their perspective and to the process of collaborative research with teachers.

Seven full-day planning sessions were held, and one last meeting involved an overall evaluation of the project and a discussion as to the continuation of the project next year. Except for the first meeting with each group, all sessions were taped; field notes were also taken, which summarized decisions about materials, activities, and objectives. So far the tapes have been used primarily to write up the documents requested by the teachers.

C. **Preliminary results**

Since the data are still being processed, we will present, after a general description of the planning practices, a preliminary account of the teachers' understandings-in-use of "integration" and of some of their interpretations of the new curricula; we will also provide some support for our view of this research process as one of mutual education for teachers and researchers.

For the three groups, planning was organized around a "theme" (e.g., "The First Snow", "The Water Cycle") used to guide the selection of curriculum materials. Second to the theme, the different subject matters acted as main organizers of the planning process: the choice and/or identification of a theme was usually followed by a decision as to what subject matter would "partir le thème" ("start the theme"). This often meant introducing the theme to the children in the classroom. Activities elaborated within one subject matter then elicited ideas about other activities that could be summed under another subject matter. When no more ideas could be generated, an assessment of the subject matters to be "covered" was made, and activities were then elaborated for most of them. (Some subject matters were not included in the planning process.) A substantial amount of time and energy was allocated to examination, discussion, and selection of curriculum materials. The new program guidelines were used only when teachers looked for objectives to be associated with an activity.

The project proceeded with very few discussions as to what "integration" or "integrating" could mean; the teachers seemed to share an implicit understanding of how to go about it in planning. This understanding seemed to be dominated by "the theme" which acted as a trigger for the generation of

sub-themes, the elaboration of activities, the recall of past teaching experiences, or ideas gleaned in workshops, television programs, or personal experience. The practice of integration thus seems to include a focused **evocation** and sharing of selected aspects of the teachers' practical knowledge. An examination of the themes selected also reveals the cultural embeddedness of the meaning of integration: the seasons' cycles, festivities, the calendar, "events that cannot be avoided" ("événements qu'on ne peut pas éviter") comprise most of the themes selected. "Integrating" also means including most - but not all - subject matters in the planning process.

In the last session we probed the teachers for their explicit understandings of integration as they perceived they had practiced it. Interestingly enough, their views referred more to what they had practiced in the classroom than to how they had planned it. For instance:

"Y a des choses que j'aurais pas pensé à faire avant... j'aurais dit: ben non, c'est des sciences humaines... mais c'est aussi de la lecture informative."
("There are things which I would not have thought of doing before... I'd have said: well, no, this is social studies... but it also is reading information.")
(Grade 3-4 group)

"J'en (en référence à l'intégration) vois plus là... pis encore. Je vais faire une activité de français et je me dis: tiens, c'est un objectif des sciences humaines qui se fait là. Avant je le voyais pas."
("I see more of it (integration) now... but still. I will do an activity in French and I'll say to myself it is a social studies objective that is now being covered. I had not seen this before.")
(Grade 5-6 group)

"Intégrer, c'est vivre un thème en poursuivant des objectifs de chaque matière, c'est être logique et se sentir bien avec les enfants."
("Integrating means to live out a theme while pursuing objectives in each subject matter area, it is being logical and feeling well with the kids.")
(Grade 1-2 group)

The Grade 1-2 teachers' remarks emphasize what integrating entails for classroom life with the children, whereas other teachers seemed concerned with the interpretations of subject matter areas.

We indicated before that the new curricula were used primarily when teachers wanted to associate an objective with one they had agreed on. In the first section of this paper we pointed to the manner of use of the programs' objectives as an illustration of the alienating consequences of the reform for

teachers. We recall here how objectives were skimmed, rapidly read, and selected on the basis of the correspondence of a few words with the theme or activity. As demonstrated in the following quotes, using the programs represents a formality and is met with resistance:

"On n'a pas approfondi les objectifs... Les objectifs on les met là parce que c'est vraiment qu'il faut qu'on en trouve des objectifs, on travaille par objectifs et puis l'évaluation se fait à partir d'objectifs, mais le numéro d'objectif, on le met là parce qu'il se rattache à ça. Moi je ne vois pas la grosse importance de mettre mon objectif à côté."
("We've not gotten into the objectives... the objectives, we put them there because we have to, because we must really identify some, we work with objectives and evaluation is done according to objectives, but the objective identification number, we write it down because it fits. I don't see the importance of writing down the objective.")

"Aprés l'avoir lu une fois mon livre sur les sciences de la nature, je ne suis pas retournée une fois lire les objectifs. Ça je vais être franche."
("After reading it once, the science curriculum guide, I have not gone back even once to read the objectives. I have to be honest about this.")
(Grade 5-6 group)

At this point in the project, the teachers' interpretations of elements of the guidelines are in terms of how objectives - their existence, their imposition, their formulation - infringe upon their practice.

Our preliminary data finally suggest that the research process raised the consciousness of both teachers and researchers, as they engaged in the construction of solutions to problems that are problems for practitioners. It was possible for us to realize that the need for catalogues and for collection of curriculum materials had to be understood in relation to important aspects of the teachers' professional lives. We concluded that readily available materials would alleviate the oppressive task of implementing several curricula in multi-level classrooms; getting information, materials, and ideas from other teachers would break some of the geographical isolation that had deprived them of opportunities to share experiences and resources; and, also, sharing decisions while planning would lessen the insecurity and the guilt linked to the profession's "endemic uncertainties" (Lortie, 1975).

Teachers also patiently educated us to their working methods, painstakingly answering our somewhat naive questions, and putting up with some of our frustrations while observing them. For instance:

E1: Il m'a semblé des fois que t'avais l'air à trouver ça plat,

long, puis je me suis dit: il me semble que ça reste dans le sujet.

C : J'ai eu de la difficulté des fois avec le fait qu'il y avait des idées qui circulaient, puis il y en avait une qui ajoutait telle affaire, l'autre qui ajoutait telle autre affaire... puis y avait des fois, ça s'en allait ailleurs puis là je savais pas qu'est-ce que vous faisiez avec ça...

E1: On le savait quand même où on en était rendues.

C : Moi je le savais pas j'étais perdue.

E2: Moi j'ai toujours suivi...

C : J'ai peut-être transmis non verbalement: "Ça va-tu (sic) accoucher?"

T1: It seemed to me that sometimes you seem to find it dull and long and I told myself: it seems that we're still dealing with the topic.

R : I had problems sometimes with the fact that some ideas were going round, and then one would add one thing, another one something else... and sometimes... it would go somewhere else and I did not know what you were going to do with this.

T1: But we knew where we were.

R : I did not know it, I was lost.

T2: I always knew where we were.

R : I might have non-verbally communicated: "Is it ever going to get anywhere?"
(Grade 5-6 group)

On the other side, our requests for clarification seemed to have encouraged teachers to become aware of their own practice and to reflect on it:

"Je trouve que ça a été une aide bien précieuse dans le sens que tu nous as arrêtées bien souvent puis tu nous as dit: "Oups, je comprends pas là, est-ce que vous vous comprenez?" ...Ca nous faisait nous remettre en question, ce que je suis en train de dire çé-tu (sic) encore assez important, est-ce qu'on laisse tomber?"

("I think that it was a precious kind of help, in the sense that you often stopped us, saying: Oops, I don't understand, do you understand each other?... It had us question ourselves, what I've just said, is it still important, do we just forget it?")
(Grade 5-6 group)

E1: Tes interventions nous ramenaient dans notre sujet...

E2: Ca nous a amenées à réfléchir sur une chose à laquelle on n'aurait pas pensé."

T1: Your questions would bring us back to the task...

T2: We were brought to think of something we'd not have thought about.
(Grade 3-4 group)

3. Discussion: the potential and limitations of the project

Since the data needed more thorough examination we will only outline the potentialities and constraints of the project for an understanding of the teachers' practical knowledge of planning and integration. The fact that teachers work in groups has its advantages and disadvantages. Ideas must be made public to be discussed and the teachers will fully share ideas and experiences without prompting from the researchers; on the other hand, much of what could be important to reveal and articulate is implicit knowledge, that teachers share and don't feel the need to discuss. This leaves the reseacher with three potentially uncomfortable or undesirable choices: first, interrupting the deliberations to ask questions which, in our case, were often received with awe or reticence; second, waiting for the end of discussion to ask questions. (However, as we found out, the "end" is not always easy to identify; also, keeping the questions in mind while attending the deliberations must be ruled out.) And finally, forgetting about such probes brings about a lot of frustration when, as we listen to the tapes, we realize an interesting lead had been abandoned or ignored. At this point, finding some support in the teachers' evaluations of our contribution to the project, we are considering interrupting the deliberations at pre-determined moments in the planning process.

Our data indicate the presence of conditions limiting the teachers' sense of empowerment in such a project. As seen above, the programs are perceived as foreign to the teachers' culture: "Ceux qui ont travaillé là-dessus, ils ne sont jamais allés dans les classes" ("Those who have worked on this have never set a foot in a classroom"). The imposition of the guidelines, the obligation it entails to get all this information in, is seen as dehumanizing, unrealistic, and leading to feelings of insecurity and oppression. Though never formulated as such, there seemed to be "un refus global" to acknowledge the presence of the curriculum or to give its contents serious consideration. Survival strategies such as writing down the identification number of an objective in the planning notebooks mobilized a good deal of energy.

On the other hand, even if the project is still young, there are already undeniable signs of empowerment. In the three groups, the teachers dwelled on the increasing feelings of strength, security, and relief as the project was going on, evidenced by many comments on their increased availability in their professional and personal lives and their "increased sense of being present to the kids" (Group 1-2). The project has also meant an improvement of working methods, more systematic discussions, better organization of teaching materials. Some of the most convincing evidence for empowerment can be observed in various manifestations of ownership, which increase in number and scope as the project is going on. As a prime example, limited to the exchange of material, ownership reveals itself in

criticism of the documents produced by the researchers and requests for additional assistance in building the catalogues. At the end of this year, teachers were envisaging the project on a long-term basis, making decisions concerning its extension in 1984-1985, and further developments in 1985-1986. Long-range planning includes the consideration of task-sharing strategies for examination of the curriculum guidelines, the elaboration of a bank of math problems that would replace the textbook, and a commitment to incorporate the development of a means of evaluation for next years' planning.

Concluding remarks

In line with the project are a few reflective comments on how this work has added to our practical knowledge as researchers. We realize that the refusal to be experts, while a necessary condition for the project to happen, is not itself sufficient for researchers to be perceived as "insiders"; sharing concerns about extra-professional matters in an informal context seemed important to reinforcing trust and positive feelings. ("C'est aux repas qu'on dit les choses les plus importantes" - "It is at mealtimes that the most important things are said.") Also, a non-participating stance, as we have previously seen, can easily be interpreted as a sign of boredom. And even if our presence, continuing technical and affective support, and active listening conveyed messages of interest and involvement, being part of the project means taking a more active stance - sharing ideas and making suggestions during the planning sessions. However, we are now convinced that the teachers' request for more input on our part had to come from a position of strength, and conveys a sense of ownership and responsibility for the future of the project.

REFERENCES

Aoki, T. Curriculum implementation as instrumental action and as interpretive praxis. In R. Butt, J. Olson and J. Daignault (Eds.) Curriculum Canada IV: Insiders' realities, outsiders' dreams: Prospects for curriculum change. Proceedings of the Fourth National Symposium of the Canadian Association of Curriculum Studies, Centre for the Study of Curriculum and Instruction, University of British Columbia, 1983.

Butt, Richard. Getting off the teacher's back: The emancipation of reformers. Paper presented at the Canadian Association of Curriculum Studies Annual Conference, Ottawa, June 1982.

Day, Christopher. Teachers' thinking - intentions and practice: An action research perspective. Paper presented at the first symposium of the International Study Association on Teacher Thinking, Tilburg University, Netherlands, 1983.

Elbaz, Freema. Teachers' practical knowledge: Prospects for change. In Curriculum Canada IV. Proceedings of the Fourth National Symposium of the Canadian Association of Curriculum Studies, Centre for the Study of Curriculum and Instruction, University of British Columbia, 1983.

Flanders, Tony. Teacher realities, needs and professional development. In Curriculum Canada IV. Proceedings of the Fourth National Symposium of the Canadian Association of Curriculum Studies, Centre for the Study of Curriculum and Instruction, University of British Columbia, 1983.

Fullan, M. The Meaning of Educational Change. Toronto: OISE Press, 1982.

Gouvernement du Québec. Ministère de l'éducation. Direction générale des réseau. Cadre relatif à l'élaboration des programmes et des guides pédagogiques. 1978.

Gouvernement du Québec. Ministère de l'éducation. L'école québécoise: énoncé de politique et de plan d'action. 1979.

Gouvernement du Québec. Ministère de l'éducation. Direction générale des réseaux: direction des services éducatifs. Cadre relatif à l'implantation des programmes d'enseignement. September 1980.

Gouvernement du Québec. Ministère de l'éducation. Réflexion sur l'implantation des programmes au primaire. 1983.

Hensler-Mehu, Hélène, Danielle Raymond, et Freema Elbaz. Analyse comparative et critique des nouveaux programmes du primaire. Faculté d'éducation, Université de Sherbrooke. Juin 1983.

House, E. Technology versus craft: A ten year perspective on innovation. Journal of Curriculum Studies. 1979, Vol.II, No.1, 1-15.

Kratzmann et al. In M. Fullan, The Meaning of Educational Change. Toronto: OISE Press, 1982.

Lortie, D.C. Schoolteacher: a sociological study. Chicago:

University of Chicago Press, 1975.
Olson, J.K. Teacher constructs and curriculum change. Journal of Curriculum Studies. 1980, Vol.12, No.1, 1-11.
Olson, J.K. A reflexive conception of change and its consequences of innovation activity. Paper presented at the first International Symposium of the International Study Association on Teacher Thinking, Tilburg University, Netherlands, October 1983.

As **Danielle Raymond** reports, she "wants to bring student teachers and associate teachers to articulate the practical knowledge acquired in the context of practice", and this intention is also at the core of her research on planning practices and the professional development of teachers. She coordinates teacher education and teaches the psychology of learning as an Associate Professor in the Département de pédagogie of the Université de Sherbrooke.

Hélène Hensler-Méhu's main research interests are in teacher planning and thinking, and in intercultural and developmental education. She is an Assistant Professor in teaching methods in primary and secondary schools of the Faculté d'Education at the Université de Sherbrooke.