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**REVUE  
DES SCIENCES  
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**Multiple Intelligences:  
Profiling dominant intelligences of grade eight students  
CLIFFORD MORRIS & RAYMOND LEBLANC**

•  
**Évaluation de la mise en oeuvre d'une intervention  
de mentorat pour prévenir l'abandon scolaire:  
Le programme "Prométhée"  
MANON THÉORÊT**

•  
**Student Team Learning in Music Instruction:  
Restructuring the traditional task-incentive system  
BERNARD W. ANDREWS**

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## EDITORIAL

### COOPERATIVE EDITING

Recently, after applying for a research grant that was recommended but not awarded to this journal, we were told that the information on our application relative to our rate of acceptance and rejection of manuscripts was not clear and, in the eyes of the granting committee, was somewhat vague. We don't deny that this may be the case because our policy of manuscript acceptance and rejection is a bit different from that of many scholarly journals. For want of a better term, we call it *cooperative editing*. In education, educators have found cooperative teaching and cooperative learning to be beneficial to both students and teachers. As editor of this journal, we have found *cooperative editing* to be beneficial both to authors and to the readership.

This journal has in place a group of highly respected international scholars who act as our editorial review board. They have contributed considerably to the quality of the papers that are published here, and their contributions have not gone without notice. It has been our policy to read each submission to the journal, and each paper that appears to have some merit is sent to three reviewers. These reviewers are generally very helpful. In many instances, it is clear that they have put a great deal of time and effort into making suggestions about how the paper might be improved, how it might be reduced or expanded, how it might be made more interesting and applicable to the field, or why it is not suitable for publication even with revision. Sometimes the reviewers point out embarrassing omissions of important related research that the author may have overlooked. It is not unusual for authors to write to us and comment very favorably on the helpful nature of the comments made by the reviewers. The process is, in a sense, *cooperative editing*.

As communities of scholars in the field of education, we must keep abreast of an avalanche of literature and research ideas everyday. It is

almost impossible to research, write, and edit in isolation. Editors must rely on the expertise of a large, select body of academic experts. It seems to us that the editing of a journal is more than a routine acceptance-rejection factor; it has to be a community effort of scholars. In view of this, it is difficult for us to make an accurate calculation of our acceptance-rejection ratio. What we do know is that we have, through *cooperative editing*, published some very important papers that might have otherwise been set aside.

W.M.T

# MULTIPLE INTELLIGENCES: PROFILING DOMINANT INTELLIGENCES OF GRADE EIGHT STUDENTS

CLIFFORD MORRIS & RAYMOND LEBLANC *University of Ottawa*

**ABSTRACT.** This paper outlines how verbal protocols were used to compare the self-perceived intelligences of students to teacher nominations. Teachers nominated students considered dominant in one of Howard Gardner's seven theorized intelligences. The students then verbalized aloud while ranking themselves, using scenarios depicting each intelligence. Concurrent and retrospective verbal protocols were taped, transcribed verbatim to text, coded, and analyzed. Results indicated a strong agreement between teacher nomination and student identification of Gardner's intelligences. More detailed studies should be completed before determining the validity and reliability of profiling such intelligences.

**RÉSUMÉ.** L'auteur de cet article analyse la façon dont les protocoles verbaux ont servi à comparer l'intelligence des étudiants telle que perçue par eux-mêmes et l'opinion des professeurs. Les professeurs ont nommé les étudiants qui à leur avis dominaient dans l'un des sept types d'intelligence théorisée de Howard Gardner. Les étudiants ont ensuite parlé à haute voix pour se classer eux-mêmes en se servant de scénarios illustrant chaque type d'intelligence. Les protocoles verbaux concurrents et rétrospectifs ont été enregistrés, transcrits *in extenso*, codés et analysés. Les résultats indiquent une forte concordance entre l'opinion des professeurs et l'identification des types d'intelligence de Gardner par les étudiants. Il faudrait réaliser des études plus fouillées pour établir la validité et la fiabilité du profil de ces intelligences.

**H**ave you recently observed intellectual development in an elementary school classroom only to realize that many of the students therein appeared as intelligent as the ones formally identified as "gifted"? If your response was in the affirmative, then what follows may interest you. Historically, views about intelligence have been polarized. At the more conservative extreme, the unitary view of intelligence reigns, a view depicting student potential as an almost innate birthright, more as a result of nature than of nurture. Intelligence is, from that viewpoint,

considered to be mainly a unitary mental entity. This single "general g" which is based, in the main, on reasoning and verbal abilities as reflected by standardized Intelligence Quotient (IQ) tests supposedly comes in varying degrees, with some possessing more of it than others (Eysenck, 1981; Freeman, 1950; Jensen, 1982; Piaget, 1971; Wechsler, 1958, 1974).

At the opposite end of the intellectual continuum, and more the focus of this paper, lies a pluralistic, incremental, and dynamic notion of intelligence, to be more precise, intelligences, or "frames of mind". This "many kinds of minds" notion is fostered by numerous theorists, in particular cognitive psychologists who postulate the existence of a much broader intellectual spectrum (Carroll, 1982; Davidson, 1990; Ceci, 1990; Das, 1992; Fodor, 1983, 1985; Gardner, 1983, 1987, 1990, 1993, 1995; Gould, 1981; Horne, 1979; Hunt, 1990; Resnick, 1976, 1979; Sternberg, 1979, 1985a, 1985b, 1986a, 1986b, 1991; Sternberg & Salter, 1982; Sternberg & Smith 1988; Turnbull, 1979). These researchers posit that intelligence involves, in the main, many "varieties of thinking" (Howard, 1990), and, according to Howard Gardner's Multiple Intelligences (MI) model, can be exemplified by all individuals in many diverse and multiple ways. However, little research currently exists relating such intellectual conditions to public school students (Blythe & Gardner, 1990; Sternberg, Okagaki, & Jackson, 1990; Olson, 1988), and virtually none exists as to how grade 8 students and their homeroom teachers perceive dominant student intelligences (from a perspective such as Gardner's). In other words, the relationship between Gardner's MI model and the self-perceived dominant intelligences of grade 8 students and their homeroom teachers has never been explored.

### *Multiple intelligences*

At the classroom level, there are several reasons why teachers must foster the above broader approach to intellectual functioning. Gone are the days when a singular IQ score represents the sole sum of intellectual capabilities (Hatch & Gardner, 1986; Sternberg, 1985a). Due to space limitations, just two reasons shall be reiterated here. First, as intellectual development is dynamic and multifaceted, it is misleading to quantify the process of intelligence in the form of a single number (Armstrong, 1993, 1994; Blythe & Gardner, 1990). Yet, many schooling systems continue to do so by using the IQ score as the major criterion for including or excluding students from access to special resources (Armstrong, 1988; Kolligian & Sternberg, 1987; Maker, 1992; Maker, Nelison, & Rogers, 1994; Matthews, 1988; Scherer, 1985;

Sternberg, Okagaki, & Jackson, 1990; Vail, 1987). And in spite of constant references to domain specific intellectual competencies, multiple talents, or multiple gifts, to name just three, the "bottom line" for entrance into most special school options seems to be based mainly on a single IQ score.

Second, the practice of using IQ scores exclusively as the indicator of intellectual ability underestimates the tremendous potentiality within all students. Not only do such scores fail to "predict success in non-academic settings, but they also are poor predictors of success in school" (Maker, 1992, p. 12). The many "strengths" of pupils can be nurtured and cultivated, yet practice in most public schools continues to treat "intelligence" as a rational or analytic mind (Faggella & Horowitz, 1990; James, 1991). And finally, over the years psychometricians, in attempting to analyze the raw data behind the IQ test, have accumulated vast amounts of statistical data, in an attempt to isolate "primary mental abilities" — verbal, numerical, and spatial, among others. All capacities that can not be factored out are supposedly allocated to a general "g". However, the statistical assumptions involved in reducing such data are so narrow that very little of theoretical significance has ever come from them (Kornhaber, Krechevsky, & Gardner, 1990).

A more practical approach is Gardner's concept of "many kinds of minds": structured experiential learning that recognizes multiple intelligences and based more on the psychology of holistic learning. While established schooling has focused mainly on logical-mathematical and linguistic-verbal skills, Gardner (1982, 1987, 1989, 1990, 1991, 1993, 1995; see also Gardner, Kornhaber, & Wake, 1996) suggests that there are at least five additional "smarts." His model thus can be readily blended into programs, by providing teachers with a practical, thematic approach that will challenge children's thinking.

Using an elaborate set of criteria, including evidence from studies of brain damage, prodigies, developmental patterns, cross-cultural comparisons, and various types of tests, Gardner identifies seven central intelligences: (1) linguistic-verbal: a language-based competence requiring listening, speaking, reading, and writing skills, (2) logical-mathematical: dealing with abstract concepts, patterns, and symbols required for deriving scientific proofs, (3) visual-spatial: using mental imagery for discerning orientation in space, (4) bodily-kinesthetic: using physical body movements to express emotion, (5) musical-rhythmic: recognizing tonal and rhythmic patterns, and creating harmony,

(6) social-interpersonal: a social type of intelligence that operates primarily through person-to-person relationships and communication, and (7) solidarity-intrapersonal: an unaccompanied and intuitive style of learning useful in understanding the self. Gardner believes that each of these separate intelligences can be enhanced. More importantly, he places those five latter ways, figuratively speaking, on the *same* cerebral pedestal as the former two IQ-types. Gardner believes that each of the above domain-specific faculties may develop almost independently; he places no order of priority among them.

### *Research objectives*

This study represented an attempt to blend Gardner's many kinds of minds to grade 8 students and their homeroom teachers. The students were asked to self-assess their own intellectual capacities. The study had three objectives: 1) to determine how grade 8 students interpreted their dominant intelligences as they interacted with characteristics representing each of the seven intelligences, 2) to see if homeroom teachers had a high level of agreement with the self-perceptions of grade 8 students, and 3) to investigate the usefulness of applying verbal data from student protocols as a meaningful problem-solving avenue when assessing the intellectual profiles of students. These objectives were operationalized through the following research question: How reliable are teacher nominations of students' dominant intelligences when compared with the self-perceived three dominant intelligences of the same students?

## **METHODOLOGY**

### *Subjects*

The study involved 34 grade 8 students between the ages of 12 and 14 years (mean age = 13 years, 7 months). The students consisted of 21 males and 13 females. They were drawn from five grade 8 classes from one public elementary school. The subjects were selected in the month of May, having been observed by their homeroom teachers since the previous September. Twenty-nine were Caucasian, four were Black, and one was Oriental. All were naive with respect to the research task, and all students voluntarily participated. An incentive for participating was the opportunity of understanding more about their own "intelligences."

As an added inducement, a follow-up home visit was arranged, eight months after the initial interview. During this second one-hour session,

subjects and their parents received literature delineating the overall research, including a sheet containing a vertical bar graph outlining their child's perceived intelligences (see Figures 1), and a verbatim copy of their protocols.

### **Materials**

Two instruments were developed for this study: a Teacher Nomination Checklist and a set of Gardner Scenario Cards. The Teacher Nomination Checklist (see Appendix A) comprised intellectual characteristics grouped into seven categories, each category reflecting one of Gardner's seven dimensions. These characteristics were compiled from a literature review on Gardner. As described in more detail in the section that follows, the checklist was submitted to grade 8 homeroom teachers to nominate as research subjects students demonstrating a particular dominance in one of the Gardner dimensions. The Gardner Scenarios (see Appendix B) were developed from the Teacher Nomination Checklist and portrayed in paragraph format. The sentences (in the version shown to the subjects) were typed in large black print on white sheets of 8.5 x 11.0 inch paper.

Unknown to the subjects, dispersed among the characteristics of each scenario were at least two different characteristics borrowed from at least one of the other six dimensions. The reasoning for inserting these other characteristics into the scenarios was twofold: to encourage subjects to verbalize more, and to make their problem solving task (i.e., ranking their intelligences) more of an ill-defined nature. The single underlined sections (in the scenarios) highlight characteristics of a more positive nature and are borrowed from two of the other dimensions. The double underlined sections highlight characteristics of a more negative nature and, in a similar fashion, were borrowed from one of the other dimensions.

The decision to implement the scenario approach was considered the foremost way to represent common life situations to the subjects. Gardner's MI model was best viewed as the basis for educational reform, proposing reform that would immediately benefit students. Also, his model posited that individuals were somewhat intelligent in each intellectual dimension, stronger in some dimensions and weaker in others. Thus, the development of scenarios was considered a practical method for representing real-life situations. To sum, the Gardner scenarios attempted to ground a meaningful context, presenting subjects with practical intelligent situations within the confines of their lives, thus

presenting them with a "gestalt" or holistic picture for the seven intellectual dimensions.

### *Procedure*

Subjects were selected on the basis of their performance on three criteria: 1) school grades, 2) achievement test scores, and 3) judgments from their homeroom teachers. Five grade 8 homeroom teachers were provided with a checklist showing a series of intellectual characteristics for each of Gardner's seven intelligences (see Appendix A). Participants were asked to have one of their parents complete a statement of consent to their participation. Consent forms were collected by the school principal, and individual times for each home interview were arranged.

### *Verbal Protocols*

Verbal protocol analysis was selected as the methodology for this research project. Hayes (1981) defines a verbal protocol as a description of the activities, ordered in time, in which a subject engages while performing a task. According to Ericsson and Simon's theory (1980, 1984, 1993; see especially Ericsson & Oliver, 1988), the conventional method of getting subjects to verbalize their thought is to instruct them to "think aloud". And, to remind the subject to think out loud, the experimenter will often ask the subject to "keep talking."

Two types of verbal protocol procedures were used: concurrent verbalizations and retrospective comments. Concurrent verbalizations represent information that is still being attended to in short-term memory. Retrospective comments consider the information after the completion of the task-directed process. Ericsson and Simon (1993) argue that such retrospective verbalizations represent "a subset of the sequence of thoughts occurring during performance of a task [as] stored in long-term memory" (p. xvi). To that end, the rationale for using verbal protocol analysis as a method for assessing cognitive processing represents a central thesis for what follows (De Groot, 1965; Newell & Simon, 1972; Rowe, 1985; Schael & Dionne, 1991; Schoenfeld, 1985).

The following procedure was individually administered to the 34 subjects. Each interview lasted approximately 55 minutes. Upon arriving at the homes of the subjects, the investigator (the first author) informed subject and parents of the nature of the experiment and the requirements and benefits of participating in the study. Subjects were then interviewed in the absence of their parents who later returned to be

presented with the initial ranking results. Every semi-structured interview commenced with a warm-up exercise, the purpose of which was to familiarize the subject with the overall process of the methodology, in this case the verbalizing aloud procedure. When the investigator felt that the subject showed comfort with the underlying process and understood all of the instructions, the interview commenced. All verbalizations were audiotaped onto cassettes and considered as the primary source of field data.

During the interviews, the subjects were asked to complete three out-loud verbalization assignments: the initial two associated with concurrent verbal protocols; the final task was of a retrospective nature. First, subjects read aloud the scenarios. Then, they were asked to rank the scenarios by arranging (on a table) the seven (scenario) cards, from "most like me" (indicating that they strongly agreed with the scenario's characteristics) to "most unlike me" (indicating that they strongly disagreed with the scenario's characteristics). The three most dominant scenarios were placed in a row across the top of the table, with the card containing the scenario perceived to be most like the subject, in the upper-left hand corner. In the same manner, the three least dominant scenarios were placed at the bottom of the table, with the least dominant scenario located in the lower right-hand corner. The remaining scenario card, representing the subject's middle-of-the-road intelligence was centered between the other two rows of cards. During this and the subsequent two steps, subjects were encouraged to rearrange any or all of the cards, and at any time. To conclude the concurrent verbal protocol nature of the study, subjects were asked to verbalize, once again, their feelings on individual characteristics in each scenario, always commenting out loud either positively or negatively as to how they perceived themselves in relation to the nature of that intellectual characteristic.

Finally, the home interview concluded with the investigator posing the following five retrospective-type questions. After being asked to point to their most preferred and, in turn, to their least preferred scenario, subjects were asked: "Why do you think that scenario best represents you?" and "Why do you think that scenario least represents you?" Then, in order to gain additional retrospective verbalizations that would corroborate earlier concurrent protocols, subjects were asked two more questions: "What additional characteristics would you add to your 'most like me' scenario in order to make that scenario more like you?", and "What additional characteristics would you add to your 'least like me' scenario in order to make that scenario less like you?" And to conclude,

subjects were finally asked: "How confident do you feel about your rankings of the seven scenarios?" It was surmised that the responses to these five final questions were of a retrospective verbal protocol nature, and thus would delineate relevant supplementary field data thereby advancing the extent of representativeness and degree of confidence of the overall interview process (Ericsson & Simon, 1993). The encoding technique and scoring procedure for each out-loud verbalization is described in the section that follows.

## DATA ANALYSIS

This section of the paper outlines how the raw field data were gathered, analyzed, and interpreted. First, protocols from the concurrent verbalizations were analyzed. Then, the retrospective verbalizations, reinforcing the concurrent verbalizations, were investigated.

### *Concurrent verbal protocols*

After the audio cassette tapes were transcribed verbatim to 34 individual word processing text files, the captured verbatim comments were line numbered. Next, a coding grid was developed to convert the verbatim transcripts into a format accessible for verbal protocol analysis. The purpose of the coding grid was to record and produce "objective traces of the sequence of overt actions" (Schoenfeld, 1985, p. 283), in this case, every concurrent and retrospective verbalization. The coding grid was composed of a series of similar scales, each scale containing six ranking cells, ranging from "unlike me" to "good at" (see Table 1). The remaining four ranking cells were "don't enjoy", "not good", "like me", and "do enjoy." If a line number (from a verbatim transcript) was coded into a cell on one of the grid's three left-hand columns (see Table 2), the subject's verbalization to a characteristic was considered a negative statement; conversely, each time a line number was coded into one of the three right-hand columns, the verbalization was considered a positive statement. Each negative statement was given a -1 value and each positive statement was given a +1 value. These values (i.e., -1 or +1) were then totaled and considered as one frequency count for that particular dimension. A separate coding grid was used for each subject.

An example of a subject's coding grid containing the line numbers representing out-loud verbalizations and including borrowed characteristics, is outlined in Table 2. Here, six line numbers (234, 240, 246, 254, 258, and 264) were placed in the three left-hand columns, and five line numbers (i.e., 227, 228, 229, 238, and 261) were placed in the three

TABLE 1. The verbal-linguistic dimension of the verbal protocol coding grid

| Scenario 1A Verbal-Linguistic            | unlike me | don't enjoy | not good | like me | do enjoy | good at |
|------------------------------------------|-----------|-------------|----------|---------|----------|---------|
| a1 a grade 8 pupil in French Immersion   |           |             |          |         |          |         |
| a2a likes reading about biographies      |           |             |          |         |          |         |
| a2b likes writing about biographies      |           |             |          |         |          |         |
| a3 often tells jokes in English classes  |           |             |          |         |          |         |
| a4 repeats tricky tongue twisters        |           |             |          |         |          |         |
| a5 5 enjoys playing piano & practicing   |           |             |          |         |          |         |
| a6 likes to play word games (directions) |           |             |          |         |          |         |
| a7 4 doesn't like to play any sport      |           |             |          |         |          |         |
| a8 likes memorizing poems                |           |             |          |         |          |         |
| a9 likes telling long detailed stories   |           |             |          |         |          |         |
| a10 7 will not often listen to teachers  |           |             |          |         |          |         |

right-hand columns. Since the columns to the left housed only line numbers for negative-type verbalizations, the frequency count for those six comments totaled -6; conversely, the three right-hand columns housed five line numbers representing positive-type verbalizations, the total being +5. Thus, the sum, including any borrowed characteristics (-6 plus +5) was -1. In the same manner, when the borrowed characteristics were removed, the sum (-3 plus +5) was 2. As some scenarios contained more characteristics than others, all frequency totals were converted to percent. As outlined in greater detail below, these percent scores were used to determine the dominance dimensions for each subject.

As the homeroom teachers considered only the most dominant intelligence of each nominated student, just the subject's three highest rankings were analyzed and interpreted. These rankings (see Table 3) were combined in the following way: the column heading "Rank 1" contained the "most like me", or most dominant student response; the heading "Ranks 1 and 2" contained the "most like me" and "second most like me" responses. Likewise, the column heading "Ranks 1, 2, and 3" contained the top three dominant rankings, namely, the "most like me", the "second most like me", and the "third most like me" subject rankings. During the interview, the more dominant a scenario appeared to represent the subject's perceived intelligence, the higher the subject ranked that scenario. Thus, what follows outlines subject rankings by

TABLE 2. The verbal-linguistic dimension of the verbal protocol coding grid

| Scenario 1A Verbal-Linguistic |                                       | unlike me | don't enjoy | not good | like me | do enjoy | good at |
|-------------------------------|---------------------------------------|-----------|-------------|----------|---------|----------|---------|
| a1                            | a grade 8 pupil in French Immersion   |           |             |          | 227     |          |         |
| a2a                           | likes reading about biographies       |           |             |          |         | 228      |         |
| a2b                           | likes writing about biographies       |           |             |          |         | 229      |         |
| a3                            | often tells jokes in English classes  |           |             |          |         |          | 238     |
| a4                            | repeats tricky tongue twisters        | 234       |             |          |         |          |         |
| a5                            | 5 enjoys playing piano & practicing   |           | 240         |          |         |          |         |
| a6                            | likes to play word games (directions) |           |             | 246      |         |          |         |
| a7                            | 4 doesn't like to play any sport      | 248       |             |          |         |          |         |
| a8                            | likes memorizing poems                | 258       |             |          |         |          |         |
| a9                            | likes telling long detailed stories   |           |             |          | 261     |          |         |
| a10                           | 7 will not often listen to teachers   | 264       |             |          |         |          |         |

revealing two sets of results: a wide range of agreement between homeroom teachers and their nominated students, and comparisons of results between different aspects of the same studied group.

First, when the Teacher Nomination (TN) was compared to the Student Perceived Profile (SPP) on Rank 1 alone, the level of agreement (i.e., between the five teachers and the 34 students) was 50%. When a similar comparison was made between TN and SPT+ (Student Profile Total including Borrowed Characteristics), the level of agreement on the dominant dimension was 29%. When a similar nomination was compared to SPT- (Student Profile Total excluding Borrowed Characteristics), the level of agreement increased to 38%. The difference in agreement level suggested a distraction effect from the borrowed characteristics.

Correspondingly, when the two higher rankings (Ranks 1 and 2) and the three highest rankings (Ranks 1, 2, and 3) were clustered together for comparison, results indicate a somewhat similar pattern. The agreement levels increased when the conditions for agreement were relaxed. For instance, when TN was compared with SPP, the increase in agreement grew to 74% when considering the relaxation Ranks 1, 2 and 3. A similar improvement pattern was shown when TN was compared with SPT+ and SPT-, respectively. The relaxed condition appeared to

favor the profiles, more so when the borrowed characteristics were excluded from the findings.

Before describing below a similar comparison involving both concurrent and retrospective verbal protocols, a short diversion is necessary. During a home interview, a father of one of the female subjects expressed concern that some of the scenarios contained bias against the female ( $n=13$ ) population. More specifically, he felt that some of the scenario activities fostered male-type cultural associations. An analysis of the results from the concurrent verbal protocols showed no such marked difference. For example, when a comparison was made with the male subjects ( $n=21$ ), the level of agreement was 43% on the highest ranking, 62% on the first two highest rankings, and 81% when the first three subject rankings were considered. Similarly, when the dominant dimensions of the female student ( $n=13$ ) were compared to the teacher nomination, the level of agreement moved from 62% on the two higher rankings, to 69% when the three highest rankings were considered. Again, and as expected, the level of agreement increased when the agreement criteria were relaxed. To sum, the percent differences, while based on a modest number of subjects ( $n=34$ ), did not appear to detect any significant gender bias.

Finally, Table 3 compares the initial scenario rankings of the students (SPP) to two other results: first, when the borrowed characteristics were included (SPP+) in the final calculations, and then when the borrowed characteristics were excluded (SPT-). Stated slightly differently, SPP is compared to the more detailed student profiles, SPT+ and SPT-, respectively. The dominant dimensions of each profile are compared to determine the agreement levels between three ways of identifying a student profile. For example, when the dominant dimension of SPP was compared to the dominant dimension of SPT+, the level of agreement was 44% on Rank 1. When a similar comparison involving the top two rankings was made, the percentage of agreement was 65%. When the top three rankings were included, the percentage of agreement was 79%. In like manner, when the sum of the borrowed characteristics were excluded from the results, the agreement was 35% on the most preferred ranking, 59% on the two dominant rankings, and 85% on the first three dominant rankings, respectively. In both instances, the percentages improved as the level of relaxation increased. As with earlier results, these findings suggest that, in the main, the presence of the borrowed characteristics may have aided the subjects as they were ranking the scenarios including their characteristics.

### *Concurrent and retrospective verbal protocols*

One objective of the study was to compare teacher nominations to all of the dominant rankings as self-perceived by the students. Restated slightly differently and as a question, how did the retrospective comments reinforce the earlier concurrent verbalizations? The results are outlined in Table 4. When teacher nominations (TN) were compared to the dominant dimensions (DD), the level of agreement was 21% on the first ranking, 38% on the first two rankings, and 50% when the initial three subject rankings were considered. When TN was compared to all dominant dimensions, including the borrowed characteristics (DD[C+R]), the level of agreement was 29% on the first ranking, 53%

TABLE 3. Percentage of agreement on the dominance of Gardner's Dimensions

| Comparison of Dominances | THREE MOST DOMINANT RANKINGS |     |             |     |                 |     |
|--------------------------|------------------------------|-----|-------------|-----|-----------------|-----|
|                          | Rank 1                       |     | Ranks 1 & 2 |     | Ranks 1, 2, & 3 |     |
|                          | (f)                          | %   | (f)         | %   | (f)             | %   |
| 1. TN vs.SPP             | 17                           | 50% | 21          | 62% | 25              | 74% |
| 2. TN vs.SPT+            | 10                           | 29% | 18          | 53% | 21              | 62% |
| 3. TN vs SPT-            | 13                           | 38% | 2           | 6%  | 24              | 71% |
| 4. TN vs SPP (males)     | 9                            | 43% | 13          | 62% | 17              | 81% |
| 5. TN vs SPP (females)   | 8                            | 62% | 8           | 62% | 9               | 69% |
| 6. SPP vs SPT+           | 15                           | 44% | 22          | 65% | 27              | 79% |
| 7. SPP vs SPT-           | 12                           | 35% | 20          | 59% | 29              | 89% |

Legend:

- TN = (Grade 8 homeform) teacher nomination
- SPP = (Most Dominant) student perceived profile (from interview ranking)
- SPT+ = Student profiles from totals including borrowed characteristics
- SPT- = Student profiles from totals excluding borrowed characteristics

on the first two rankings, and 62% on the first three rankings. When TN was compared to the dominant dimensions including concurrent and retrospective verbalizations (DD[C+R]), the level of agreement was 24% on the most dominant rankings, 44% on the highest two rankings, and 62% on the first three dominant rankings. These statistics seem to suggest that the retrospective comments supported the concurrent verbalizations. And, as expected, the percentage of agreement increased as the criteria were relaxed.

When TN was compared to DD(CAR) for the male subjects ( $n=21$ ), and for the female subjects ( $n=13$ ), the levels of agreement were 29% and 15% on the first ranking, 43% and 46% on the first two rankings, and 62% and 62% on the first three rankings, respectively. Similar to

earlier results, the level of agreement increased when the agreement criterion was relaxed. And, resembling the conclusions reached earlier, the difference in percentage points between gender appeared inconsequential to justify any significant gender bias, on any of the initial three rankings. Next, when DD was compared to DD(C+R), the percentage of frequency agreement was 38% on the dominant ranking, 62% when the first two rankings were considered, and 74% when the first three rankings were considered. This increase suggests that the verbal protocols may have reinforced the initial scenario rankings.

To conclude, the significance of the retrospective verbalizations will be examined. First, when the dominant dimensions, excluding the bor-

**TABLE 4. Agreement involving concurrent & retrospective verbal protocols**

| DOMINANT RANKINGS (n = 34) |        |     |             |     |                 |     |
|----------------------------|--------|-----|-------------|-----|-----------------|-----|
| Comparison of Dominances   | Rank 1 |     | Ranks 1 & 2 |     | Ranks 1, 2, & 3 |     |
|                            | (f)    | %   | (f)         | %   | (f)             | %   |
| 1. TN vs DD                | 7      | 21% | 13          | 38% | 17              | 50% |
| 2. TN vs DDI               | 10     | 29% | 18          | 53% | 21              | 62% |
| 3. TN vs DD(C+R)           | 8      | 24% | 15          | 44% | 21              | 62% |
| 4. TN vs DD(C+R) males     | 6      | 29% | 9           | 43% | 13              | 62% |
| 5. TN vs DD(C+R) females   | 2      | 15% | 6           | 46% | 8               | 62% |
| 6. DD vs DD(C+R)           | 13     | 38% | 21          | 62% | 25              | 74% |
| 7. DDX vs DD               | 12     | 35% | 20          | 59% | 27              | 79% |
| 8. DDX vs DD(C+R)          | 18     | 53% | 27          | 79% | 29              | 85% |
| 9. DDI vs DD               | 15     | 44% | 22          | 65% | 27              | 79% |
| 10. DDI vs DD(C+R)         | 31     | 91% | 32          | 94% | 33              | 97% |

Legend:

- TN = Teacher nomination
- DD = Profile of Dominant dimension obtained from ranking the scenarios by the student
- DDI = Profile of Dominant dimensions including any borrowed characteristics
- DDX = Profile of Dominant dimensions excluding any borrowed characteristics
- DD(C+R) = Profile of Dominant dimensions including concurrent and retrospective verbalizations

rowed characteristics (DDX), was compared to DD, the level of agreement was 35% on the first ranking, 59% on the first two rankings, and 79% when the first three most dominant rankings were considered. Likewise, when the retrospective verbalizations were included in the overall calculations, the category rankings were 53%, 79%, and 85%. Then, when DDI was compared to the dominant dimension, involving only concurrent verbalizations, the level of agreement was 44% on the first ranking, 65% on the first two, and 79% on the first three rankings. And finally, when the retrospective comments were added to the overall calculations, the rankings were 91%, 94%, and 97%, respec-

tively. Again, these latter results suggest a pattern similar to previous conclusions, namely, that the borrowed characteristics added stability in determining the dominant dimension of Gardner's intelligences. Of greater relevance for this qualitative study was how the percentages increased when the retrospective verbalizations were included with the earlier concurrent comments. In other words, the three highest rankings of the subjects represented a strong indicator when selecting their overall dominant dimensions.

### *Graphing intellectual profiles*

During the second home visit, the first author presented a graphic profile of the above results to each subject. Due to space limitations, only one profile (see Figure 1) will be shown. The percentages, located over and under the vertical bars, indicate a relative frequency within each intellectual dimension. For example, subject 30 perceived the Solidarity-Intrapersonal dimension (see Appendix B) as the dominant (75%) intelligence; conversely, the Musical-Rhythmic dimension was perceived as the least preferred (-54%) intelligence.

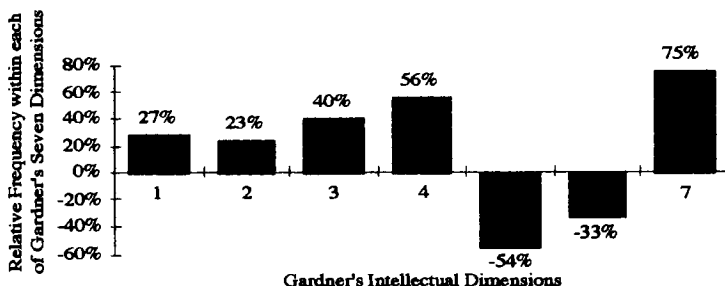


FIGURE 1. Intelligence profile of subject 30

### DISCUSSION

In this concluding section, four items will be discussed. Following remarks addressing the research question, comments will be offered on the advantages of conducting interviews in the homes of the subjects. Then, some educational implications will be examined. The paper concludes by suggesting additional research in this area.

### *Research objectives*

This qualitative study involved homeroom teachers who nominated students considered dominant in one of Gardner's seven theorized intelligences. A series of verbal reports, considered as field data, were

gathered as the subjects self-assessed their intellectual dimensions. In short, they compared themselves to a series of scenarios. The scenarios utilized a common framework, presenting seven idealized grade 8 students within the confines of typical school life. An analysis of their out-loud verbalizations suggested that they could produce their intellectual profile, in fact, with considerable ease. They enjoyed and appeared confident when asked about the ranking process; they found the exercise to be quite a challenging task.

An analysis of both concurrent and retrospective out-loud student verbalizations indicated a strong level of agreement between the teacher nominations and the three dominant intelligences as self-perceived by the students. In other words, the homeroom teachers seemed able to pinpoint in their students one of Gardner's intelligences. Verbal protocol analysis appeared to be a meaningful way of assessing intellectual profiles. Or restated as a question, did the retrospective out-loud comments from the subjects reinforce the earlier and concurrent verbal protocols voiced during the home interview? As outlined, an analysis of the field data from the transcripts provided evidence that such retrospective statements seemed to reinforce initial student comments.

Having stated such tentative conclusions, the jury is still out – and may be out for some time – on the complex ways in which student intelligences might be organized within different intellectual domains, and on the interaction between such possible domains. Nevertheless, the attractiveness of Gardner's MI model is that it provides educators, especially classroom instructors, with a theoretical basis for stating something that they may have already hoped would be true: that their students exemplifying different skills, regardless of the frame of mind, be it language or logic, art or sport or music, communication with others or self-reflection, are really exemplifying just one of their "intelligences."

### *Home interviews*

Most subjects commented that they felt privileged to participate in the pilot study. Specifically, they seemed to enjoy solving the ranking problem, in that it was not a test and that, for once, there were "no wrong answers." Some did however state that it was not an easy task to "look inside themselves" as they attempted to self-rank their intellectual profile. Others had difficulty with the "borrowed" characteristics. As was expected, the insertion of additional characteristics forced the subjects to qualify their rankings with additional verbalizations. All subjects expressed a strong interest in this intellectual form of self-analysis. This was the first time that they were ever exposed to this

interview format, or to paraphrase Das (1992), Sternberg (1985a), or Gardner (1987), that they were possibly ever exposed to an intellectual approach beyond IQ.

The parents of the subjects were most interested in the research objectives, and more importantly, quite pleased that this form of intellectual investigation was being conducted at this time. In particular, many mothers and fathers commented on the inferior quality of current state-funded public schooling, and were especially critical of assessment tools used to tap intellectual accomplishments. They questioned service delivery models currently in practice for the intellectually gifted child and were in agreement that Gardner's model showed intellectual "promise". Simply put, it was an enjoyable task for the first author to sit down in the homes of the research subjects and, in many cases, to be present with both parents, in an informal and relaxing manner, responding to their valid cerebral concerns. Of greater interest was the fact that almost all of the parents were pleased to see that something was being done in the line of seeking broader assessment instruments to measure intellectual potential within the educational community.

Twelve parents suggested that they wished they had been permitted to complete a nomination checklist, similar to the checklist completed by their son's or daughter's grade 8 homeroom teacher. They felt that such input might have improved the validity to the overall exploratory project. To sum, the home interview procedure was considered a positive medium for gathering raw field data. Subsequent qualitative studies of this nature would benefit from similar home involvement.

### *Educational implications*

Many students are unaware of their inner talents, skills, competences, or, to coin Gardner's term, "intelligences." They often perceive themselves as educational "washouts." Such "talented" youngsters sometimes fail to realize that they may indeed have a learning strength in, at least, one of Gardner's dimensions. Such students frequently appear discouraged and withdrawn. At times, they even seem to become aggressive and rebellious, perhaps to mask their low self-esteem, due, in part, to their ignorance of their other "intelligences". It seems that, in many cases, public schooling practices tend to focus on the academic weaknesses of students at the expense of developing some of their other strengths, or talents – a process so often witnessed over the years by both authors.

Educators, especially those directly responsible for assessing intellectual performances, must retrain themselves into rethinking that intellectual

functioning in students is not a unitary "frame of mind" as traditionally assumed. Instead, they must intrinsically feel and believe that the minds of their students may have many "frames", or are pluralistic as to domain-specific contents. Then, these educators must continue research studies, more advanced than what was described in this paper. They must, in close collaboration with their classroom colleagues, devise statistically reliable and valid assessment instruments which will measure and train broader forms of intelligences.

## CONCLUSION

This investigation was the first, to the knowledge of the authors, to conceptualize Gardner's MI model as the source for a problem-solving activity for grade 8 students and to utilize verbal protocols as a methodology. A thorough search of the literature associated with the above descriptors failed to reveal any research studies similar to what was discussed. Or, to put it another way, the methodology was highly exploratory in nature. Thus any conclusions presented here are highly speculative. They must be treated with extreme suspect, until replication with different samples and other populations have been clarified. Nonetheless, Gardner's conceptualization of intelligence deserves consideration.

The results as outlined might appear to the critical reader simply as bold generalizations. True, they are subject to additional empirical validation. Nevertheless, the above approach represents a step towards profiling student intelligences. Perhaps more important than any formal empirical findings, whether statistically reliable and valid, is that perhaps for the only time in their lives, these grade 8 students were singled out and respected for things they liked doing, their supposedly dominant intelligences (Morris, 1992a, 1992b, 1993a, 1993b, 1993c). Such attention to students in the long run may contribute more to their success in life than equal efforts to remediate their learning limitations (Sternberg, Okagaki, & Jackson, 1990). The qualitative research study outlined in this report represented the initial step in providing students with a chance to see their own possible intelligences. In the words of the late and great Zurich psychologist, Dr. Carl Gustav Jung, "The creative mind plays with things it loves" (Lincoln & Suid, 1986).

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### **APPENDIX A: TEACHER NOMINATION CHECKLIST**

#### **A Verbal / Linguistic Student**

- is acutely sensitive to the meaning of words and their order, sounds, rhythms, and inflections
- can freely grasp different functions, phonology, syntax, semantics, and pragmatics of language(s)

#### **A Logical / Mathematical Student**

- enjoys responding to inductive and deductive thinking and reasoning exercises
- can easily recognize complex scientific patterns, including abstract mathematical relationships

#### **A Visual / Spatial Student**

- uses initial perceptions accurately when perceiving the visual world accurately
- can easily recreate aspects of one's visual experience, even in the absence of relevant stimuli

#### **A Bodily / Kinesthetic Student**

- uses the body in highly differentiated and skilled ways, for goal-directed and expressive purposes
- works well with objects needing fine-motor finger and hand movements to gross-motor actions

#### **A Musical / Rhythmic Student**

- is most sensitive to melody, rhythm, timbre, and the emotional aspect of sounds
- can easily recognize beats, pitch, tonal patterns, including various environmental sounds

#### **A Social / Interpersonal Student**

- knows others well by recognizing faces, voices, and persons; can react quickly to their wants
- reads easily the social signals of others, and comprehends their motives, feelings, and intentions

#### **A Solidarity / Intrapersonal Student**

- is most sensitive to one's own feelings, wants, fears, and personal history
- is aware of and can respond to one's strengths and limitations with considerable grace and ease

Note 1: Due so space limitations, the characteristics from the original "Teacher Nomination Checklist" were summarized. Interested readers may contact the first author for the complete list.

## APPENDIX B: GARDNER SCENARIO CARDS

### Scenario 1 Verbal / Linguistic *Melissa, the Word Player*

Melissa is a grade 8 student in a French Immersion program. She really likes reading and writing about the biographies of famous Canadians. During many of her English classes, she often tells jokes and repeats tricky tongue twisters. She is an excellent piano player who enjoys daily practicing (+5) (see Note 1). Also, Melissa likes to play word games that involve many directions. She does not enjoy playing any kind of sports (-4). Melissa likes to memorize poems and tell long detailed stories. On many occasions, she will not listen to what her teacher tells her to do (+7).

### Scenario 2 Logical / Mathematical *Shawn, the Questioner*

Shawn likes to solve difficult arithmetic problems and figure out complicated designs in geometry. He is not very good in music class, as he can not remember how to sing songs (-5). He is always asking those very difficult questions. He is very good at doing arithmetic in his head, and he is one of the best students in the computer class. In science class, he is often the first student to understand and complete the science experiment. Shawn also likes to draw and sketch scenes (+3). During gym classes, he is known by his classmates and teacher as having strong leadership skills; he is often selected to be a team captain. He seems to have a special way of knowing how to handle the players on his team (+6).

### Scenario 3 Visual / Spatial *Chris, the Visualizer*

Chris is the school's chess champion. He often daydreams in class. He appears happiest when his science teacher allows him to go to his own quiet corner (+7) to design and then invent gadgets using construction sets such as "Leggo", "Meccano", or "Gearopolis". He also likes "to express himself" through dance, drama, and movement (+4). Also, he seems to learn best when allowed to sketch or draw cartoon characters. At times, he seems to learn more through visuals, that is, when pictures accompany words, as in the game of "Pictionary". Chris finds it easier to understand the information in a subject when his teacher writes short notes on the chalkboard. He does not like to read books, tell stories, or write short stories (-1).

### Scenario 4 Bodily / Kinesthetic *Paul, the Mover*

Paul plays the center position on the school hockey team and the end position on a community football team. He also is good at tennis, skiing, and swimming. He enjoys figuring out how things work with numbers (+2). During a recent Christmas concert, he performed a break dance. However, he does not like to memorize poems. He finds it difficult to discuss out loud any topics in English class; he has problems remembering (-1). A member of the Innovator's Club, he enjoys inventing gadgets by taking apart and reassembling small machines such as food grinders, old clocks, and broken radios. Finally, Paul seems to be able to understand how many of the other students in his class "think" (+6).

### Scenario 5 Musical / Rhythmic *Nicola, the Music Lover*

Often referred to by her classmates as a "music lover", Nicola learns best when surrounded by melody and rhythm. She can be found singing, humming, or whistling tunes to herself. She often gets into fights with other grade 8 students; thus, she has a real problem getting along with others (-6). She likes poetry, songs, and composing melodies. She enjoys the printed word, as she loves to read books and play word games such as

## *Mutliple Intelligences Model and Grade Eight Students*

Scrabble (+1). She is most sensitive to sounds around her — sounds such as distant bells ringing or crickets chirping. In fact, she often hears things missed by her classmates, and even by her music teacher. She often daydreams in class, pretending that she's a magical being in fabulous adventure stories (+3).

Scenario 6      Social / Interpersonal      Sara, the Socializer

Elected by her classmates as the class president, Sara recently became absorbed with her older brother's computer; she especially loves to experiment with the word processor (+1 & +2). She enjoys many team and individual sports; in fact, she was just selected by her coach as captain of the community's softball team (+4). She seems to be so "street-smart". She loves to be involved in class plays, skits, and classroom planning committees. When someone cries during class, Sara can usually be found at that person's side correctly identifying and soothing her emotions. She does not like to participate in art class, as her sketches, drawings and paintings are usually poorly-formed (-3).

Scenario 7      Solidarity / Intrapersonal      Jeff, the Individual

Jeff is that type of grade 8 student who prefers being left alone to work; however, he is not afraid to ask others for help. He is a quiet student, has few friends, and seems to know himself very well. He enjoys drawing sketches of imaginary characters (+3). He has difficulty figuring out the answers to arithmetic problems (-2). He often dresses, acts, and behaves in his own way. He enjoys a private place to pursue his own personal hobbies and ongoing interests. In fact, Jeff's teacher was amazed when he recently took apart the clock that was not working and put it back together. She was even more surprised when it worked (+4).

Note 1: All underlines and brackets, including positive and negative numerals were not in the version shown to the research subjects. They have been inserted here to show the more interested reader how the process of "borrowed characteristics" was operationalized. For example, in Scenario 1, the "+" in the "+5" indicates that that characteristic was of a positive nature; the "5" in the "+5" indicates that the meaning for that added characteristic was borrowed from Scenario 5.

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# ÉVALUATION DE LA MISE EN OEUVRE D'UNE INTERVENTION DE MENTORAT POUR PRÉVENIR L'ABANDON SCOLAIRE: LE PROGRAMME "PROMÉTHÉE"

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**RÉSUMÉ.** Le mentorat, ou l'établissement d'une relation d'aide significative entre un adulte bénévole et un élève, devient de plus en plus populaire, comme stratégie de prévention de l'abandon scolaire. C'est ce dont fait foi l'initiative du groupe communautaire *La Fondation québécoise des jeunes associés en éducation*, par la mise sur pied du programme "Prométhée". Cependant, les éléments de cette stratégie d'intervention communautaire sont mal connus et très peu souvent évalués. L'étude présentée ici sert d'abord à fournir une définition du mentorat en termes plus opératoires. Elle rapporte ensuite les résultats descriptifs de l'évaluation de la mise en oeuvre du programme par vingt-huit mentors auprès d'autant d'élèves dans cinq écoles secondaires de l'Île de Montréal. Les données colligées dans les journaux de bord et les questionnaires confirment l'intérêt d'évaluer l'impact du mentorat comme modèle de prévention de l'abandon scolaire, tout en identifiant certaines faiblesses de l'intervention.

**ABSTRACT.** Mentoring, a voluntary relationship between an adult and a student, has been advanced as a dropout prevention strategy. In spite of the growing popularity of mentoring programs, very few of them have been evaluated. This study presents an external implementation evaluation of the "Prometheus" program, promoted by the *Fondation québécoise des jeunes associés en éducation*. Data were obtained from 28 mentors, intervening in five secondary schools. Their meetings were self-monitored and transcribed into a log book. Questionnaires were collected from 26 secondary students who were being mentored. Results highlight certain flaws in the intervention process but confirm that there is interest in evaluating the effects of mentoring on the prevention of drop-outs.

**B**ien qu'il puise par des racines lointaines à la mythologie grecque, le mentorat, dans sa forme adaptée à l'éducation a reçu récemment une grande reconnaissance populaire et l'attention des milieux scolaires, comme stratégie de prévention de l'abandon des études. En 1989, on dénombrait dans le seul état de New-York, plus de 211 programmes de mentorat formellement enregistrés, alors qu'en 1990, on rapportait que

plus de 63% des quelques 1,701 programmes d'aide aux étudiants défavorisés des collèges et universités américains prétendaient offrir du mentorat (Flaxman, 1992a). Cet engouement peut laisser à penser que le mentorat est une approche structurée et bien définie, alors que peu d'études se sont attardées à décrire systématiquement son objet ou ses effets (Flaxman, 1992a). Par ailleurs, les pistes de prévention les plus prometteuses favorisent les partenariats entre l'école, la famille, l'entreprise et le milieu communautaire (Royer, Moisan, Saint-Laurent, & Giasson, 1993; Hrimech, Théorêt, Hardy, Gariépy, & Poirier, 1993b). À ce titre, le mentorat entre de jeunes professionnels et des élèves à risque d'abandon prématuré s'avère une piste de prévention à explorer.

Mais, avant même de poser la question de l'impact du mentorat sur l'abandon scolaire et sur la trajectoire personnelle des élèves, l'évaluation de la mise en oeuvre s'avère une étape essentielle. L'étude évaluative présentée ici porte sur la description d'un tel dispositif d'accompagnement personnel et scolaire. Lancé en 1993 par *La Fondation Québécoise des Jeunes Associés en Éducation*, ce programme est offert par des bénévoles, à l'intention d'élèves du secondaire à risque d'abandon scolaire. La première partie de l'article s'attarde à décrire la stratégie préventive du mentorat et le programme "Prométhée", alors que la seconde partie analyse certaines composantes de sa mise en oeuvre dans cinq écoles de la région montréalaise.

## PROBLÉMATIQUE

### *Le problème de l'abandon scolaire*

Malgré les difficultés à évaluer précisément la prévalence de l'abandon scolaire en Amérique du Nord, on estime néanmoins que sa probabilité est élevée et ce, peu importe la règle de calcul que l'on utilise. Il serait, selon les statistiques officielles, passé de 27% en 1985-1986 à 35% en 1992-1993 (Ministère de l'Éducation du Québec, 1995), alors qu'il atteindrait aujourd'hui près de 47% pour la plus grande commission scolaire de Montréal (Commission des écoles catholiques de Montréal, 1995).

Les études, tant américaines que canadiennes et québécoises, aboutissent à des conclusions semblables quant à l'intervention de plusieurs ordres de facteurs causaux dans l'explication du phénomène. On reconnaît ainsi l'importance des facteurs personnels, socio-économiques et familiaux ainsi que les facteurs reliés à la structure des programmes et au cheminement scolaires (Hrimech et al., 1993a). Au chapitre des facteurs personnels, les études québécoises et nord-américaines

démontrent que les garçons sont surreprésentés dans une proportion de 60% contre 40% de filles (Violette, 1991), que la majorité des décrocheurs quitte après l'âge de 16 ans (Pilon, 1993) et que les élèves de la communauté francophone ont une probabilité d'abandon deux fois plus élevée que celle des élèves d'autres origines ethnoculturelles (Beauchesne, 1991). On sait aussi que la majorité des décrocheurs provient de milieux socioéconomiquement faibles et que la faible scolarisation des parents, la situation économique difficile, la monoparentalité et les déménagements fréquents sont autant de corrélats à l'abandon scolaire (Beauchesne, 1991; Violette, 1991). D'autres études établissent une relation entre le manque de soutien et d'encadrement des parents et l'abandon scolaire (LeBlanc, Janosz, & Langelier-Biron, 1993; Rumberger, Ghatak, Poulos, Ritter, & Durnbush, 1990).

Au chapitre scolaire, l'absentéisme, le redoublement et l'échec scolaire se retrouvent au premier plan des facteurs responsables. En effet, quatre-vingt pour cent des décrocheurs scolaires ont pris du retard au moment où ils abandonnent (Brais, 1991). On reconnaît aussi que les décrocheurs expriment un désintérêt envers l'école et les apprentissages requis (Hrimech et al., 1993a) et que le manque de soutien des enseignants, démontré par le peu d'intérêt et d'implication personnelle dont ils font preuve envers les élèves, de même que le climat d'indifférence entretenu face à l'engagement scolaire sont autant de facteurs qui augmentent l'incidence du décrochage (Karp, 1988; Wehlage & Rutter, 1989).

### *L'intervention préventive face à l'abandon scolaire*

Le problème de l'abandon scolaire exige des solutions complexes et multiples et interpelle de plus en plus les divers acteurs de la société. On assiste ainsi depuis quelques années à la prolifération de projets concernant la prévention de l'abandon scolaire ou de ses conséquences, soit par la mise sur pied de projets ponctuels en vue de favoriser la réussite scolaire, soit par le biais de la création de réseaux de concertation qui visent en premier lieu la lutte contre la pauvreté et l'insertion au marché du travail (Gouvernement du Québec, 1991). La diversité des motifs d'abandon scolaire commande en effet une intervention diversifiée, afin de répondre aux besoins des jeunes. Or, si l'ennui et l'échec scolaire sont, aux dires des décrocheurs, les deux premiers motifs d'abandon au secondaire (Hrimech et al., 1993a), ces jeunes rapportent par contre, comme facteurs favorisant leur persévérance à l'école, la garantie d'un emploi à la fin des études, une organisation plus individualisée des études et le soutien personnel d'un adulte. Toujours selon les décrocheurs, ce dont ils ont besoin, c'est d'un adulte qui leur

parle, les écoute et les soutienne (Violette, 1991; Beardon, Spencer, & Moracco, 1989).

En ce sens, bien qu'il ait été démontré que l'implication personnelle des adultes de l'école soit un facteur de protection contre l'abandon prématuré (Bryk & Thum, 1989), la difficulté des décrocheurs à établir des relations avec les agents d'éducation, leur insatisfaction face aux enseignants et l'isolement familial souvent engendré par la monoparentalité minent leurs chances d'établir des relations significatives et aidantes avec des adultes, d'où l'intérêt de les mettre en contact avec un jeune bénévole, dans une relation dépourvue des contraintes d'autorité (Smink, 1990).

### *L'impact du mentorat comme stratégie de prévention de l'abandon scolaire*

Si le mentorat a été maintes fois rapporté comme une stratégie de promotion de compétences pour les élèves doués (Kaufman, 1986; Torrance, 1983, 1984, en Slicker & Palmer, 1993), peu de programmes de mentorat sont destinés aux élèves en difficulté du secondaire. De plus, les connaissances quant à l'efficacité du mentorat, reposent davantage sur des témoignages et des évaluations anecdotiques recueillies aux ordres collégial ou universitaire, que sur des évaluations systématiques. Peut-être par reconnaissance pour l'implication bénévole des mentors, plusieurs intervenants souscrivent d'emblée à l'impact présumé positif du mentorat, mais il importe d'envisager aussi l'impact négatif d'une mauvaise relation de mentorat, qui peut amener pour l'élève tout au moins, la désillusion et le cynisme (Flaxman, 1992b).

À notre connaissance, seulement trois évaluations ont été conduites sur l'impact du mentorat comme stratégie préventive au secondaire. Mc Partland et Murray (1991) ont pour leur part évalué, après deux ans d'opération, un programme de mentorat et de médiation destiné à des élèves à risque d'abandon scolaire au secondaire. Le programme "RAISE" était structuré autour d'un directeur général engagé à plein temps, qui supervisait l'administration du programme dans sept écoles secondaires recrutant des mentors bénévoles. On demandait la collaboration des mentors pendant toute l'année scolaire, à raison de rencontres bi-hebdomadaires. Les résultats démontrent une hausse dans la fréquentation et le rendement scolaires, quoique les protégés demeurent plus à risque d'abandon prématuré que les élèves du groupe témoin. Une variable cruciale rapportée par ces chercheurs tient dans la difficulté à maintenir la relation mentor-protégé dans le temps et à définir au-delà

de l'acceptation inconditionnelle, une relation de mentorat efficace. D'après les auteurs, si le mentorat peut être considéré à l'heure actuelle comme une solution pour répondre aux besoins des élèves en difficulté, c'est sur l'assiduité que les objectifs de mentorat doivent porter. De plus, bien que les chercheurs n'aient pas été en mesure d'établir un lien entre la nature des activités de mentorat et les effets observés, ils soulignent néanmoins l'importance d'identifier les composantes efficaces de l'aide, pour être en mesure de les relier aux résultats d'une évaluation des effets.

La seconde étude recensée visait à évaluer le programme "REACH", destiné à augmenter l'estime de soi de décrocheurs potentiels (Blum & Jones, 1993). Il combinait un groupe d'entraide entre pairs à des interactions quotidiennes des jeunes avec un mentor. Le programme a augmenté les indices de fréquentation scolaire et l'implication des jeunes en classe. Vu la nature du devis, on ne peut toutefois circonscrire quel aspect de l'intervention a été efficace.

Dans la troisième étude évaluative, Slicker et Palmer (1993) ont mené une évaluation des effets du mentorat auprès d'un groupe de 86 élèves de 10<sup>e</sup> année jugés les plus à risque. En dépit du manque de résultat concluant, sur la prévention de l'abandon scolaire ou sur l'amélioration du rendement ou de l'estime de soi, ils dénotent cependant, à travers le journal de bord des mentors, une grande variation dans la qualité de l'implantation du mentorat. Les chercheurs soulignent la nécessité de relier l'évaluation de la mise en oeuvre à l'évaluation des indices de développement scolaire et personnel, afin de pouvoir porter un jugement sur l'efficacité de cette stratégie de prévention.

### *Le processus du mentorat*

En dépit ou en raison de la popularité du mentorat, ce terme englobe une variété de dimensions. En effet, pas moins de quinze définitions du mentorat coexistent et les chevauchements entre les concepts, du mentorat et de la médiation par exemple, sont fréquents (McPartland & Murray, 1991). Généralement, l'on souscrit à la définition suivante d'une relation dyadique entre un adulte bienveillant et un élève qui a besoin de soutien scolaire, personnel, social ou professionnel.

Quelques études se sont penchées sur la description des caractéristiques du mentor qui, ni enseignant, ni thérapeute, allierait le meilleur de ces deux rôles. Ainsi, selon la synthèse de Flaxman *et al.* (1988), le mentor doit pour influencer son protégé, être guidé par des objectifs clairs, dans les limites de ses capacités; il doit être empathique, capable d'évaluer les besoins de son protégé et en mesure d'offrir du soutien de manière

appropriée et régulière. Selon Alleman, Cochran, Doverspike, et Newman (1984), la définition d'un mentor ne réside pas tant dans ses qualités personnelles, mais bien dans ce qu'il fait précisément avec le protégé. Selon eux en effet, les mentors efficaces démontrent activement leur confiance à leur protégé, le complimentent et l'encouragent, explicitent à son intention les conduites scolaires et sociales appropriées et protègent sa réputation.

Dans cette lignée, Hamilton et Hamilton (1992), qui ont élaboré un programme-pilote de mentorat destiné à des adolescents, confirment la nécessité d'une structuration des objectifs de mentorat. Ces chercheurs ont en effet identifié une grande hétérogénéité dans les activités de mentorat et leur étude met en évidence quatre niveaux de mentors, qui seraient définis par les objectifs personnels mis de l'avant par les aidants. Ces objectifs seraient reliés au succès du mentorat. Les mentors de premier niveau définissent comme but principal le développement d'une relation avec leurs protégés et s'avèrent les moins persistants dans la relation. Ceux de second niveau cherchent surtout à leur présenter des choix et réussissent un peu mieux à établir une relation avec leurs protégés; quant à ceux des niveaux supérieurs, ce sont ceux qui sont susceptibles de rencontrer le plus grand succès, soit parce qu'ils mettent l'accent sur le développement de la personnalité du jeune ou sur le développement de compétences instrumentales. Les chercheurs notent toutefois le petit nombre de rencontres et la difficulté à établir la compatibilité entre les mentors et leurs protégés; certains mentors se montrent en effet déçus lorsque leur protégé ne se confie pas, alors que d'autres sont mal à l'aise devant les sérieux problèmes qui leur sont soumis.

### *La relation d'aide mentor-protégé*

À travers la synthèse des écrits, l'on reconnaît trois composantes-types à la relation de mentorat, celle du soutien émotif et psychologique, celle de l'aide directe au développement scolaire ou professionnel et celle de l'apprentissage par observation d'un modèle (Jacobi, 1991). Ces trois composantes sont découpées, selon les études, en plusieurs fonctions d'aide différentes: le soutien, l'encouragement, la facilitation de l'accès aux ressources existantes, le conseil, la clarification des buts et objectifs personnels, le tutorat, l'information, la protection, le modelage, la présentation d'un statut social, la médiation, la transmission de connaissances, l'entraînement aux habiletés sociales.

## Le programme "Prométhée"

TABLEAU 1. Opérationnalisation des fonctions d'aide du mentor

| Fonctions d'aide                 | Comportements du mentor                                                                                                                                                           |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Soutien                          | offrir de l'aide matérielle / écouter parler de ses difficultés                                                                                                                   |
| Encouragement                    | encourager à faire des efforts / dire notre confiance en ses capacités                                                                                                            |
| Aide directe au développement    | trouver une solution à ses problèmes                                                                                                                                              |
| Facilitation de l'accès          | parler des choix de carrière                                                                                                                                                      |
| Conseil                          | déconseiller d'abandonner l'école / encourager à aller à l'école<br>tous les jours / mettre en garde contre les conséquences de ses<br>gestes / critiquer sur l'attitude négative |
| Clarification des buts           | fixer des objectifs à atteindre cette semaine / dans l'année / le<br>questionner sur ses intérêts                                                                                 |
| Tutorat                          | réviser ses devoirs / souligner ses progrès                                                                                                                                       |
| Information                      | demandeur ce dont il a besoin                                                                                                                                                     |
| Protection                       | consoler / réconforter                                                                                                                                                            |
| Observation d'un modèle          | aider à comprendre un problème personnel                                                                                                                                          |
| Présentation du statut social    | parler de soi, de sa carrière (mentor)                                                                                                                                            |
| Médiation                        | offrir de négocier pour lui                                                                                                                                                       |
| Transmission de connaissances    | expliquer des notions scolaires                                                                                                                                                   |
| Développement habiletés sociales | enseigner une manière de se comporter                                                                                                                                             |

### La nature du programme "Prométhée"

Lancé en 1993 par la *Fondation québécoise des jeunes associés en éducation*, le projet vise explicitement la prévention de l'abandon scolaire chez les élèves du secondaire. Dans les intentions de l'organisme, les mentors sont des conseillers qui sont là pour motiver, guider, soutenir et écouter l'élève de manière à favoriser sa persévérance et sa réussite scolaire et personnelle. On exige des bénévoles une rencontre hebdomadaire d'environ une heure avec leur protégé et ce, pour la durée d'une année. Implanté dans cinq écoles secondaires francophones et anglophones de trois commissions scolaires de l'Île de Montréal, le programme "Prométhée" compte plus de cinquante mentors actifs. La publicité est orientée vers les jeunes professionnels. Leur admission s'effectue par le biais d'une entrevue de sélection menée par l'organisme et d'un questionnaire inventoriant leurs intérêts. Une seconde sélection s'opère lors d'une entrevue conjointe avec des professionnels de l'école-cible. Une fois admis dans les rangs, le mentor est invité à un atelier de formation de quelques heures, qui vise surtout à favoriser l'appartenance à un projet collectif.

### Objectifs de l'étude

Étant donné l'imprécision du concept de mentorat, son succès dans la prévention de l'abandon des études et du succès scolaire demeure incertain, vu le manque de rigueur dans sa définition, le recours à des mesures rétrospectives et à des devis d'évaluation méthodologiquement

faibles (Jacobi, 1991). Avant de mettre en branle l'évaluation des effets d'une telle intervention, il importe donc d'identifier les conditions facilitatrices de même que les irritants dans la mise en oeuvre d'une stratégie de mentorat. Les conclusions des études convergent justement vers le manque d'information descriptive sur les programmes de mentorat et, plus spécifiquement, sur les caractéristiques des élèves qui ont accès au programme, sur celles des mentors et sur la nature des relations de mentorat.

Les méthodes et théories de l'évaluation de programme ont, depuis quelque temps, fait une large place à l'évaluation de la mise en oeuvre des interventions (Chen, 1990). Suite aux constats maintes fois répétés de l'inutilisation des résultats de plusieurs évaluations d'impact, les chercheurs en sont venus à considérer que les résultats d'une évaluation ne peuvent être utilisables par les promoteurs, tant qu'ils sont amalgamés (Weiss, 1977). L'évaluation de la mise en oeuvre sert donc de stratégie pour isoler les éléments actifs d'une intervention, en rendre compte aux promoteurs de manière à améliorer l'intervention, qui devient dès lors sujette à une évaluation de son impact. Bien que plus souvent conduite avec une méthodologie qualitative, l'évaluation de la mise en oeuvre n'est pas rigide et associée à une méthodologie particulière. Certains chercheurs ont élaboré des critères de décision pour aider au choix d'une méthode appropriée (Smith, 1986; Williams, 1986). Ainsi, étant donné que les finalités de l'intervention sont connues, que le groupe des promoteurs est restreint et homogène dans ses valeurs et que l'intervention a bénéficié d'un rodage, le choix d'une méthode quantitative est apparu pertinent, pour l'évaluation de la mise en oeuvre de ce programme de mentorat.

En considération de ces prémisses, le premier objectif de cette évaluation vise d'abord à vérifier l'intégrité de l'intervention, telle qu'elle se révèle dans la fréquence des rencontres entre mentors et protégés. Cette étude évaluative cherche aussi à décrire le processus de mentorat implanté à travers le programme "Prométhée", par une méthode de contrôle continu ("monitoring"). Plus précisément, les sous-objectifs visent à: 1) opérationnaliser la relation de mentorat dans le cadre du projet "Prométhée", 2) décrire les comportements des mentors, 3) décrire les formes de soutien offert par les mentors, 4) investiguer les types de bénéfices attendus et recueillis par les mentors et les protégés.

### *Description des sujets et des procédures de recueil*

Suivant le protocole de l'étude de cas multiples, un échantillon aléatoire de 30 paires de mentors et de protégés a été constitué, de manière à

couvrir les cinq écoles secondaires participantes, trois francophones et deux anglophones. Sur un total de 60 sujets approchés à l'automne 1994 pour participer à l'étude, 28 mentors ont rendu leur journal de bord alors que 26 élèves ont répondu au questionnaire au printemps suivant. Les caractéristiques des mentors et des élèves sont décrites au Tableau 2.

TABLEAU 2. Caractéristiques des mentors et des protégés

| Mentors (n = 28)        |          |         | Protégés (n = 26) |          |     |
|-------------------------|----------|---------|-------------------|----------|-----|
| SEXE                    |          |         | SEXE              |          |     |
| femmes                  | (n = 16) | 57%     | filles            | (n = 15) | 57% |
| hommes                  | (n = 12) | 43%     | garçons           | (n = 11) | 43% |
| LANGUE MATERNELLE       |          |         | LANGUE MATERNELLE |          |     |
| français                | (n = 19) | 68%     | français          | (n = 9)  | 38% |
| anglais                 | (n = 7)  | 25%     | anglais           | (n = 7)  | 25% |
| autre                   | (n = 2)  | 7%      | autre             | (n = 8)  | 29% |
| ÂGE MOYEN               |          |         | ÂGE MOYEN         |          |     |
| 24,6 ans, É-T 4,3       |          |         | 14,3 ans, É-T 1,5 |          |     |
| SCOLARITÉ               |          |         | ANNÉE SCOLAIRE    |          |     |
| DEC                     | (n = 11) | (39,3%) | Sec. I            | (n = 14) | 54% |
| Bacc.                   | (n = 12) | (42,9%) | Sec. II           | (n = 4)  | 15% |
| Maîtrise                | (n = 2)  | (17,8%) | Sec. III          | (n = 4)  | 15% |
|                         |          |         | Sec. IV           | (n = 1)  | 4%  |
|                         |          |         | Sec. V            | (n = 3)  | 12% |
| OCCUPATION              |          |         | REDOUBLEMENT      |          |     |
| Études                  | (n = 16) | (57,1%) | Oui               | (n = 8)  | 31% |
| Travail                 | (n = 11) | (39,3%) |                   |          |     |
| EXPÉRIENCE DE BÉNÉVOLAT |          |         | ABSENTÉISME       |          |     |
| Oui                     | (n = 19) | (67,9%) | Jamais            | (n = 5)  | 19% |
| Non                     | (n = 8)  | (32,2%) | Rarement          | (n = 13) | 50% |
|                         |          |         | Assez souvent     | (n = 6)  | 23% |
|                         |          |         | Souvent           | (n = 2)  | 8%  |

Dans le cadre d'un tel type d'évaluation, il importe d'obtenir des données directes et continues. Ainsi, la première source de données provient d'un journal de bord au format structuré, élaboré en concertation avec l'organisme communautaire. Les consignes indiquaient aux mentors l'importance de compléter les dix questions immédiatement après chaque rencontre prévue. Ils étaient invités à y inscrire pendant environ trois mois, les dates des rencontres de mentorat, leur lieu, leur durée, la fonction de mentorat à l'oeuvre durant la rencontre ainsi que la forme de soutien fourni ponctuellement. Les rencontres prévues et non tenues, de même que les raisons de leur annulation étaient aussi enregistrées au journal de bord. L'opérationnalisation préalable des quinze comportements et des quatre formes de soutien, telles qu'identifiées dans les écrits, a permis de constituer des items fermés, du type liste de

contrôle, afin de maximiser la rapidité de l'exercice d'évaluation pour les sujets, qui exigeait moins de dix minutes par rencontre. L'évaluation subjective de la satisfaction face à chaque rencontre de mentorat était aussi indiquée par les mentors. Finalement, une fiche personnelle demandait aussi aux mentors de décrire leurs caractéristiques sociodémographiques.

La seconde source de données provient d'un questionnaire complété individuellement à la fin de la période d'évaluation de la mise en oeuvre, par les protégés. Les quatorze questions portaient sur les mêmes variables que celles du journal de bord et le questionnaire exigeait environ 20 minutes afin d'être complété. Outre l'avantage d'obtenir le point de vue des clients de l'intervention, cette seconde source sert aussi à confronter les données obtenues auprès des partenaires, les deux parties étant impliquées dans la même relation.

### *Analyse des résultats*

**DESCRIPTION DES SUJETS.** Parmi l'échantillon des 28 mentors, on retrouve 57% de femmes et 43% d'hommes. La majorité des répondants, soit 67,9%, sont de langue maternelle française. Leur moyenne d'âge est de 24,6 ans. En ce qui concerne leur occupation, 57,1% sont aux études alors que 39,3% travaillent. Près de la moitié des bénévoles, soit 42,9% détiennent un diplôme de baccalauréat alors que 39,3% ont un D.E.C. et 17,8% une maîtrise. Plus des deux-tiers, soit 67,9%, ont de l'expérience de bénévolat (voir le Tableau 2).

L'échantillon des 26 protégés est aussi constitué de 57% de filles et de 43% de garçons, puisque les pairages entre mentor et protégé s'effectuent sur le critère du sexe. La langue française est la langue maternelle de 38% des jeunes de ce groupe. L'âge moyen des protégés est de 14,3 ans. Près du tiers ont redoublé une année scolaire et 69% fréquentent le premier cycle du secondaire. Seulement 19% de l'échantillon affirment ne jamais s'être absenté de l'école sans motif valable depuis le début de l'année, alors que 50% disent l'avoir fait rarement, 23% plutôt souvent et 8% souvent (voir le Tableau 2).

**DÉROULEMENT DE L'INTERVENTION.** Durant la période d'évaluation de la mise en oeuvre, soit entre les mois de novembre et mars, le nombre moyen de rencontres prévues entre mentor et protégé s'élève à 11,15. La moyenne de rencontres effectives est de 8,1 rencontres, soit environ une rencontre bimensuelle. La durée moyenne des rencontres est de 86,8 minutes. La satisfaction moyenne des mentors quant aux rencontres avec leur protégé, évaluée par une cote entre 0 et 3, se situe à 2,4.

**ÉVALUATION DES MENTORS.** L'ordre d'importance des sources de satisfaction perçue par les mentors est traduit par le rang moyen, situé entre 1 et 7. Ces sources de satisfaction se rapportent principalement à la possibilité d'aider des jeunes (2,29), à la transmission de connaissances (3,46), à l'espoir d'être utile à la société (3,57), à l'amitié des adolescents (4,18), à l'expérience pour la carrière (5,39), aux acquis personnels (5,71) et aux contacts avec d'autres mentors (6,36). Selon le relevé des journaux de bord des mentors, les thèmes de discussion durant les rencontres sont présentés en termes de pourcentage de rencontres où ils ont été discutés (Tableau 3). Les thèmes les plus souvent abordés sont dans l'ordre: les matières scolaires, les relations des jeunes avec leur famille, les activités de loisir et les relations avec les amis. Viennent ensuite et beaucoup moins fréquemment, les relations avec le personnel scolaire, le futur emploi et l'importance de l'école.

Durant les rencontres, les comportements les plus fréquents des mentors (qui reviennent dans plus de 25% des rencontres) sont dans l'ordre: expliquer des notions scolaires (43%), écouter le protégé parler de ses difficultés (41%), l'encourager à faire des efforts à l'école (40%), le questionner sur ses intérêts (39%), lui parler de soi (35%), lui souligner ses progrès (32%), lui dire sa confiance en ses capacités (27%), réviser ses devoirs (25%) et lui parler des choix de carrière (25%). Les comportements les moins fréquents (qui sont émis dans moins de 10% des rencontres) sont: lui offrir de négocier pour lui (2%), lui déconseiller d'abandonner l'école (4%), trouver une solution à ses problèmes personnels (5%), lui offrir de l'aide matérielle (5%), le consoler (6%), lui demander ce dont il a besoin (6%), le critiquer sur son attitude négative (7%) et lui enseigner une manière de se comporter (8%).

TABLEAU 3. Sujets de discussion abordés durant les rencontres de mentorat

| Selon les mentors                       |     | Selon les élèves                                     |      |
|-----------------------------------------|-----|------------------------------------------------------|------|
| % de rencontres                         |     | Échelle de fréquence de 0 à 3<br>(jamais à toujours) |      |
| matières scolaires                      | 56% | matières scolaires                                   | 2,39 |
| relations avec la famille               | 37% | relations avec la famille                            | 1,92 |
| activités de loisir                     | 34% | importance de l'école                                | 1,89 |
| relations avec les amis                 | 32% | relations avec les amis                              | 1,85 |
| relations avec le personnel<br>scolaire | 19% | activités de loisir                                  | 1,81 |
| futur emploi                            | 12% | relations avec le personnel<br>de l'école            | 1,77 |
| importance de l'école                   | 11% | futur emploi                                         | 1,39 |

**ÉVALUATION DES PROTÉGÉS.** En ce qui concerne les réponses des protégés au questionnaire, les thèmes de discussion ont été évalués sur une échelle de fréquence allant de jamais à toujours (0 à 3). Ils sont présentés au Tableau 3. Le sujet le plus souvent abordé est celui des matières scolaires. Viennent ensuite les relations avec la famille, l'importance de l'école, les relations avec les amis, les activités de loisir, les relations avec le personnel de l'école et en dernier lieu, le futur emploi.

Les comportements les plus fréquemment émis par les mentors, tels que rapportés par ces élèves ont été identifiés par une cote moyenne de fréquence (0 à 3), de jamais à toujours, en passant par rarement et parfois. On retrouve en ordre d'importance: m'écouter parler de mes difficultés (2,46), m'encourager à faire des efforts (2,42), expliquer des notions scolaires (2,31), dire qu'il a confiance en mes capacités (2,27), me montrer mes progrès (2,23) et m'encourager à aller à l'école tous les jours (2,23). Les comportements les moins fréquents des mentors sont dans l'ordre: offrir de l'aide concrète (0,76), offrir de négocier pour le protégé (0,92) et critiquer sur l'attitude négative (1,0).

Par ailleurs, la perception du rôle du mentor converge vers des caractéristiques positives. En effet, les protégés le voient beaucoup comme un ami (76,9%) et un conseiller (38,5%), assez comme un professeur (26,9%) et un modèle (42,3%). Selon les protégés encore, leur mentor est un peu un parent (38,5%), mais pas du tout un espion (92,3%), ni un juge (80,8%), ni un étranger (73,1%).

La perception de leur relation au mentor est aussi plutôt positive. En effet, 88,5% d'entre eux tiennent beaucoup à conserver leur mentor, 72% veulent poursuivre la relation de mentorat et 46,2% se considèrent beaucoup attaché à ce mentor. Il est assez aidant selon 73,1% des protégés, alors que 84,6% lui font assez confiance. Cependant, alors que seulement 12% ne recommanderaient pas du tout le mentorat à leurs amis, 38,5% évaluent que cette relation ne leur a pas du tout permis de changer leur comportement.

## DISCUSSION ET CONCLUSION

Bien qu'un grand nombre d'expériences en vue de favoriser la réussite scolaire aient été entreprises au Québec, très peu ont bénéficié d'une évaluation (Gosselin, Ouellet, & Payeur, 1992). En raison du risque qu'une évaluation hâtive des effets d'un programme puisse être compromise par l'absence d'évaluation de sa mise en oeuvre, on suggère de retarder l'évaluation d'impact, une fois la nature de l'intervention connue

et son intensité régularisée (Chen, 1990). Dans cette perspective, le contrôle continu ("monitoring") peut aider à améliorer le programme en vue de l'évaluation future de ses effets.

Suivant ces recommandations, l'évaluation de la mise en oeuvre du programme *Prométhée* révèle d'abord que les jeunes protégés de l'organisme sont effectivement à risque d'abandon scolaire, par les indices du taux de redoublement et de l'absentéisme rapportés (Cairns et al., 1989; Violette, 1991). Leur jeune âge indique aussi que le programme se présente assez tôt dans leur trajectoire pour espérer prévenir leur abandon scolaire. On peut ensuite affirmer que l'intégrité de l'intervention est respectée, même si le nombre de rencontres est inférieur aux exigences de l'organisme. Il faut en effet noter que les programmes qui montrent une hausse dans la fréquentation ou le rendement scolaires offrent une intervention plus intense, allant de deux rencontres hebdomadaires (McPartland & Murray, 1991), jusqu'à une rencontre quotidienne (Blum & Jones, 1993). Par contre, la durée des rencontres du programme *Prométhée* est plus longue que celle prévue par les promoteurs, ce qui contrebalance le petit nombre de rencontres.

Au sujet de la définition d'une relation de mentorat, on constate que les comportements des mentors sont, selon leur propre rapport corroboré par celui de leurs protégés, axés sur le soutien scolaire et le soutien affectif. Si l'on reprend la classification de Hamilton et Hamilton (1992), cette description des comportements des mentors les situe à un niveau moyen de compétence. D'une part, les mentors de *Prométhée* mettent surtout l'accent sur la création d'une relation de confiance avec les jeunes, ce qu'ils réussissent bien, puisque les protégés leur font confiance et leur attribuent des rôles positifs. D'autre part, les mentors expliquent des notions scolaires, ce qui contribue à rendre cette relation d'aide plus efficace, même s'ils semblent négliger l'aspect instrumental du développement de compétences. On note en effet, qu'ils fixent peu d'objectifs de développement avec leur protégé, ni ne leur enseignent clairement les comportements à adopter pour les orienter vers la réussite scolaire. Cette négligence est aussi confirmée par le peu de place accordée aux sujets de discussion reliés à l'importance de l'école et au futur emploi et par l'indication des protégés, qui n'observent aucun changement dans leur comportement. Par ailleurs, on remarque parmi les conduites les moins fréquemment émises, celles qui ont une connotation négative, ce qui semble indiquer que les mentors encouragent les conduites adéquates plus qu'ils ne blâment les jeunes pour leurs attitudes négatives. Cette tendance respecterait les préceptes

d'un bon programme de gestion du comportement (Brigham, 1989). Mais, peut-être moins qu'une orientation théorique, on peut deviner dans ces résultats des relents de psychologie populaire, caractérisée par une non-directivité de bon aloi et un appui sur des processus indirects d'influence. Ces aspects n'invalident toutefois pas le programme, dont les objectifs et les éléments d'intervention sont cohérents et centrés sur l'aide scolaire, dans un climat positif empreint d'empathie.

D'autre part, bien que les bénéfices présumés de cette relation soient à l'avantage des protégés, Freedman et Jaffe (1993) rapportent aussi que certaines gratifications personnelles contribuent à encourager les mentors dans leur rôle d'aidant bénévole. C'est un point fort du programme puisque les mentors de *Prométhée* apparaissent très satisfaits de leur rôle d'aidant, alors qu'ils identifient des sources de gratification reliées directement à cette relation d'aide.

En conclusion, l'évaluation de la mise en oeuvre de ce programme confirme l'intérêt d'en évaluer les effets sur la persévérance scolaire puisqu'il rejoint, à un moment propice, une clientèle à risque. Le contenu des rencontres, centré sur le développement scolaire et personnel, rend compte des besoins exprimés par les décrocheurs du secondaire et peut ainsi aider à motiver les jeunes à poursuivre leurs études. Si l'on se base sur les résultats des études évaluatives précédentes, il conviendrait toutefois d'intensifier l'intervention et d'orienter les mentors vers un style d'aide plus directif, tout en les encourageant à valoriser l'assiduité scolaire de leurs protégés, afin d'augmenter la force d'impact de cette intervention préventive.

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# STUDENT TEAM LEARNING IN MUSIC INSTRUCTION: RESTRUCTURING THE TRADITIONAL TASK-INCENTIVE SYSTEM

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**ABSTRACT.** When a classroom is structured in a way that enables students to work cooperatively on learning tasks, the students benefit academically and socially. In both these areas, there is a wide range of positive outcomes that have been found in the research. Cooperative methods are usually inexpensive, and they require minimal teacher training. Moreover, there is a growing and widespread use of this approach to structuring the classroom environment. Music instruction is predominantly characterized by competition, ensemble discipline, and a high level of technical proficiency. Students often feel that the subject does not value their views and that only the most talented succeed. As a result, many students are alienated and do not remain in the music programs. In this paper, the writer examines the benefits of cooperative learning, and he applies the principles of Student Team Learning, a cooperative approach, to restructure the music classroom into a more interactive and participatory environment.

**RÉSUMÉ.** Lorsqu'une salle de classe est structurée de telle manière que les élèves peuvent collaborer à des tâches d'apprentissage, cela leur profite sur le plan scolaire et social. Dans ces deux domaines, on a constaté un vaste éventail de résultats positifs. Les méthodes d'enseignement coopératif coûtent généralement peu cher et elles nécessitent un minimum d'activités de formation des maîtres. De plus, on a de plus en plus recours à cette méthode pour structurer le milieu scolaire. L'enseignement de la musique se caractérise avant tout par l'esprit de compétition, la discipline d'un ensemble et un haut niveau de compétence technique. Les étudiants ont souvent l'impression que la matière ne valorise pas leurs points de vue et que seuls les plus talentueux d'entre eux réussissent. C'est pourquoi beaucoup se sentent aliénés et abandonnent les programmes de musique. Dans cet article, l'auteur analyse les avantages de l'apprentissage coopératif et il applique les principes de l'apprentissage en équipe pour restructurer une salle de classe de musique en un milieu plus interactif et participatif.

Students may feel that they can get shoddy work past their teachers, but not their peers, the way a musician might feel he or she could get by with a less than perfect performance in the orchestra that would be immediately noticed in an individual lesson. (Slavin, 1983, p. 56)

In most music classrooms, large group instruction is the prevalent form of instruction. The traditional task-incentive structure of this format has the students learning individually, competing for grades, and challenging their peers for a higher position (e.g., second to first clarinet). In such an environment, where competition, ensemble discipline, and technical proficiency are highly valued, helping and encouraging behaviours among students are not likely to occur. In contrast, organizing a class into teams alters the competitive task-incentive structure. In a team environment, students are more likely to give their peers support, and help them where they are in need of assistance. The purpose of this paper is to describe a potential model for music instruction adapted from Student Team Learning (STL), a cooperative learning- teaching strategy. This approach offers the potential of shifting the high level of competition between individuals in performing groups to intragroup competition where helping behaviour between peers occurs.

Within the classroom context, there are both formal and informal structures. The former include statements of goals and objectives, operating policies and procedures, and formal evaluation processes. The latter include patterns of interpersonal and group relationships, group norms, and emotional feelings, needs, and desires. Dividing a large class into small groups and focusing on team building is a useful method for gaining information about, and control of, the informal processes. An effective team utilizes discussion; members listen to each other; feelings and ideas are expressed openly; there is an ongoing self-evaluation; and most decisions are reached by consensus.

Above all, the dynamics of group interaction are cooperative rather than competitive, and the atmosphere is informal, comfortable, and relaxed. Participation on a team offers students a greater feeling of control over their course work; this in itself engenders an identification with a discipline and commitment to a program. Problem solving in a group assists individual members to learn about the technical complexities of a task, and higher quality decisions are generally reached with the combined resources and increased amount of input.

Tasks and incentives may be structured competitively or cooperatively in a classroom setting. A task may be completed individually (competitive task) for a mark (competitive incentive) or, conversely, worked at collectively (cooperative task) for a group mark (cooperative incentive). The traditional incentive system in music instruction has the students learning individually within a large class and competing for grades, which "makes helping and encouraging among students unlikely

and may lead to anti-academic norms among many students" (Coleman, 1961). In contrast, organizing the class into teams alters the traditional task-incentive structure. Team learning emphasizes cooperation within the group and competition external to it. In team competition, students are more likely to give their peers support and encouragement to succeed, and help them when they are in need of assistance. For this reason, **interteam cooperation** and **intrateam competition** have been shown to be an effective classroom reward structure, and an alternative to the class lecture format (Bronfenbrenner, 1970; Coleman, 1959; Deutsch, 1949; DeVries & Slavin, 1978; Sherif & Sherif, 1953). Further, achievement, attitude, and friendship scores have been shown to increase through team learning contexts based on intragroup competition (Slavin & Karweit, 1984; Slavin, Leavey, & Madden, 1984; Stallings & Stipek, 1986).

#### **DIMENSIONS OF COOPERATIVE LEARNING**

Cooperative learning is defined as a teaching-learning environment where "there is positive interdependence among a group of students in the learning process and each student is both individually accountable for her or his own learning and responsible for other group members' learning as well" (Sapon-Shevin, 1992, p. 12). Generally, cooperative learning is supported in the literature because it promotes achievement and positive interpersonal and social behaviour among children (e.g., problem-solving, communication skills, sense of community) (Sapon-Shevin, 1992). Group work provides students with the time to think and talk about what they are learning, and it enables them to construct their knowledge of the world around them (Johnson & Johnson, 1984, 1987; Johnson, Johnson, & Holubec, 1987). Children can share their experiences and thoughts with teammates and, consequently, learning becomes more personal than in the traditional classroom (Slavin, 1990a).

Research on cooperative learning within the school setting demonstrates that norms in support of a goal are valued by peers (Thomas, 1957); cooperation increases retention (Sharon, 1979); cooperative groups produce more and better ideas than competitive ones (Deutsch, 1949); individuals working in cooperation learn to like one another (Deutsch, 1949; Dunn & Golman, 1966; Jones & Vroom, 1964); and group learning fosters friendships and working together (Fiedler, 1967; Haines & McKeachie, 1967; Jones & Vroom, 1964). Cooperation is more effective than competition where coordination of efforts is vital to learning (Slavin, 1977), but least effective for independent tasks

(Miller & Hamblin, 1963); and two or more students can figure out a concept faster than individuals working alone (Lemke, Randle, & Robertshaw, 1969; Laughlin, McGlynn, Anderson, & Jacobson, 1968). Because the more able students may do most of the work, productivity and learning may reveal inconsistencies. Cooperative groups may cover more material but not do any better on exams than students in competitive situations (Haines & McKeachie, 1967); more ideas may be expressed in a cooperative group, but with no difference in recall than in a competitive situation (Johnson, Johnson, Johnson, & Anderson, 1976); and on tests given on an individual basis, cooperative group members may do no better than those studying alone (Johnson, Johnson, & Anderson, 1976), and sometimes worse (Johnson, Johnson, & Scott, 1978). Cooperative strategies have been introduced across the curriculum in elementary (Hollifield, 1989) and secondary (Lockwood, 1988) settings; and have been proven to increase student achievement in mathematics (Davidson, 1985; Mevarech, 1985; Noddings, 1989); reading and composition (Dansereau, 1988; Slavin, 1990b; Stevens, Slavin, Farnish, & Madden, 1988); creative writing (Stevens, Madden, Slavin, & Farnish, 1987); social studies (Smith, Johnson, & Johnson, 1981); and industrial arts (Perreault, 1984).

The greatest strength of cooperative learning is the wide range of positive outcomes, both academic and social, that have been found in the research (Sapon-Shevin, 1992; Slavin, 1987). Further, this approach teaches students to work together (Johnson & Johnson, 1991) and assists teachers to create a caring and sharing environment (Solomon, Watson, Schaps, Battistich, & Solomon, 1990). The major problem with cooperative learning is the diffusion of responsibility. For example, it is possible "for individuals to be rewarded even if they themselves made little contribution to the group, or for individuals to fail to be rewarded even though they have done their utmost" (Slavin, 1983, p. 14). In order to combat diffusion of responsibility in society, we use the pep talk, the speech to the nation to pull together, rallies and cheering, or peer pressure. Cooperative incentive structure increases diffusion of responsibility because it reduces the chances that additional effort will be rewarded; and thus, it is also likely to reduce performance. In contrast, cooperative task structures "increase performance by increasing helping among group members to encourage one another to perform the group task" (Slavin, 1983, p. 15).

The teacher may reduce the diffusion of responsibility by holding individuals accountable to their groups. This may be achieved by making individual contributions visible and quantifiable, so that contribut-

ing and noncontributing members can be identified. For example, a group's success could be contingent upon individual scores on a theory test, performance exam, or music history quiz, which would be posted on a notice board (Kagan, 1988). By formulating team scores from individual marks and making the students' rewards dependent on the academic achievement of their peers, students are motivated to help one another towards improving their group's standing. Giving a group mark for chamber music, based on how each individual plays his or her part, encourages the 'help' in the practice sessions to focus on learning to play musically, rather than on just getting the notes right.

Overall, there is more consensus among cooperative learning researchers than areas of disagreement. Reviewers have concluded that cooperative groups can and usually do have a positive effect on student achievement (Slavin, 1990c). There is almost as strong a consensus that the achievement effects depend on two crucial elements: **group goals** and **individual accountability**, especially at elementary and secondary levels (Davidson, 1985; Johnson, Maruyama, & Johnson; Nelson & Skon, 1981; Newman & Thompson, 1987; Slavin, 1983, 1988a). With group goals, teams must work together to earn indicators of group success, such as recognition, grades or rewards in a context that is described as a cooperative task-incentive structure. For individual accountability, the group's success is dependent on the learning of all group members. Not all researchers, however, are totally convinced, claiming that at the college level there is some evidence that students can engage effectively in cooperative learning without group goals or individual accountability, but more research is needed in this area (Dansereau, 1988). Another area of disagreement is the value of competition. In team models of cooperative learning, team identity is used to foster accountability to peers, and the potential of winning is used to motivate effort (Slavin, 1986). There are detractors who argue that intragroup competition in the classroom impedes achievement and long-term interest in learning (Johnson & Johnson, 1989; Kohn, 1992; Nicholls, 1989). However, placed within a controlled context, there is evidence that intrateam competition improves personal achievement, especially where group goals and personal accountability are emphasized (Slavin & Karweit, 1984 & 1985; Slavin, Leavy, & Madden, 1984; Stallings & Stipek, 1986; Slavin, 1990d). Newman and Thompson (1987), in their review of cooperative learning strategies, state:

The pattern of results supports the importance not only of a cooperative task structure, but also of group rewards, of individual accountability, and probably of group competition as well.

## ADAPTING STUDENT TEAM LEARNING TO MUSIC INSTRUCTION

Among the most widely used cooperative learning strategies are those of Student Team Learning (STL) developed by Robert Slavin, David DeVries, and Keith Edwards at Johns Hopkins University (Slavin, 1980a, 1988b). The methodology focuses on four strategies that explore the possibilities of cooperative task and cooperative incentive structure: Student Teams Achievement Divisions (STAD), Teams-Games-Tournament (TGT), Team Assisted Individualization (TAI), and Jigsaw. STAD involves organizing the class into teams (four or five students) of mixed ability who work in pairs on assignment worksheets. At the end of the unit, each student individually completes a quiz. Team scores are based on individual improvement, that is, the difference between the previous week and current tally, and the team is recognized in a newsletter. In TGT, students play academic games with members of other teams who are comparable in past performance, and scores are calculated on the number of games won. This form of equal competition allows students of all levels to contribute maximum points to their teams. TAI requires team members to work in pairs, using programmed materials. Skill sheets are marked by team-mates; tests are scored by student monitors with the numbers of tests completed; and marks are combined to formulate a team score. In Jigsaw, the members of different teams meet in groups to study a portion of a lesson and become experts in an area. On returning to their own teams, each member teaches his or her group the material learned in the expert groups. Then, individual quizzes covering all the topics are distributed by the teacher, and team scores are calculated from individual marks.

STL is most successful when the teacher uses a moderately high amount of structure in the instructional environment; where there is a regular schedule of learning activities and well-specified learning objectives; a system of clear accountability for performance among team members and a well-defined group reward system is established; and recognition is provided for successful groups (Slavin, 1980b). Slavin and Karweit investigated the effectiveness of STL, and they concluded that the various strategies produced positive outcomes on student friendships, liking of school, self-esteem, and language and reading achievement (Slavin & Karweit, 1981). Their findings replicated earlier studies which found that cooperative learning increases students' liking of school and number of friends, and improves self-esteem, social confidence, and academic abilities (Slavin, 1980c). Studies have also shown team learning improves human relations and reduces minority group

isolation (Michael, 1982; Roberts, 1982). Also, difficult students prefer team learning over traditional teaching methods (Manos, 1988); and interracial exposure is increased with a team approach (Rossell, 1983). Team learning has been introduced in such diverse areas of the education field as special education (Allen & Vansickle, 1984; Kansas City School District, 1985), multicultural education (Conrad, 1985), minority group achievement (Frechtling, 1984), and native education (Swisher, 1990).

STL cannot be directly transferred to music education without some modification. Instrumental music involves both performance and nonperformance studies and utilizes performing, creating, and listening activities, whereas the work of Slavin, DeVries, and Edwards is primarily concerned with academic learning. For example, TGT would not be appropriate for individual creative activities, such as improvising or composing. Such activities cannot be suitably structured in a game format with winners and losers. Further, musical groups can seldom be organized on either an evenly-mixed or purely-equal ability basis as required for STAD or TGT, respectively. To a large extent the teacher is limited: chamber ensembles must be organized according to the requirements of a particular instrumental grouping (e.g., a brass quintet requires two trumpets, a French horn, a trombone, and a tuba); the playing standard of each section (e.g., flutes vs. clarinets) can vary considerably; and mini-bands (i.e., groups that duplicate the class instrumentation on a smaller scale) depend more on the exigencies of the score than on the students' abilities. Further, the large ensemble format prevalent in music classrooms is structured on a competitive task-incentive structure (Andrews, 1985; Rose, 1990). Music students compete for grades and for their position (first chair, second chair, etc.) within the musical organization (Benner, 1972; Dodson, 1989). Consequently, many students feel that the discipline does not value their point of view and, because they feel alienated, they do not remain in the programs (Ball, 1990; Shepherd, 1983). For them, the institutional music culture simply does not engender a cooperative and helping environment (Roberts, 1991; Shepherd & Vulliamy, 1983).

I have explored the use of team learning in music instruction as both a practitioner and teacher-educator and found that the basic principles of Slavin's approach – accountability to one's peers and a cooperative task-incentive structure for the group (Slavin, 1990c) – can be translated into a team approach for a variety of musical activities in a modified form. The notion of restructuring the classroom environment

was presented to me by my principal who was concerned that, like many music department heads, I was experiencing frustration administering a growing and successful music program, despite several years experience in the field. The pressure to constantly produce a number of performances each year with several ensembles resulted in my using a teacher-directed conductor approach far too often. The principal (a former physical education department head) suggested adopting a team approach to the music classroom so that the responsibility for learning could be shared with the students. I investigated small group instruction and cooperative learning and conceptualized four from the literature – Reciprocal Learning, Student Team Learning, Group Investigation, and Role-playing – that appeared appropriate to the context of musical performing groups (Andrews, 1985). I experienced considerable anxiety sharing responsibility, especially in the earliest attempts at using small groups, but overall the experience was positive both for me and the students (Andrews, 1989). These experiences convinced me of the need to document the students' experiences and adapt these approaches so that they could be realistically implemented within the unique context of instrumental performing ensembles. As a teacher-educator, I continued to refine these strategies with the assistance of student-teachers. The adaptation of the other small group approaches is detailed elsewhere (Andrews, 1993; Andrews, 1995; Andrews, 1996).

In my teaching years, I found that the subject-specific nature of the STL strategies restricted their usage with performing groups. However, by adopting an eclectic approach to delivery, implementation became feasible. Musical teams were organized on a sectional, chamber grouping or mini-band basis, and they undertook an assignment at a work station over a given period of time. On a designated day, each team presented its findings (e.g., a musical performance, group improvisation, or the results of a listening quiz) to me and I scored the results. Each student received an individual mark for her or his work which contributed towards the team score. When the groups were of equal ability, the scoring was cumulative and represented a comparison of each team's achievement (after TGT and TAI). When the teams were of unequal ability, the scoring reflected improvement. Each team's achievement was judged against the previous assignment and points allocated for the degree of improvement (after STAD). I found the focus on improvement particularly important for beginning instrumentalists. For example, when I compared the attitudes of two classes of grade 9 experienced instrumentalists to two classes of grade 9 beginners,

the experienced players enjoyed the challenge of intragroup competition. However, the beginners lacked self-confidence and required a high degree of encouragement. Consequently, the improvement emphasis was much more effective with them, and it resulted in a higher number of them continuing to take music as an option in grade 10 than was the case in previous years.

Later, as a teacher-educator responsible for instrumental music certification, I collaborated with teacher-candidates during a four-year period to refine the adaptation of STL to music instruction through reflective journals and practicum supervision. We found that it was essential to adopt a step-by-step approach to prevent discipline problems occurring. Class performing groups of thirty-five students traditionally operate with a conductor and rehearse the music all together (in the manner of a professional ensemble, such as a symphony orchestra). Students were not familiar with small group learning and had to be provided with specific instructions. Consequently, a three-phase plan was articulated where students were taught to **practice** their assignment, **share** their ideas, and **present** their findings.

In planning a team lesson, the teacher-candidate identified a musical objective, selected an appropriate activity, and designated the teams (either a chamber ensemble, section or mini-band as outlined previously). For example, each team would be required to demonstrate articulation skill (objective) by performing an *étude* or study (activity). During the lesson period, each team worked on the articulation study in a designated area, such as practice rooms, music office, or different areas of the bandroom, away from other teams. In the **practice** session, team members were expected to cooperate and **share** their expertise by: 1) controlling their own operating procedures (i.e., initiation, pacing, and adjustments; 2) focusing on the sensory, technical, and expressive qualities of different articulations; and 3) making constructive comments that contributed to the improvement of each team member's skill. The teacher-candidate circulated and coached each team to ensure that members directed their attention to the appropriate learning objective and helped their peers in a positive manner. During the latter part of the class, or alternately the next period, each group was provided with the opportunity to **present** their version and demonstrate mastery of the *étude*. Class members were encouraged to make constructive comments, and the teacher-candidate provided comments on pertinent points concerning execution and scored each group member's performance.

As I had experienced in my own teaching, the teacher-candidates confirmed that if the teams were of equal ability, it was more effective to have each team member's mark accumulate to provide a team score as they enjoyed the challenge of intragroup competition. However, if the teams were of unequal ability, points were allocated to each individual, based on their improvement, and these points accumulated to formulate the team score. The sample of a musical passage from a grade 9 band class in Table 1 illustrates how equal and unequal groups can be scored by a teacher.

There were three key issues that developed in refining and adapting STL to music instruction: logistics of implementation, shifting the role of the teacher, and ensuring positive peer interaction. Teacher candi-

TABLE 1. Student team learning: Scoring sample

| ARTICULATION STUDY SEGMENT                                                        |          |          |        |         |          |         |         |          |  |
|-----------------------------------------------------------------------------------|----------|----------|--------|---------|----------|---------|---------|----------|--|
|  |          |          |        |         |          |         |         |          |  |
| TOTAL ARTICULATIONS = 10                                                          |          |          |        |         |          |         |         |          |  |
| Equal Groups (Achievement)                                                        |          |          |        |         |          |         |         |          |  |
| Team 1                                                                            |          |          | Team 2 |         |          | Team 3  |         |          |  |
|                                                                                   | Correct  | Possible |        | Correct | Possible |         | Correct | Possible |  |
| Jane                                                                              | 8        | 10       | Amy    | 8       | 10       | Chris   | 4       | 10       |  |
| Fred                                                                              | 6        | 10       | George | 7       | 10       | Tom     | 7       | 10       |  |
| Susan                                                                             | 4        | 10       | Ted    | 8       | 10       | June    | 6       | 10       |  |
| Barry                                                                             | 5        | 10       | John   | 3       | 10       | Ed      | 6       | 10       |  |
| David                                                                             | 6        | 10       | Leroy  | 6       | 10       | Alice   | 7       | 10       |  |
| TOTALS                                                                            | 29       | 50       |        | 32      | 50       |         | 30      | 50       |  |
| Unequal Groups (Improvement)                                                      |          |          |        |         |          |         |         |          |  |
| Team 1                                                                            |          |          |        | Team 2  |          |         |         |          |  |
|                                                                                   | Previous | Correct  | Points |         | Previous | Correct | Points  |          |  |
| Ed                                                                                | 6        | 8        | 4      | Tom     | 8        | 7       | -2      |          |  |
| Susan                                                                             | 4        | 8        | 8      | Alice   | 6        | 6       | 0       |          |  |
| Leroy                                                                             | 6        | 6        | 0      | Grace   | 7        | 8       | 2       |          |  |
| George                                                                            | 3        | 5        | 4      | Fred    | 6        | 9       | 6       |          |  |
| Lewis                                                                             | 7        | 5        | -4     | David   | 7        | 9       | 4       |          |  |
| TOTALS                                                                            |          |          | 12     |         |          |         | 10      |          |  |

dates reported that often the logistics of the school environment were not conducive to small group instruction. Sometimes it was simply difficult to organize musical teams where no studios were available. Among the solutions rendered in university classes and applied in practice were: 1) timetabling music classes during the lunch periods when additional classrooms were available; 2) the use of back halls and stairwells (a recurring tradition in music education); and 3) supervising practice sessions before and after school, thus reserving class time for presentations. Teacher-candidates found the coaching role most problematic as they were comfortable in a teacher-directed conductor environment. Consequently, there was a tendency to "conduct" the teams in the helping sessions rather than getting off the podium and assisting from the sidelines. To overcome this tendency, the teacher-candidates received instruction on the organization of small groups and on techniques of effective coaching. Further, candidates experienced some frustration when encouraging their students to focus on constructive suggestions rather than critical comments (a characteristic of performing ensemble instruction). For example, in one small group I observed, a group leader commented to a team member, "You stink!" when referring to the playing of a particular passage. This completely befuddled the teacher-candidate, who was advised during the break to instruct the team members to focus their comments on the music and not at the person, and to do so more constructively.

## DISCUSSION

In the curriculum literature, there is much research that focuses on documenting the realities of development and implementation for the purpose of generating more effective ways of improving instruction (Harris, Bell, & Carter, 1981; Guba & Lincoln, 1981; Patton, 1987). The naturalistic-formative approach outlined in this paper offers the opportunity to obtain an in-depth understanding of how instruction can be effectively designed, developed, supported, and adapted. There is a closeness to the classroom which is more defensibly developed within a qualitative paradigm. As Patton (1987, pp. 18-19) states:

The qualitative-naturalistic-formative approach is especially appropriate for programs that are developing, innovative, or changing, where the focus is on program improvement, facilitating more effective implementation, and exploring a variety of effects on participants. This can be particularly important in the early life of a program or major points of transition.

In adapting STL to music instruction through a naturalistic-formative approach, some of the controversial issues that permeate the cooperative learning literature emerged.

### *Competition within a cooperative learning environment*

In the literature on cooperative learning, there is considerable debate concerning the worth of competition within the cooperative learning paradigm. Essentially, there are those who argue that intragroup competition increases student achievement and motivation (Slavin & Karweit, 1984; Slavin, Leavy, & Madden, 1984; Stallings & Stipik, 1986), and there are others who suggest that the thrill of team competition also offers a diversion from the restrictions of the traditional classroom environment (Kagan, 1988; Noddings, 1989). In contrast, there are researchers who claim that the purpose of cooperative learning is to help one another, thereby engendering a feeling of total classroom cooperation (Johnson & Johnson, 1986; Johnson, Johnson, & Holubec, 1986). Proponents of the personal and social benefits of a cooperatively structured classroom claim that competition sabotages relationships and undermines self-confidence (Johnson & Johnson, 1989; Kohn, 1992; Nicholls, 1989). In a comprehensive review of cooperative learning, Newman and Thompson (1987) concluded that its effectiveness was dependent upon a cooperative task structure, group rewards, and probably group competition. Such a finding reinforced the intensity of the debate among researchers and suggests that the issue of intragroup competition is very much a philosophical difference over the moral value of competition (Noddings, 1989).

In contrast to the subject matter of research studies to date, music classes are predominantly characterized by performing groups which foster a high level of internal competition and focus on technical mastery. Music students compete for positions within a section (i.e., first, second, third, or fourth chair); sections compete for recognition within the concert band, symphony orchestra, or stage band (i.e., Which section is the best?); and all these instrumental ensembles perform in concerts and compete at festivals for prestige and prizes (i.e., Who has the best ensemble?) (Benner, 1972; Dodson, 1989). Indeed, the history of the growth and success of music instruction in elementary and secondary schools is intimately linked with the importation of the competitive festival system from Europe and its effective implementation throughout North America (Fenwick, 1951; Ford, 1981; Steinecker, 1981).

In reality, the implementation of a cooperative learning strategy without some element of competition is not likely to be supported by music teachers. The lack of competition could be viewed as a hindrance to building a successful performing ensemble, especially when there is a strong belief that the highest levels of musical excellence can only be achieved through festival performance or international competitions (Steinecker, 1981). At the same time, it must be recognized that excessive competition has created serious problems for music programs: musical understanding has suffered at the expense of acquiring technique (Ball, 1990; Benner, 1972; Steinecker, 1977); the music class is not seen as a helping environment (Roberts, 1991; Shepherd & Vulliamy, 1983); and students often feel alienated because there is not the opportunity for them to express a personal point of view (Roberts, 1991; Shepherd, 1983). Consequently, many students drop out of the programs (Ball, 1990; Shepherd & Vulliamy, 1983). For this reason, the intragroup competition in STL offers the possibility of balancing the demand for technical excellence achieved through competition with the needs of students to share ideas and express their views with team members.

### *Changing the role of the music teacher*

Historically, the music teacher has functioned in the role of a conductor utilizing a highly-organized teacher-directed approach to music instruction (Andrews, 1985; Benner, 1972; Erbes, 1978). In this capacity, one controls the flow of the music through gestures and facial expression, and one is intimately connected to the interpretation of the performance that the audience experiences. In contrast, small group instruction requires that a teacher assume a coaching role. In this capacity, one is not directly involved in the "action" but must operate from the sidelines. A coach must monitor students' activities to ensure that team members stay on-task, that all members participate, and, above all, that learning does not regress to imitation or rote activity. As Moore (1970, p.110) notes:

Coaching should strive for the production of insights. If a player understands the essential principle of an act, he can generalize and transfer his learning from an original situation to one in which the elements are essentially the same as the original.

Getting off the podium and assuming a coaching role represents a significant adjustment for music teachers. For STL to operate effectively in music instruction, however, it is essential that this shift in role

occur. I found this process quite disconcerting (Andrews, 1989), as did those teacher-candidates in my classes who explored cooperative learning in their classes (Andrews, 1991). Such feelings are consistent with the experiences of others who implement these strategies. For this reason, many teachers who attempt cooperative learning utilize teacher-directed small group instruction rather than assisting the group in a coaching role (Noddings, 1989). Cooperative learning reduces control and predictability in the classroom: "The traditional model of teaching amounts to a rehearsed solo performance by the instructor whereas cooperative learning not only offers instruments to everyone in the room but invites jazz improvisation" (Kohn, 1992, p.42). However, the benefits of shifting from conductor to coach and from teacher-directed instruction to cooperative learning are substantive. Learning not only occurs when a student makes sense of the musical score, but it can also happen as students interact with each other. One now has allies in instruction — thirty or more young minds and hands that can contribute to the solving of musical problems and the development of cohesive and meaningful musical interpretations.

### *Positive interdependence among music students*

The central aspect of cooperative learning is positive interdependence; students are linked together in their learning endeavours. Learning activities are selected in such a way that every student's effort is required and is significant. Through positive interdependence, students interact and work together to ensure that all of them succeed. Traditionally, music students have had little opportunity to provide input into musical decisions or share their experiences (Ball, 1990; Shepherd, 1983). The stress on individual accomplishment demonstrated through technical mastery has created a classroom environment where helping behaviours are not commonplace. The shift from audience (i.e., receiving information) to participant (i.e., making decisions) is dramatic for students who have spent upwards of seven years enrolled in instrumental classes that are operated in a traditional large-group format. For example, in my first experience with cooperative learning, I asked the guidance head to assist a student committee which was charged with the responsibility for administering the Jazz Invitational. He reported back to me a week later in absolute frustration, asking me why was it that my music students could not sit around a table and reach an agreement on anything. I was not surprised — it was the first time I had provided them with an opportunity to accept responsibility and make decisions.

## CONCLUDING COMMENTS

The cooperative atmosphere in STL engenders a higher level of learner participation and input than do the traditional teacher-directed forms of instruction. Further research will need to be undertaken to determine the degree of effectiveness of STL in a skill-based subject such as music, and also to explore such issues as retention, student motivation, and friendship patterns. It appears that STL would be a useful strategy for capitalizing on peer support and encouragement. Peers impact quite strongly on behaviours during the early teen years, a period when many are enrolled in instrumental music program. These students are undergoing a period of self-delineation where there is a tendency to rebel against most forms of authority. By utilizing a cooperative task-incentive structure and making students accountable to their classmates, the teacher can increase the possibility of learning becoming a peer norm. This will reduce somewhat the tensions and disruptions that tend to occur in the classroom at this stage of development. Further, music teachers can catalyze this change and assist their students to understand that shared power and collective success are meaningful ways to build viable ensemble programs, and, more importantly, valuable and meaningful ways to live together. Such an approach promotes those broader skills deemed essential for the twenty-first century: collaboration, teamwork, and systems thinking (as outlined in *The Common Curriculum*, Ontario Ministry of Education, 1995) "With that experience and consciousness of the prices and benefits of competition and cooperation in our society, students can determine how to work toward a future that will serve all people as well as cooperative learning has served all of them" (Kohn, 1992, p. 25).

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*Papke*

# ADAPTING TO EXTERNAL ENVIRONMENTAL CONSTRAINTS: CLASSROOM TEACHERS' STRATEGIES

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**ABSTRACT.** To assess the current status of external constraints on teachers and the types of adaptation strategies they utilize, the researcher approached eight teachers, two from each division, teaching elementary and secondary schools in four school divisions located in metropolitan, urban, rural, and northern areas in a western prairie province of Canada. In-depth interviews and questionnaires revealed that these teachers experienced a high level of stress associated with external constraints arising from political, economic, social, and cultural sectors. While the coping strategies adopted by the sampled teachers suggested that they had not compromised their efforts at a time of high external constraints, there were troublesome signs denoting some erosion in their belief of general efficacy. The dissonance between the current emphasis on decentralization and their actual feelings of powerlessness seemed to pinpoint a disturbing area in the present effort of improving school performance.

**RÉSUMÉ.** Pour évaluer l'état actuel des contraintes extérieures qui s'exercent sur les professeurs et les types de stratégies d'adaptation qu'ils utilisent, le chercheur s'est adressé à huit enseignants, deux de chaque division, qui enseignent au primaire et au secondaire dans quatre commissions scolaires situées en secteur métropolitain, urbain, rural et nordique d'une province des prairies de l'Ouest du Canada. Les entrevues et les questionnaires ont révélé que ces enseignants éprouvent un fort niveau de stress se rattachant à des contraintes extérieures d'origine politique, économique, sociale, et culturelle. Même si les stratégies d'adaptation adoptées par les professeurs échantillonnés incitent à croire qu'ils n'ont pas compromis leurs efforts à une époque de fortes contraintes extérieures, on a noté des signes troublants dénotant une certaine érosion de leur croyance dans l'efficacité générale. La dissonance entre l'importance actuelle attachée à la décentralisation et leurs sentiments actuels d'impuissance semble souligner un élément inquiétant dans les efforts actuellement déployés pour améliorer le rendement scolaire.

Deeply embedded in the current effort of school reform is the widespread conviction that if trust, confidence, and greater decision-making power are bestowed upon our front-line educators – teachers (e. g., Epp, 1992; Gitlin & Price, 1992) – fundamental changes and improvement in school and students' performance will follow. In one sense, the proponents of this belief see this as a logical outcome of the ongoing professionalization of the teaching force. In another sense, this same group feels that empowerment of the teachers is the most effective means of breaking down the growing bureaucratization of the public school system that has stifled and stagnated earlier attempts of revitalizing the system.

While the basic assumptions of this perspective remain convincing and unchallenged, there are signs pointing to a growing complexity of teachers' roles, which potentially cloud and burden teachers. As suggested elsewhere (Lam, 1984), the declining influence of the church and the radical changes in the family structure have deprived the school of its traditional allies in educating the young, and have broadened the scope and responsibilities of teachers. Over the past three decades, added to teachers' four traditional roles as professional educator, curriculum specialist, child psychologist, and administrative supervisor (Bennett & Falk, 1970) are new responsibilities as the technical expert (Stanchfield, 1974), the law-enforcing agent (Mackay & Sutherland, 1990), social worker (Szaz, 1970), and child advocate (Staff, 1992). Job-related pressure on teachers has been mounting ever since these new responsibilities have been delegated to them.

A casual perusal of literature on teachers' stress indicates that a majority of the research has focused on their internal working conditions (Hiebert, 1985; Jackson, Schwab, & Schueler, 1986; Dworkin, Haney, Dworkin, & Telschow, 1990). It is only recently that the search for sources of stress has broadened to the larger social context, as Farber (1991) articulates, which provides a more comprehensive view of the types of pressures teachers face in their work.

In this context, the changing environment within which the public school system operates becomes a critical area for further investigation. Lam's theoretical postulation (1985) regarding how public schools were affected by a turbulent environment offers an appropriate starting point. Based on the work of Hall and Mansfield (1971), Lam elaborated the ripple effects that external stress created on internal organizations, and the subsequent internal changes that trigger individual stress and strain,

and ultimately lead to individual responses to the internal and external changes.

"External constraint" (as a concept) is defined here as any externally imposed pressure that limits, disables, or complicates incumbents from executing their responsibilities. Conceivably, constraints arising from the political, economic, social, and cultural environments, taking on the form of policy changes, shifting of locus of control, funding and resource shortage, enrollment fluctuation, interethnic tension within the student population, and conflicting demands for culturally driven curriculum, would have limiting or restrictive effects on teaching; and, in turn, this could cause teachers to experience job-related stress.

Preliminary analyses of the external constraints experienced by superintendents, principals, and teachers (Lam, 1985a, 1987, 1989) showed that educators at these three levels of the school system were susceptible to various magnitudes of pressure. Patterns of constraint also seemed to vary between urban and rural school divisions (Lam, 1991). As a follow-up of the previous large-scale quantitative studies, two major questions are raised: 1) What is (are) the nature or type(s) of external constraints that public school teachers face today? and, 2) How do teachers cope with these external constraints?

## METHODOLOGY

### *Sample*

To provide an in-depth examination of data on these questions, a qualitative study involving a sample of eight teachers was undertaken. These eight teachers were chosen from four different settings, i. e., metropolitan, urban, rural, and northern remote school divisions (in one of the western prairie provinces of Canada) to detect the unique local conditions that might affect teachers' external working environments. Furthermore, as the external impact might differ between the lower and upper grades in each setting, the choice of the two teachers from each division was made in such a way that one came from an elementary school and the other from a secondary school.

### *Data collection*

Each of the eight teachers selected for this study was interviewed by a research team consisting of two members, using the modified form of Lam's *School Environmental Constraint Instrument* (1991). Respondents

were asked to identify major constraints from different sectors of the external environment. They were further encouraged to share with the research teams the nature of the strategies they adopted in coping with these external pressures. Summaries of the interviews were returned to the interviewees for verification so as to enhance the accuracy and validity of data obtained (Lincoln & Guba, 1985).

Two months after the initial interviews, the sampled teachers were given another set of questionnaires in which the respondents were asked whether they experienced any changes in the external constraints and, if so, whether they followed the same course of coping strategies. Through multiple sources, the researcher hoped to validate the data obtained prior to analyses.

## FINDINGS

### *Background of participants*

Of the eight teachers sampled, three were male and five female. Most of the male teachers taught in secondary schools and all but one female teacher taught in elementary schools. All participants had at least five years of teaching experience, and two had served their schools for over twenty years

### *Nature of external constraints*

From the interview taping, it would seem that the level of external constraints experienced by all sampled teachers was high. Five out of eight teachers expressed some pessimistic views about their own abilities in being effective advocates of their students. Minor variations were detected among teachers from different settings and between elementary and secondary teachers. No noticeable differences were found between the first interviews and subsequent probing. On the whole, the external constraints were fairly constant.

### *External constraints arising from policies*

Of the policies initiated in the past five years by the provincial government in the province where this study was conducted, integration of special-need students into the regular classroom, or mainstreaming, seemed to present the most problems for teachers, irrespective of where these teachers taught or the class levels they handled. Key concerns expressed pertained to accommodating special-needs students while ensuring that the rest of the class progressed steadily.

Another identified common type of constraint was related to the implementation of disciplinary policies, and this seemed most challenging in the metropolitan and urban schools. The metropolitan high school teacher worried about the anonymity of young offenders within student populations – a point reflecting some inaccurate interpretation of the law by the school (EduLaw Publication, 1995). This participant was concerned that no preventive measures could be possible should violence be initiated by these anonymous young offenders. The urban elementary teacher too lamented the inadequacy of the Young Offenders Act in dealing with her students, many of whom were younger than twelve, having committed serious criminal acts, but could not be dealt with by the law in the same way as if they had been adults.

The rural teachers, however, were troubled by policies related to curriculum revision and the policy of restructuring high schools. Lack of resources and logistic support mainly accounted for the problem they experienced in trying to accommodate new elements in curriculum. The inclusion of Grade 9 in the high schools, mandated by the provincial department of education, threatened to dismantle a number of rural schools in the division, and, at the same time, caused over-crowdedness in some school buildings. While the rural elementary school teacher was concerned about possible relocation, her counterpart in the high school worried about over-crowdedness of his class associated with restructuring.

Northern teachers were confronted with high absenteeism among elementary and high school students on the one hand and the adherence to “no failure policies” approved by the school board. The two sets of policies at times were conflicting; high absenteeism hampered students’ learning while the “no failure policy” assured that students be given chances to move on to the next grade irrespective of their performance. The secondary teacher was concerned about the academic standard of her students and about their not being able to meet university entrance requirements should they pursue their studies further.

#### *External constraints arising from shifting control*

With various models of the school-based or site-based management in full force, the teachers from urban and rural schools did have a greater control over their working environment. The increased involvement in decision-making, while adding extra responsibility on these teachers, did have a positive effect on them.

This was not the case with respect to the metropolitan, northern elementary and secondary teachers. Distrust on the part of their principals hampered meaningful involvement. One metropolitan teacher stated,

*There has been such a deep-seated distrust between the administration and the teaching staff that we don't want to share our concerns or views, or be treated as persons who are upsetting the apple cart. . . .*

The northern elementary teacher said,

*We'd deliberately ignore the policy change as far as we can go unless challenged by the administration. . . .*

Apparently, the lack of administrators' support was deeply felt by these teachers and their sense of powerlessness and frustration led them to exhibit avoidance behaviours of one kind or another to the extent of abandoning the mandated policy change.

#### ***External constraint on funding***

All of the respondents of the interview indicated that much as they were aware of the constraints imposed on their school divisions and schools, funding at the classroom level was mostly adequate and there was equitable and fair distribution of dollars among staff. Only the northern high school teacher felt some uncertainty in the amount of funding for her course.

#### ***External constraint on resources***

In terms of resources, there was some consensus among the eight sampled teachers that manpower resources, notably teacher assistants (TAs), were in short supply. Apparently, this shortage was closely related to the needs arising from the effort of implementing all-inclusive programs.

Aside from the general lack of TAs, the teacher in an urban secondary school indicated an inadequacy in enrichment curriculum resources. The teacher in the rural elementary school stated that there was a shortage of textbooks for students.

#### ***Constraints arising from social values***

The impression derived from all the interviews was that the traditional sources of influence that affected their students' social values, namely, families and churches, were losing their importance. Peer influence seemed to be the most important source of influence for students in the

four locations. Additionally, the urban secondary school teacher also pointed out the mass media (e.g., television) and part-time jobs that students held profoundly affected their outlook. As such, his students were highly materialistic and this created motivational problems in academic areas which they deemed would have little utility in advancing their materialistic objectives.

*External constraints arising from enrollment fluctuation*

Regional differences in migration and the shifts between the elementary and secondary schools caused more problems for some than for others. Generally, there had been some slight decrease in the elementary schools in the metropolitan, urban, and rural areas while there had been an increase of high school student population in all three areas. In the north, however, enrollment for both elementary and secondary schools was relatively steady. The main concern was the drastic reduction of students through attrition and dropouts between the beginning and the end of an academic year.

Irrespective of the direction of enrollment changes, over half of the sampled teachers were saddled with an increased class size. One rural elementary teacher commented:

*While our school continues to lose kids, we end up with multi-grade classes.*

Both rural and northern school teachers felt that the enrollment instability created staffing problems and logistic problems for program offerings.

*Constraints arising from the interethnic relationships within the student population*

The secondary teachers in the metropolitan, urban, and rural schools all reported having experiences of racial incidents in their schools. In the case of the metropolitan secondary schools, rival gangs of Vietnamese and Filipinos were identified as creating incidents from time to time. In the urban secondary school, racial incidents occurred between native and white students. In rural secondary school, the incidents involved Chinese and white students. In northern schools, at both elementary and secondary levels, racial incidents between whites and natives were reported. All these incidents placed further demands on teachers in supervision.

### *Constraints arising from culturally driven programs*

Aside from the French Immersion (FI) program, which has continued to be popular in urban, rural, and northern schools, there have been changing fortunes in the heritage programs in the metropolitan settings. Portuguese heritage programs have been on the decline while the Filipino heritage program has been on the rise. In the metropolitan elementary school, the demand for the English as a Second Language (ESL) program has been much greater than the FI program. The situation was reported to be similar with respect to the urban and northern elementary schools. Apparently, the arrival of immigrant children and the urban migration of natives in rural and northern areas has translated into a heavier demand for the ESL program. In the northern remote schools, this was viewed by teachers as a problem in view of the lack of resources in the area.

### **COPING STRATEGIES ADOPTED BY TEACHERS**

Most of the coping strategies adopted to combat the external constraints were primarily *defensive, reactive, generalized, and personalized*. The strategies were defensive and reactive because most teachers felt that they were not informed by their superiors of critical information in advance so that proactive measures could be taken. One remark typified such a general feeling:

*Being at the bottom of the totem pole, we're always the last to receive the information that requires radical change on our part. . . .*

The apparent internal communication gap made most interviewees feel powerless to counteract the changes. Adaptation strategies were generalized because they blended across different types of external constraints rather than aiming at any one specific type. Further, their strategies required personal efforts to accommodate the emerging challenges. There are few distinct patterns of strategies that can segregate teachers by location or level. In this respect, five types of strategies were identified:

#### *Upgrading of instructional skills*

In meeting policy implementation of mainstreaming and other curriculum changes, all teachers accepted the challenges as given, and indicated that they attempted to deal with these by continuing to upgrade themselves in terms of instructional skills. These skills encompassed reorganization of existing curriculum, better time management,

preplanning, and diversified instructional techniques. Most sampled teachers acquired the new skills through various workshops and in-service activities, and some acquired them from closer liaison, collaboration, and support from their colleagues. As one of the interviewees reasoned,

*Given the tough time we now are in, and the complexity we face in teaching, the one positive thing that seems to arise from the situation is [that] we seem to get closer to each other and we develop a greater solidarity among our colleagues.*

### *Informal restructuring*

Tough challenges call for imaginative and innovative responses on the part of teachers. To tackle the emerging problems that continue to have an impact on teaching, about half of the interviewees indicated that they had assembled a few colleagues to constitute an informal "problem-solving team" as a means of tackling the emerging problems that continue to have an impact on teaching. One teacher indicated:

*We need collective wisdom to deal with thorny problems as they arise. . . . It's just too much for any one individual to handle.*

To tackle emerging problems, e. g., increasing incidents of anti-social behaviours of students or school violence, which drain teachers' energies, the sampled teachers indicated that they assembled colleagues together to provide a sort of "consulting team" to provide assistance to each other.

That teachers tended to organize informal groups for mutual support was not new. In the 1980s when the teaching force was hard hit with layoffs and an enrollment decline, Lam (1983) found teachers depended on their colleagues for moral support and mutual encouragement in order to maintain their morale and professional perspectives.

### *Negotiated order*

Six out of the eight sampled teachers would, from time to time, negotiate with the administration in prioritizing the implementation of change. By bargaining with the school administration that the most difficult demand be placed as the last item for implementation, the sampled teachers and their colleagues gained some breathing space to reorient themselves to changes without displaying signs of insubordination.

When the teachers were in open disagreement with the school administration, and when verbal bargaining did not bear any concrete results,

one coping strategy shared among the interviewees was that of developing an alternate proposal which was different from what the administration intended to follow. By focusing on the alternate proposal, rational rather than emotional reaction to the situation would result. As one teacher from the urban elementary school said,

*Writing a counter-proposal is a psychological safety valve for us to vent our frustration without becoming subversive. . . .*

In this fashion, teachers utilized written proposals as a means of retaining their emotional stability and of keeping the psychological dissatisfaction at bay.

### ***Boundary spanning activities***

In view of a wider spectrum of student problems with which the teachers were confronted, all of the eight interviewees reported that they realized the school could not handle the problems single-handedly. They became more involved in outreaching activities to seek external assistance. This is particularly true for those teaching in the metropolitan and urban areas. They came to rely regularly on the outside agencies, such as the family and social services, police and the like, to lend them a hand in dealing with students' problems. Six out of the eight interviewed (except the Northern Division teachers) indicated that they had engaged in some type of interagency meetings on a bi-weekly or monthly basis to deal with complex social problems that their students inherited from families. In addition, they scheduled almost daily meetings with parents whose children were in trouble, to map out coordinated home-school attempts at problem solving.

While more modest in their profiles and scales than their school-division office administrators (Lam, 1994, 1996 [in press]), teachers saw the need to step beyond their traditional boundaries (i. e., boundary spanning activities) and to work closely with social units that have a vested interest in their problem children. On the other hand, most interviewed teachers admitted that they were still uncomfortable to assume this new role as it surpassed their training and experiences.

### ***Alternate resource generation***

In response to the perceived shortages in resources for instructional purposes, many innovative devices had been tried. Where there was a shortage of funds for purchasing instructional materials, both northern high school teachers and rural elementary teachers would "stretch the budget as much as possible". All six metropolitan, urban, and rural

teachers, from time to time resorted to school "garage sales" to replace obsolete instructional materials and generate additional revenue to purchase needy materials for their students. At the risk of violating copyright laws, urban and northern teachers would tape programs from television to supplement instructional materials.

In running laboratory sessions or organizing field trips, all teachers sought permission from their principals to charge "user fees". Where the schools were engaged in fund-raising, all interviewees indicated that they followed the lead of their principals.

To meet the fluctuating enrollment and changing program needs, the metropolitan and rural respondents would exchange teaching responsibilities, utilize movable dividers to shift around their classes. The metropolitan high school teacher indicated that in some desperate situations, scheduling classes in the evening was done to ensure that his students completed their academic work in time. When they ran into a shortage of time to cover the curriculum in light of additional new programs, they resorted to "borrowing" time from those courses where steady progress was made.

#### GENERAL REFLECTIONS

In comparing the nature and types of constraints experienced by teachers in different localities in their province, one would note that teaching is far more complicated in metropolitan and urban areas where students are coming from diverse ethnic backgrounds and have different levels of English-language proficiency. However, the succession of policies dealing with mainstreaming and restructuring of high schools, the diffused locus of control, inadequate curriculum resources, and the need to monitor interethnic relationships with the arrival of immigrants and native students has created substantial job-related stress for all the sampled teachers.

Approaching the external constraints from another angle, there are few patterns of differences that exist between elementary and secondary schools. The only noted exception is to be found in the enrollment fluctuation that exists between the elementary schools and the high schools, creating logistical problems for program delivery.

All of the above findings should not be surprising, given the fact that the external work environment for the public school is becoming less predictable, less orderly, and more turbulent (Lam, 1991; Terreberry, 1984; Wirt & Kirst, 1982). While the technical core of the organization

(or the teaching force) may be somewhat sheltered from the direct pressures arising from the political wrangling of interest groups when compared with their school and division administrators (e. g., Lam, 1991), they are nonetheless subject to similar external constraints.

When assessing their coping strategies, one detects both positive and negative features associated with their adaptation strategies. Of those strategies that can be viewed as positive or constructive, we take comfort to note that their adaptation strategies are not completely passive. Indeed, the sampled teachers seem to follow some logical sequence of defense within and without the school organization. To equip themselves with the new challenges, they recognize the need to continue upgrading their skills and training. To surmount resource shortage, they develop innovative and ingenious ways of generating new revenues. When the problems are too overwhelming, as in the case of curriculum or policy changes, they negotiate with the school administration to buy time and to regain their mental balance. Failing to reach a satisfactory conclusion, they resorted to writing counter-proposals as a means of venting their frustration.

Furthermore, to deal constructively with problem students saddled with family and social ills, they regroup themselves into support teams within the school and search for alliances among parents and social agencies outside the school. This marks an important starting point of breaking away from the traditional isolation and of harnessing external resources to maximize problem-solving abilities.

On the other hand, we also detect two interrelated worrisome signs among those from whom we collected information. One is the weakening of the sampled teachers' belief that the teaching profession can make a difference in educational outcomes (Gibson & Dembo, 1984). The other is the disillusion about their own empowerment in the restructuring of school governance.

That the teachers should feel some loss of general efficacy seems to relate to the fact that they were working under extreme pressure because external constraints continued to hamper their teaching responsibilities. Such a loss is reinforced by their experience that teacher empowerment is still more rhetoric than real. Likely, quite a few principals, while witnessing their organizations under radical transformation, are still deeply entrenched with the traditional perspectives of organizational control (Kshensky & Muth, 1991).

The present findings therefore provide, albeit limited, evidence of incompatibility between a transformed school without a transformational leader (Murphy & Louis, 1993). Adaptation to the external constraints could trigger intensification of territorial protection among members of the public school, and a sharper internal division between administration and teachers. All these could spell disaster to the current effort of improving school performance.

### CONCLUSION

In scrutinizing the current status of external constraints on teachers and the type of adaptation strategies they utilize, one could sense from the restricted data of this study that teachers are subject to many constraints from different sectors. Job-related stress level is understandably high. The observed coping strategies registered both positive and negative characteristics. While many strategies and reactions show that the front line educators have not lost their initiative and imagination, there are also potentially troublesome signs underscoring the general absence of proactive planning as a result of inadequate internal communication. The weakening belief in general efficacy, punctuated by the lack of empowerment by their principals points to a dissonance between the current "decentralization" and the actual experience of "powerlessness" on the part of the teaching staff in taking control of the changes. Should the present limited empirical evidence be verified among the larger teaching population, the outcome for the current effort of upgrading school performance would not be too optimistic.

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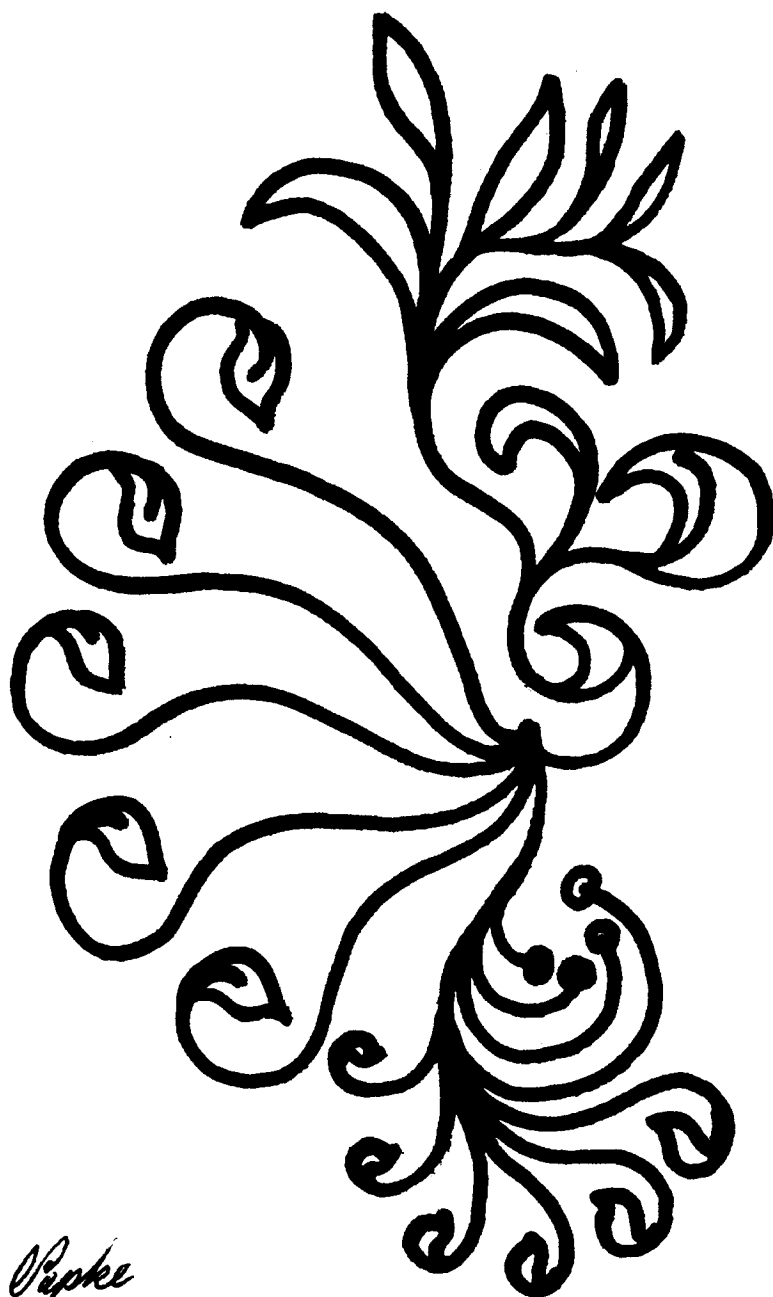
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*Pepke*

REPORT FROM THE FIELD

## SETTING STANDARDS FOR A PROVINCIAL LITERACY ASSESSMENT IN SASKATCHEWAN: PREMISES AND PROCEDURES

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**ABSTRACT.** As pressures for public accountability mount, and large scale assessment programs multiply across Canada, questions arise about who and how educational standards may be determined assume importance. National and provincial standards are now being or are about to be defined. This article discusses the assumptions and considerations involved when choosing a standards-setting model for the Saskatchewan provincial assessment program, describes the actual procedure employed, and identifies some of the technical, legal, and reporting issues involved in standards-setting.

**RÉSUMÉ.** À mesure que les pressions de responsabilisation publique augmentent et que les programmes d'évaluation à grande échelle se multiplient au Canada, on commence à élaborer des questions sur qui établit les attentes éducatives et comment. Les auteurs de cet article analysent les hypothèses et les paramètres qui entrent en jeu dans le choix d'un modèle d'établissement des attentes pour le programme d'évaluation de la Saskatchewan; ils décrivent les modalités utilisées et précise certains des problèmes techniques et juridiques que pose l'établissement des attentes.

Defining educational standards in "basic skill" areas is an emerging issue Canada-wide. Many provinces are turning to large-scale assessment programs as a crucible for determining formal and publicly proclaimed standards of student achievement, and as a source of information about the performance of educational systems. Both provincial and interprovincial assessment programs are proliferating. Manitoba and Ontario have recently announced ambitious testing programs to be administered in 1996 and many other provincial ministries have instituted large-scale testing or are making plans to introduce new programs. Interprovincially, the four Atlantic provinces have decided to administer cross-jurisdictional tests. And the Council of Ministers of Education, Canada's national School Achievement Indicators Program

(SAIP), has undertaken to test 13- and 16-year-old students across the country, beginning with mathematics in 1993, reading and writing in 1994, and science in 1996. To clarify pan-Canadian expectations for SAIP results, a standards-setting process is under active consideration.

For all large-scale assessments, the definition of performance standards is a central evaluative activity. If performance levels set out the basic units for measuring the quality of student work, performance standards are judgments about expected student achievement. Rather than being a description of what students are expected to be able to do, standards are pronouncements on how well students should be able to perform. Standards provide a comparator for educators and for the public against which to measure student performance. If only test results were reported, the question would remain, "Should we be satisfied with the results?"

Answering that question begs others. How does one arrive at standards? Should the standards be set by teachers as professionals, by ministry officials delegated as those responsible for provincial programs, or by members of the community at large? How does one communicate standards to which students will aspire, that which teachers can readily apply in their classrooms, and in which the public may have confidence? Should national standards precede, succeed, or, in some cases, supersede provincial standards-setting activities?

Since standards-setting is now attracting the attention of national policy makers, but is little understood outside the realm of measurement specialists, it may be useful to consider how these issues have thus far been addressed in one Canadian setting. This article discusses the assumptions and considerations involved when choosing a standards-setting model for a Saskatchewan provincial assessment program, describes the actual procedure employed, and identifies some of the technical, legal, and reporting issues involved in standards-setting.

### *Assumptions about performance standards for the PLAP*

Saskatchewan's Provincial Learning Assessment Program (PLAP) was designed to monitor student outcomes like other large-scale assessment programs. Initiated in 1993 and implemented in language arts in 1994, the program seeks to determine student achievement levels, to provide empirical data which will assist with program improvement, to support educators in evaluating students, and to demonstrate the Department's commitment to public accountability. More specifically, the 1994 as-

assessment in reading and writing collected baseline provincial data for tracking mainstream student progress toward the goals and linguistic objectives of provincial curricula. It also provided a diagnostic picture of student strengths and weaknesses in both basic and higher order skills, and set performance standards or expectations for language arts achievement.

As conceived in the Saskatchewan program, a standard is a dynamic tool to facilitate educational decision-making. The cut-off scores or thresholds are conceived as points of educational decision-making for the next two years. When the 1996 PLA is conducted, standards will be set again and biennially thereafter for future cycles of the assessment program. Thus, standards-setting involves setting expectations for student performance in reading and writing, for a specific battery of tests or assessment instruments. Standards or expectations are not static. Rather, expectations will vary according to the complexity of the questions or tasks demanded in various tests, to the criteria used for scoring the tests, the attributes of the student population being tested, and to the composition of the panel which sets the standards. Because the PLA is a criterion-referenced assessment and not a norm-referenced one, a provincial average is an unsuitable yardstick. A criterion-referenced standards-setting model was therefore devised, based on a number of premises.

A primary assumption for the project was that an existing standards-setting procedure, extensively employed in other settings and test situations, could be adapted to set valid standards for the Saskatchewan project. This inevitably led to an examination of the literature from the United States, where minimal competency standards have been established for many state-wide criterion-referenced assessments. Ultimately, the single cut-off score as a standard associated with minimal competence was rejected. This type of standard fails to recognize a range of student ability, tends to undermine rather than reinforce curricula, and has the effect of disadvantaging children from impoverished and minority families when used in "high-stakes" decisions (Jaeger, 1989). Having a standard which provides multiple decision-making points or cut-offs was deemed more useful to teachers, administrators, and policy makers who make program decisions to meet a variety of student needs.

Second, the standard was to remain closely bound to the context in which it was set, and the collection of assessment instruments from which it was developed. The standard was to be derived by looking at

the specific pool of items used on tests, the Table of Specifications for the assessment, the scoring criteria and procedures employed, and the specific characteristics of Saskatchewan's population at the time the standard was set. Thus, the standards set for the 1994 PLA must not be viewed as "provincial" standards in reading and writing. They are the PLA standards for grades 5, 8, and 11 – the grade levels at which the assessment was administered in 1994. They were set in relation to the current pool of items, tasks, exemplars, and criteria used to determine knowledge, skills, and attitudes specified in 1993. Nevertheless, insofar as the 1994 PLA reflects a provincial consensus on those literacy behaviours and skills that students should possess, and until such time as the Department formally incorporates the performance levels in curricula, the levels will likely be perceived as functional standards for the provincial educational system.

This leads to a third and important assumption: although communication of the standards may not ultimately lead to improved provincial performance, students will respond to clearly delineated expectations, with detailed descriptions of criteria which are in turn linked to examples of challenging reading and writing tasks. At the same time, teachers will modify their instruction to conform to provincial curricular objectives in fostering these skills. Moreover, administrators will mobilize school resources to those ends, if the standards clearly articulate what is expected of students. The performance levels, in conjunction with the expectations assigned each, were thus designed not only to respond to questions of public accountability, but also to resonate in classrooms.

In this way, the standards would tangentially serve as a target to ultimately accelerate curriculum implementation. In Saskatchewan, assessment and evaluation are seen as integral to – not as appendices on, nor antithetical to – curriculum and instruction. If one designed an assessment project which was based on the foundational learning objectives in current and impending curricula, and if performance criteria were linked to these objectives, then the standards would reinforce curricular and instructional goals. As such, the standards would serve both as a fulcrum for moving the field toward provincially defined educational aims and goals, and as a means of enabling the province to calibrate its scoring and grading practices.

A fifth assumption follows closely on the above: even though the standards would encourage schools and school divisions to adopt provincial curricular and instructional goals, standardization would not

result. Instead of reporting only average performance, or minimally acceptable performance, the PLA would identify different standards or expectations for different performance levels. A variety of new and useful interpretations would be possible to facilitate a broader variety of educational decision-making. For example, test results indicated that only 2% of students reached level 5, top proficiency in organizing their writing, where the writing demonstrated a purposeful and effective order and arrangement of events, ideas, and details, whereas 11% were expected to attain this level. On the other hand, 6% of students achieved level 1 where the writing demonstrated an unclear or haphazard order and arrangement of ideas, events, and details, "exceeding" expectations of 5%. The message sent to students, parents, teachers, administrators, and policy makers would be clear: when only 2% of grade 11 students reach level 5 proficiency in their organizational skill in writing, considerable attention must be paid to improving this skill. While only 6% of students reach level 1, this is within the range of expectations; we will never be able to have the entire population reach a mastery level because of the circumstances in which youth are sometimes placed.

Indeed, the PLA did not assume that standards are synonymous with educational quality, an equation that is often made in the rhetoric of popular discourse. Elevating test standards, so the argument goes, will improve the quality of educational instruction. However, as the Quebec Ministry of Education discovered in 1986-1987 after raising the passing scores on its provincial examinations from 50% to 60%, one of the principal effects was to increase the drop-out rate from its schools (Maheu, 1995, p. 60). Raising the threshold for defining competence does not result in better educational outcomes for all.

#### *Who has responsibility for determining standards?*

Selection of judges has received insufficient attention in the standards-setting literature. Yet as many studies suggest, the validity of standards is directly related to the qualifications of the judges. One study states that judges should be drawn from those who possess expertise in the subject domain being assessed (Jaeger, 1991); others suggest they should be selected from those constituencies which have a stake in the application of standards (Hambleton & Powell, 1983). These different selection criteria are not always compatible (Bourque & Hambleton, 1993).

Because standards would be generalized across the province, and because Saskatchewan has a long tradition of collaboration among the

educational stakeholders, the Department decided that standards-setting activity should involve both educators and noneducators. Accordingly, letters of invitation were sent to the executives of the various stakeholder organizations, requesting delegates. General qualifications were a collaborative approach to decision-making, general experience in working with youth, and acceptance of purposes of the PLA program.

To set standards, a 26-member standards committee was assembled, consisting of representatives of the major education stakeholders who worked in three grade-level subcommittees. Balance was sought when designing the exact composition of each standards subcommittee, so that the various gender, geographic, ethnic, and stakeholder groups were represented, and so that their collective expectations might reflect those of the various constituencies in the provincial educational system. Each subcommittee included:

- Three teachers chosen to represent urban, rural, and northern school situations;
- One representative from the Saskatchewan Department of Education, Training and Employment (Curriculum and Instruction Branch);
- One representative of the Saskatchewan Teachers' Federation, customarily a teacher;
- One representative of the Saskatchewan School Trustees' Association, customarily a parent-trustee;
- One representative of the League of Educational Administrators, Directors, and Superintendents;
- One representative of a postsecondary institution such as the University of Regina or the University of Saskatchewan, and the Indian-Métis Education Advisory Committee; and
- One representative of the business community.

Aboriginal representation was included within each subcommittee's nine-member structure.

If there were initial concerns that the non-educators delegated by stakeholders to the standards panel would not have expertise in language arts and its issues, this apprehension was soon allayed. Those nominated were invariably former educators, were non-educator representatives on other curriculum reference groups, or were knowledgeable about language arts curriculum issues through work on school boards.

Thus, stakeholders selected representatives who had some experience or expertise in the subject area.

*Choosing a standards-setting procedure: Rationale and revision*

A number of criterion-referenced standards-setting procedures have been developed for use in many test situations. Berk's exhaustive 1986 survey of the field identified some 38 different methods. However, for the PLA program, the number of available options was restricted because of the characteristics of the assessment design. Some methods like the "contrasting groups method" or "the borderline groups method" (Livingston & Zieky, 1982) require identifying specific groups of students or identifying in some other way the academic performance of individual students. Because the assessment's purpose was to create a provincial profile of achievement through random sampling, and because the anonymity of participating students, teachers, schools, and school divisions was ensured, individual student information was not available for these methodologies to be employed.

Three other methods were ruled out because of the variety of items employed in the provincial assessment. Ebel's method (1972) involves asking judges to make two types of decisions about test items: 1) a judgment of each question's difficulty and 2) a judgment of its relevance or importance. Using these two different scales as axes on a matrix, judges then classify and group questions into the matrix cells, before estimating the percentage of questions that competent students would answer. On the other hand, Jaeger's method (1978) simply asks judges to consider each test item with a question about whether students should or should not be able to answer it. Nedelsky's method (1954) asks panelists to make judgments about potential response to multiple-choice questions. All three methodologies were unsuitable for the PLA program which uses extended open-response essays, multiple-choice items, and short-answer items; none of these methods could accommodate open-response questions.

The selected method, therefore, had to be flexible enough to accommodate a variety of item types, be adaptable for the task of setting multiple cut-off points so as to provide appropriate classification information for decision-makers, be easy to compute, be credible to lay people, be recognized in measurement literature as statistically sound, and be relatively straight forward in implementation. Two major reviews of standards-setting methods (Berk, 1986; Jaeger, 1989) both recommended the Angoff (1971) method as simultaneously meeting these require-

ments, while having the added credibility of being the most extensively used method in American testing programs.

When adapting Angoff's method for the Saskatchewan setting, however, three important changes were made. The first involved modifying the question. In his original formulation, Angoff asked judges to estimate the probability that a competent test-taker would answer the question correctly. Because of the apprehension that non-educator judges would not have sufficient direct experience with youth to make realistic estimates of student capability, and because the Department wanted a projection of the potential for Saskatchewan youth, the question was modified to use the word "should" instead of "would". Using this wording would define standards for desired performance, rather than simply identifying thresholds of actual student competence.

A second adaptation involved anchoring judges' decisions directly in examples of student work, rather than only in the test items, tasks, and performance criteria. Exemplars of student performances which illustrated each point in the scale were presented to judges, along with the criteria, so as to give both educator and non-educator judges a clear conception of the range of student ability and how the actual scoring criteria had been operationalized in the preceding scoring session. In this sense, the learning assessment involved two types of evaluative activity: the scoring judgments made by teacher-specialists in categorizing student performances and the standards-setting panel's subsequent judgment of overall student competence in the province for its strengths and weaknesses.

The third adaptation, however, highlighted a difference between these two phases of evaluative activity in the assessment program. The standards-setting exercise was designed to be a three-round iterative activity, to allow for judges to exchange opinions in a controlled fashion, to allow judges' opinions to stabilize for the sake of reliability, and to provide for an eventual consensus to emerge. Whereas the scoring session had demanded that a group consensus or interpretive community precede the assignment of mathematical scores according to the evaluative scale, the subsequent standards-setting session provided for the mathematical assignment of estimates to precede the emergence of a group consensus. Indeed, the standards-setting procedure anticipated quite divergent expectations to be expressed, and was thus not predicated on a *consensus ad idem* or meeting of minds. Consensus was a product of, not a prerequisite to, participation in the standards-setting process.

To merge the various estimates provided by judges, one of three mathematical methods of compromise had to be chosen: a mean, a median, or a trimmed mean. An average would enable the participating stakeholders to have a direct stake in the standard, but a mean is more susceptible to distortion by aberrant judges whose patterns of estimations might be inconsistent with others'. A median or trimmed mean, on the other hand, deliberately removes the extreme estimates and reduces the effect on the resultant cut-off scores. However, discarding the outlying estimates may be at odds with the inclusionary purposes of incorporating stakeholders in a standards-setting panel. For this reason, and because it "is well known that the sample median is a less stable statistic than the sample mean" (Jaeger, 1991, p. 14), particularly for a small sample, the average was chosen to combine the judges' various recommendations and to compute expectations for each of the five performance levels.

Standards were established for five dimensions of writing and five types of higher-order skills associated with reading, as well as for reading comprehension and writing as a whole, using the modified Angoff method. Standards were developed in three stages, with subcommittee members basing their judgments directly on actual student work and scoring criteria. Facilitators were recruited from among the scoring leaders and assessment designers to provide judges with insight into the construction of assessment items and their scoring.

First, the facilitator reviewed the reading or writing task, described the criteria used in scoring the item(s), and presented examples of student work at each performance level. This was a blind review. Actual results for the assessment were not divulged. The facilitator then asked, "In this skill area, which percentage of the regular stream school population should be able to attain each performance level?" Without consulting others, each member privately wrote down on a tally sheet his or her preliminary estimate of proportions of students who should have been able to attain each of the five levels. These estimates were collected, and a mean distribution was calculated and distributed to all group members.

In the second stage, judges were in turn invited individually to provide comments on the preliminary mean distribution. Comments were restricted to the nature or complexity of the task or questions, the criteria used for scoring student work, the examples of student work presented, and the attributes of the school population being tested. Once every

judge had spoken, a short discussion was conducted to allow additional viewpoints to be expressed. Members were then given the opportunity to revise their preliminary estimates in light of the insights and comments generated by the panel. The revised estimates were written down on a tally sheet, collected and averaged to produce a revised mean distribution.

The third stage was an informed review. Judges were given actual student results along with the revised mean distribution they had provisionally set as a standard. Each member was again invited in turn to provide comments on the committee's revised mean distribution. Having heard everyone speak, each member was allowed a second opportunity to revise privately his or her expectations in light of the comments made and the actual results presented. Tally sheets were collected and a mean distribution of the group's individual expectations was calculated to generate provincial standards for the reading and writing skill area under consideration.

#### *Issues in setting standards for the provincial LAP.*

When embarking on the provincial assessment program, new language arts courses were under development. A new curriculum had been developed and implemented in Saskatchewan schools at the elementary level, but was still on the drawing board for the middle years and high school levels when the assessment was designed in 1993. The Table of Specifications for the assessment had to strike a compromise between current curricula and blueprints for curriculum reform. This delicate balance between what is and what will be was reflected in the assessment design.

If the absence of expertise proved an issue for non-educator judges in setting standards for the 1990 American National Assessment of Educational Progress in Mathematics (Bourque & Hambleton, 1993), it was rather the level of expertise of non-educators in language arts curricular issues which was the source of some difficulty for a few judges in the Saskatchewan Provincial Language Arts Learning Assessment exercise. Nominees came to the table with questions about emphases in upcoming curricula, with questions about instructional practices, and with general questions about educational equity. These questions needed to be addressed. When these issues emerged in panel discussions during the exercise, some panel members were distracted from the main task at hand, that is, adjudicating student performance on the 1994 Provincial Learning Assessment in Language Arts.

The tension inherent in assessment design between curricular reality and curricular intent was also expressed in discussions around the question to which judges were asked to respond: "Which percentage of the regular stream Saskatchewan student population should be able to attain each of the five levels?" If the question of what students "should be able to do" asks for an estimation of student potential or description of idealistic expectations, the question of what students "would be able to do" describes student competence in light of current classroom realities. Considerable discussion revolved around the meaning of the term "should"; is it viable to set standards which describe student performance in optimal circumstances, or would it be better to define thresholds of acceptability given the educational system's current status? The former question may be best for the purposes of establishing baseline data and program enhancement, whereas the latter question may be more appropriate for public accountability purposes.

For a very few judges, the procedure itself, with its focus on producing percentage distributions, was artificial. Underlying their concerns was the perceived subjectivity of the judgments rendered, despite the performance data and examples of student work provided. Popham (1978) has described this oft-voiced concern succinctly: "Unable to avoid reliance on human judgment as the chief ingredient in standards-setting, some individuals have thrown up their hands in dismay and cast aside all efforts in setting standards as arbitrary, and hence unacceptable" (p. 168).

But Popham goes on to identify the *non sequitur* in this reasoning by providing two dictionary definitions of "arbitrary": "The first of these is positive, describing arbitrary as an adjective reflecting choice or discretion, that is determinable by a judge or tribunal. The second definition, pejorative in nature, describes arbitrary as an adjective denoting capriciousness, that is, selected at random without reason" (p. 168). In Popham's opinion, "when people start knocking the standards-setting game as arbitrary, they are clearly employing Webster's second, negatively loaded definition. But the first definition is more accurately reflective of serious standards-setting efforts. . . . That they are judgmental is inescapable. But to malign all judgmental operations as capricious is absurd" (p. 168).

Standards may not be objectively determined, but they can be objectively applied. Indeed, one of the primary purposes of setting standards is to provide for fairness and impartiality when making educational

decisions. That equitable application has been the heart of landmark legal rulings in the United States. The series of four court cases which comprise *Debra P. versus Turlington* were decided between 1979 and 1982 with reference to the Fourteenth Amendment guarantees of due process and equal protection. These state that: "No State shall make or enforce any law which shall abridge the privileges or immunities of the United States; nor shall any State deprive any person of life, liberty or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of laws". These constitutional provisions have been held by the American courts to provide protection to students for whom competency tests are used to make educational decisions. The American Fifth Circuit Court held that a state "may not constitutionally so deprive its students [of a high school diploma based on test performance] unless it has submitted proof of the curricular validity of the test". The Court further determined that "if the test covers material not taught the students, it is unfair and violates the Equal Protection and Due Process Clauses of the United States Constitution" (Jaeger, 1989; Gunn, 1982; Logar, 1984).

Canadian courts may turn to American judicial reasoning for guidance on these matters, as they have done in other recent school-related cases, because the Charter of Rights and Freedoms contains two provisions which are similar to American constitutional guarantees. Section 7 of the Charter states that: "Everyone has the right to life, liberty and security of the person and the right not to be deprived thereof except in accordance with the principles of fundamental justice". And Section 15(1) recognizes that: "Every individual is equal before and under the law and has the right to equal protection and equal benefit of the law without discrimination and, in particular, without discrimination based on race, national or ethnic origin, colour, religion, sex, age or mental and physical disability". In particular, the clauses setting out "principles of fundamental justice" and "equal benefit of the law without discrimination" suggest that educators may be subject to the same legal tests that have been used for defining the educational standards in American competency tests. Courts on both sides of the border have an historic posture of judicial restraint in addressing school-related issues, viewing them as the province of school officials. Yet the Charter may draw into question students' opportunity to learn the tested material, a test's differential impact with gender and ethnic groups, and the principles of fundamental justice when determining and applying standards (Hunter & Matthews, forthcoming).

Thus, equity issues are a central feature of any standards-setting activity, and the legal implications are important. Even though the provincial assessment was a "low-stakes" assessment involving random samples of students from which generalizations could be made about provincial literacy performance, the standards may be extrapolated to individual schools and school divisions for such "high-stakes" decisions as promotion. Legal sanctions might not apply to the original standards-setting activity, but become paramount depending on the use to which the standard is subsequently made. These questions place an added responsibility on those who undertake to define performance standards to ensure that the method is technically sound, and allows for due process.

### *How judges arrive at their decisions*

An element of due process is reasoned choice. A standards-setting method can be conceived as a formal mechanism for supplying judges with evidence on which they base their evaluations of student performance. The effectiveness of any procedure may depend on how efficiently it supplies the types of information setters need to make decisions reliably. Some procedures have been criticized because of their subjectivity; judges may have the sense that they are "pulling their probabilities from thin air" (Berk, 1986, p. 147), rather than making reasoned choices based on evidence. No studies have been published which examine the *ratio decidendi* of judges who have set a criterion-referenced standard.

At three points in the Saskatchewan process — after orientation but before the first stage of balloting, after the second stage of balloting, and after the third and final stage of exercise — judges were asked to rank order ten different types of information provided during the exercise as most and least useful in their decision-making. These types of information included:

- Descriptions of scoring procedures and criteria.
- The test questions and tasks.
- The standards or expectations expressed by the organization or institution the judge represented.
- Initial opinions and viewpoints expressed by other subcommittee members.

- Direct professional experience with youth including contact in the classroom, the work-force, or the personnel office.
- Group discussions which followed initial comments made by subcommittee members.
- Direct personal experience with youth, including assessment of their own children's abilities.
- Actual student achievement results.
- Statistical information, including indexes of difficulty for multiple-choice items.
- Examples of student work at each of the five performance levels.

Although the design of the standards-setting exercise did not allow individual judges' evidentiary bases to be partitioned out, broad patterns are evident when examining judges' overall ratings of the three most useful and three least useful types of evidence compared across the various stages of the Saskatchewan process.

Not surprisingly perhaps, the test questions and tasks, descriptions of scoring procedures and criteria, exemplars of student work, and direct professional experience were anticipated to be the most useful types of information before the actual exercise began. At the same time, approximately half of the judges ranked their sending organization's standards as among the least useful. Statistical information and direct personal experience with youth were the other two types of information most frequently anticipated as being least useful.

When surveyed after the second stage of the process, descriptions of scoring procedures, examples of student work at each of the performance levels, and direct professional experience were the most useful types of information on which judges based their estimates. Indexes of difficulty for multiple-choice questions, the anticipated student achievement results, and the standards or expectations expressed by the institution or organization each judge represented were consistently chosen, at this mid-point in the exercise, as the least useful evidence for basing probability estimates.

However, after the exercise, judges most frequently cited the test questions and tasks, and their direct personal and professional experience with youth as being the most useful in their decision-making. Deemed by judges before the session as being among the least useful, personal

experience with youth became among the most useful bases for making probability estimates by the end of the session. Statistical information, descriptions of scoring procedures, and the standards expressed by their sending organization were viewed as least useful. The examples of student work and the descriptions of scoring procedures and criteria had receded in perceived usefulness. Only seven of the 26 judges reported, after the exercise, that the actual student results were among the top three types of information they found useful in making their decisions.

What conclusions can we draw from these shifting viewpoints on evidentiary usefulness? First, the opinions of those incorporated into a standards panel did not seem to be shaped by the organizational agendas of stakeholders, either before, during, or after a standards-setting session. Second, while professional expertise with youth is frequently a basis for decision-making at all stages of the process, direct personal experience with youth, including assessment of one's own children and their capabilities, increasingly became a useful referent when offering estimates. The fact that group discussions and the opinions of others did not fluctuate, although they are consistently considered in the mid-range of usefulness, suggests that group exchanges do not significantly alter judges' opinions. But third, and most important, the statistical information, either in the form of item statistics or the actual student performance data, did not have a preponderate weight in shaping judges' final estimates. Taken together, the survey suggests that when making summative judgments of what students should be able to do, in describing student potential, judges will rely more on their personal and professional experience in light of the test questions and tasks, rather than on statistical evidence, evidence of student work, or actual student performance data that have been presented during a standards-setting session.

When asked to base their opinions in evidence, judges frequently and increasingly anchored them in previous experience rather than in information supplied directly by the standards-setting procedure. If that is so, the procedure used in Saskatchewan may have served to solidify individual preconceptions of student capability, rather than fundamentally change them in light of actual data compiled by the assessment. In other words, the controlled exchange of viewpoints and the careful presentation of documentary and statistical performance may have affirmed rather than substantially altered judges' pre-existing patterns of reasoning.

### *How standards should be reported*

In addition to unanswered questions about selecting judges before a standards exercise, and the reasoning processes of judges during an exercise, many issues remain about reporting standards after an exercise. The graphic display chosen can have an important impact in communicating results and expectations. For the Saskatchewan reports, two alternate displays were chosen to communicate results to two different audiences in a manner compatible with the varying purposes for the assessment.

TABLE 1. Grade 11 writing performance – overall

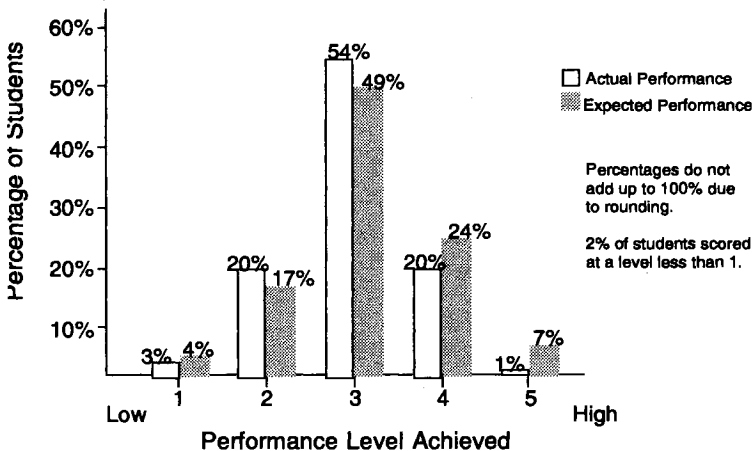
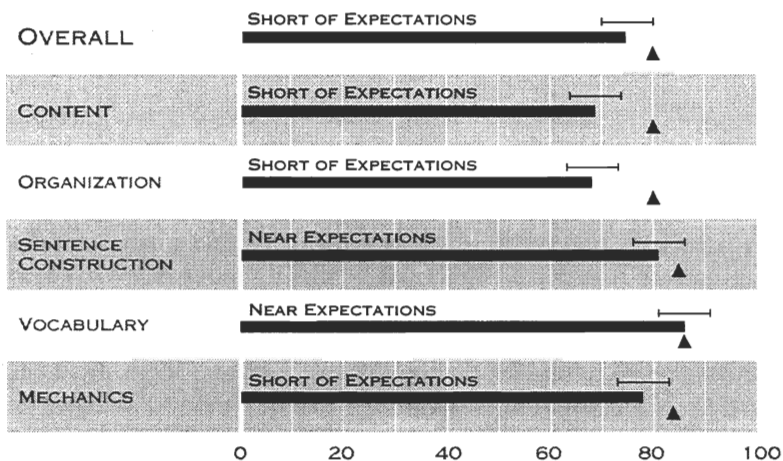


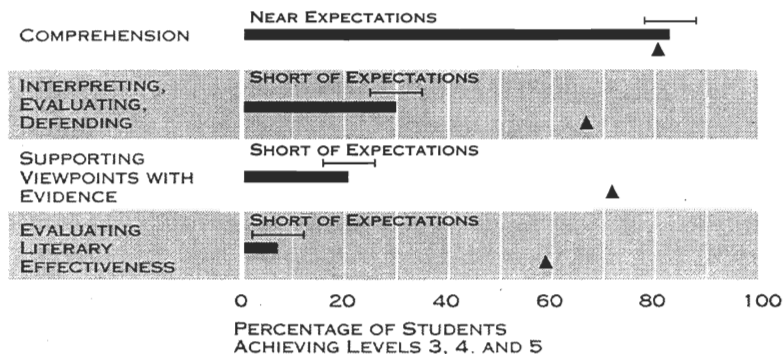
Table 1 illustrates the graphic presentation chosen for reporting results in a document destined for the educators. By presenting the individual expectations for each of the different performance levels, the table was designed to reflect closely the actual judgmental process employed in the standards-setting exercise. The intent was to convey the message that there is a range of acceptable performances consistent with the range of student abilities in a typical classroom. The actual performance data approximate the normal distribution of student ability while simultaneously suggesting that there is potential for growth in the upper performance levels. By stating expectations for each performance level, administrators and educators are given a variety of decision-making points for classroom groupings or streaming students into different programs. References to criteria for each of these performance levels, with examples of student work, would further serve to categorize and operationalize student achievement.

TABLE 2. Grade 11 language arts achievement in brief, 1994

## WRITING



## READING



■ ACTUAL PERFORMANCE      ▲ EXPECTED PERFORMANCE  
 — MARGIN OF STATISTICAL ERROR

Note - The margin of statistical error represents the percentage by which the results of the survey can be inaccurate.

Source: Saskatchewan Provincial Language Arts Learning Assessment.  
 Anticipated publication, Fall 1995.

While Table 1 may be most appropriate for program enhancement and monitoring student growth, Table 2 was explicitly designed for purposes of public accountability. As a condensation of grade level results for inclusion in the Saskatchewan Education Indicators Report, the graphic display was designed to be one outcome indicator of systemic performance. Modeled after that used for the Council of Ministers of Education, Canada's reports on the 1994 School Achievement Indicators Program, the display conveys in a more linear fashion the strengths and weaknesses of student performance in a range of literacy skills. At the same time, it illustrates the margin of error and the inherent imprecision of any large-scale assessment, which samples on a random basis, in order to qualify the sometimes uninformed opinions of non-educators about test results. Because the term "benchmark" has entered the popular lexicon of student achievement, a triangle was chosen to indicate the combined expectations for the top three performance levels. Implicit, then, in this aggregation is the notion that student performances at levels 1 and 2 are unacceptable, an assumption that did not underlie the original assessment design but which was a feature of the standards committee's discussions and decisions.

### *Conclusions*

Although British Columbia and Alberta have started to work in the area of standards-setting for criterion-referenced assessments, it is, for the most part, a pioneering activity in Saskatchewan and other provincial settings. While other jurisdictions will likely turn to models that have been devised in the United States with minimal competency legislation, significant adaptations will need to be made when transplanting them into Canada. A host of technical, legal, and reporting questions will have to be systematically addressed because the purposes for assessment programs, and the educational environment in which they will be conducted, are quite different than those in the United States.

Saskatchewan's experience with this pivotal evaluative activity suggests that stakeholders, including non-educators, can be meaningfully incorporated in a standards panel. The question which prompts these panelists in their standards-setting activity requires careful consideration, since the resultant standard may hinge on its exact wording. So too must the evidence on which both educator and non-educator judges make their decisions be carefully examined to determine whether the chosen procedure has abetted or inhibited reasoned choice (Kane, 1994). Neither this weighing of evidence nor the legal dimensions of

standards-setting have been sufficiently explored. To determine the reliability of judges' decision making, psychometricians have thus far concentrated on statistical analyses of judges' voting patterns, through standard deviations and indices of variability considering this as a measure of a method's trustworthiness. However, a method's effectiveness can also be viewed in terms of its efficacy in supplying useful data to participants. And finally, while the preparatory and procedural elements of designing an exercise are important, how one packages and communicates the product of an exercise also deserves systematic consideration.

All educators recognize that the product is an important lever of public policy and educational change. If national education standards are to be defined, the constitutional basis of standards-setting activities must be determined; the rights extended by the Charter of Rights and Freedoms and the extensive litigation in the United States, regarding the student's opportunity to learn material on which he or she is being tested, may be considerations if provincial ministries choose to use standards for high stakes purposes. Ensuring that the standards effect positive changes in curriculum and instruction for students, rather than distorting the educational agenda, will be the challenge for both policy makers and educators in the provincial and national arenas.

#### ACKNOWLEDGEMENT

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## BOOK REVIEWS

RATNA GHOSH *Redefining Multicultural Education*.

Toronto: Harcourt Brace, 1996.

\$16.95. 126 pp. ISBN 7747-32768.

Ratna Ghosh has redefined multiculturalism in ways that will please most of the "oppressed communities" of Canada. These include persons of colour, of minority languages – both nonofficial and (for most provinces) French. She does not claim the Quebec anglophones (her own language group) as oppressed or disadvantaged, for in most ways they are not. Ghosh also associates typical oppression with men, especially older, richer, unilingual anglophones of British origin. In short, some members from these groups set most of the policies for society. There are other less traditional markers of privilege. Much of this argument has been made before in connection with multiculturalism and social class and is now emerging as a major argument in human rights. Ghosh is more trenchant and scholarly than the usual writer of the genre and shifts the field of discourse to emphasize Quebec and racial minorities.

Ghosh does not emphasize the language dimension of multiculturalism – in my view, unfortunately. She virtually ignores religion. Her emphasis obscures the origins of multiculturalism, which owes much to the nonofficial language champions from the West during the official languages entrenchment. Some of these shortcomings were identified and analyzed by Quebec sociologists Guy Rocher. Ghosh chose not to redebate the field.

Her book interprets modern multiculturalism rather than imprisoning it in "the historical framework." Her brevity prevents a detailed reasoned "challenge" or even a substantial discussion of standard setting scholars of "conventional multiculturalism" like Jean Burnet, Sonia

Morris, Vandra Masemann, Karen Mock, and Glenda Redden. Her new vision has a human rights and/or antiracist interpretation which takes Ghosh into lands already explored by Frances Henry, Rosalie Abella, Evelyn Kallen, Freda Hawkins, Enid Lee, Mavis Burke, Sybil Wilson, and Marie McAndrew. The differences she offers are in the examples rather than a completely new interpretation.

Few scholars would grant Ghosh the claim that men have dominated this field in research, policy development, or the philosophical questions that set the Canadian educational agenda, although they have shared many of the debates. Also, much of the curricula stems from the women scholars and teachers that are mentioned above. Ghosh includes sexism in virtually every chapter but still fails to tie it clearly to multiculturalism. Instead, she demonstrates it to be an important dimension of human rights. Maybe the theme of her book is *human rights* rather than multiculturalism?

Ghosh has been misled in some of her statistical interpretations. The British influences have not virtually disappeared (except perhaps in Quebec) despite the voluntary claim of multiple ethnic allegiances. The question associated with ethnic identity was changed for the 1986 Census, leading to a drop of 4,000,000 in those claiming only British origins. But the interpretation of Canadian social preferences and cultural allegiances has become more complicated and more believable as a result of the new census construction. The change in sources of immigration to various parts of Canada, the general decline in birth-rate, and the difference of fertility for different ethnic groups and immigrant communities will make a difference if sustained over several generations.

Ghosh builds her most compelling argument through lucid writing and brevity. *Redefining Multiculturalism* is the best sociological interpretation for a quick read. It has a wealth of terminology that is easily accessible. It identifies most of the arguments in understandable terms. It will become a widely used handy reference for students and teachers. It can be used with examples to be supplied in almost any community. It carries a respectable concordance to the best of international sociological and pedagogical literature. And this fine book is inexpensive enough to be widely accessible.

DOUGLAS RAY *The University of Western Ontario*

**E.C. WRAGG** *An Introduction to Classroom Observation.*

London & New York: Routledge, 1994.

\$19.95. 136 pp. ISBN 0-415-096278

The strength of this volume rests in its very practical presentation amply illustrated with relevant check lists, educational transcripts, and numerous black and white photographs showing pupils and teachers interacting in classroom situations. Furthermore, the author sets an important tone and direction for the book as a whole when he notes, in the *Preface*, that "skillfully done, classroom observation can be a valuable tool for improving the quality of teaching; badly handled, it can be a menace." Visually, this volume is very appealing as the numerous charts, lists, transcripts, photographs, cartoons, illustrations, and diagrams are all interestingly spaced around a very readable running text.

Professor Edward Conrad Wragg, the Director of the School of Education at the University of Exeter, has divided this 136-page book into six succinct chapters that cover — in an introductory and yet thorough manner — the basic elements of classroom observation. This volume is not intended for the "expert" but is specifically designed to appeal to regular elementary and secondary classroom practitioners, teachers-in-training, and those who are just entering the profession.

Chapter one sets out the main benefits and some of the pitfalls associated with school observation, and Wragg does an excellent job in setting this often complicated and/or poorly handled task into a proper professional perspective. The next two chapters deal with quantitative and qualitative research/observation methods, respectively. The author is careful not to pass judgment on the validity of these two basic research methods and sets out, for the novice, how each can be effectively handled in the classroom. Both of these chapters are replete with numerous illustrations and classroom examples to illustrate the various points. Furthermore, keeping his primary audience in mind, Wragg is very careful in his use of book and article references and does not overload the text with bibliographic citations.

Chapter four, entitled "Classroom Observation in Context," deals with seven specific classroom contexts, such as, initial teacher training, in-service training, curriculum development, and teacher appraisal. Generally speaking, this chapter deals with the informal ways of observation that attempt to improve the quality of the teaching and learning in the classroom setting. The next chapter is devoted exclusively to the topic

of research in classrooms. While somewhat ironically noting the poor governmental and industrial funding available for appropriate local in-school classroom research, the author does point out that "classroom observation research can make a significant contribution to the improvement of teaching competence, especially if teachers and schools, as a matter of policy, research their own practice and act on their findings" (page 101).

The final chapter, the shortest in the book at only seven pages, is aptly subtitled "the dynamic school." In this closing appeal, Wragg reiterates his contention that effective and sustained classroom observation will improve the quality of classroom teaching, raise the educational awareness of schools, and generally improve the overall effectiveness of the teaching profession. To Wragg, classroom observation is simply not something that is done by a few folk on a whim, but is a necessary part of the professional life of all teachers and administrators and must become a part of each community school's ethos.

JON G. BRADLEY *McGill University*

THOMAS J. SERGIOVANNI *Leadership for the Schoolhouse:*

*How is it different? Why is it important?.*

*San Francisco: Jossey-Bass (1996).*

*203 pp. US\$28.95 (hard cover). ISBN 0-7879-0119-9.*

Imagine the following scenario: you are the leader of a cannon crew and your job is to hit fixed targets. You identify such a target, then carefully guide the crew to aim the cannon, and give the order to fire. If the landscape of schools approximated the image or mindscape of the cannon (or baseball) metaphor, existing theories and practices of school leadership that rely on these metaphors would be a success. As the school leader, the principal would effectively guide teachers to hit most of the educational targets. But what happens if you encounter constantly moving targets, or if you spot a more attractive target just as you are ready to give the order to fire?

Continuing in the tradition of John Dewey, Thomas Sergiovanni (1990, 1992, 1994, 1995) asserts that schools primarily consist of moving targets and that it makes little sense to base school leadership on the cannon or baseball metaphors. He sees the fashionable trends of educational reform of the last fifteen years as efforts to reinforce a mindscape that is incompatible with the school landscape. These trends are part of the problem rather than the solution. Instead, he proposes the surfing

of research in classrooms. While somewhat ironically noting the poor governmental and industrial funding available for appropriate local in-school classroom research, the author does point out that "classroom observation research can make a significant contribution to the improvement of teaching competence, especially if teachers and schools, as a matter of policy, research their own practice and act on their findings" (page 101).

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metaphor as a basis for building effective school leadership theory and practice.

In *Leadership for the Schoolhouse* Sergiovanni argues that the existing theories of school leadership – mainly imports from management and business, corporations, sports, military, and transportation organizations – inadequately serve the goals of education. These theories provide the relatively quick-fix, static solution of the firing cannon to the complex, fluctuating problems of schooling. The thesis of the book is condensed in the following: "It is not likely that much progress will be made over time in improving schools unless we accept the reality that leadership for the schoolhouse should be different, and unless we begin to invent our own practice" (p. xiv).

In chapter 1, Sergiovanni examines the theories of leadership including the Pyramid, Railroad, and High-Performance theories. The latter theory is particularly in vogue in today's school reform language. While it makes sense for business organizations to adopt these theories for inventing their practices, schools have the aim of creating moral, educated, and interconnected individuals and communities. He suggests that schools would accomplish this mission more effectively if leadership theories and practices were school-grown and relied more on the legacy of democratic rather than corporate values. In Chapters 3, 4, and 5 he differentiates between two distinct types of leadership: engineering and leading. While appropriate for corporations, engineering produces calculated ties among people and usually leads to loss of the unique character of schools. Leading a school is what can transform it into a moral community; an institution that binds people together according to shared values and ideas. Leading creates moral ties, pedagogy, and effective schooling.

In Chapter 9, the author presents what he perceives as the major misconceptions of imported leadership theories. He points out that schools are managerially loose and culturally tight, that excessively detailed planning scripts teacher's work in counterproductive and anti-educational practices, and that incentives and disincentives systems are misguided when important tasks in schools are neglected because they are not officially rewarded. Schools will change, he professes, if change strategies are norms-based, not rules-based. Rules-based change (direct supervision, standardized work, standardized outputs) produces simple change strategies, simple to moderate teacher behaviour, and complex management systems. On the other hand, norms-based change (professional socialization, purposing and shared values, collegiality and inter-

dependence) produces complex change strategies and teacher behaviour, and simple management systems. In his own words, with "rules-based approaches, change usually has to be imposed somehow. With norms-based approaches, change typically gets taken care of naturally as part of daily life" (p. 169).

In chapter 2, Sergiovanni proposes a set of standards for theory building in the schoolhouse. First, the theory and its language should be aesthetically pleasing and clear. Second, the theory should emphasize moral connections and common commitments, cultural norms rather than psychological needs, internal rather than external motivation, and community rather than self interest. Third, the theory should reflect constructivist learning principles on school organization, curriculum, and classroom life. Fourth, the theory should aim to transform the school into a place of inquiry where teachers solve problems and create professional knowledge together. Fifth, the theory should encourage school administrators, teachers, parents, and students to strive for self-management, individual responsibility, and moral interconnectivity.

In Chapters 7 and 8, Sergiovanni discusses how schools that follow constructivist principles – such as maximizing the teaching and use of generative knowledge, individualizing teaching and learning, connecting learning to the world outside school, setting up social norms that emphasize respect for others and sharing of ideas – establish the conditions for teachers and students to become active participants. In Chapter 6, he presents evidence that smaller rather than larger schools are compatible with constructivist principles of learning.

*Leadership for the Schoolhouse* runs counter to most of the current wisdom regarding leadership for school change. In contrast to organizational approaches focusing on impersonal concepts such as competitiveness and standardized outcomes, Sergiovanni offers an approach based on democratic and communitarian values. Although he recognizes the legitimacy of other formal organizations whose goals are the production of goods and wealth, he emphasizes that schools primarily ought to be moral and inquiring communities. This book makes a significant contribution to the debate over school leadership and change, and I recommend it to academics, administrators, teachers, parents, government officials, and members of the business community who would like to enlarge their perspectives on the issue.

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- Sergiovanni, T.J. (1995). *The principalship* (3rd. ed.). Needham Heights, MA: Allyn & Bacon.

## BOOKS RECEIVED

The following is a list of books received by MCGILL JOURNAL OF EDUCATION / REVUE DES SCIENCES DE L'ÉDUCATION DE MCGILL. Not all the books received can be reviewed; however, reviews of some of these books may appear in this issue or in future issues. We wish to thank all of the publishers who have sent us review copies.

Cameron, D. (1996). *Taking Stock. Canadian studies in the nineties*. Montreal, QC: Association for Canadian Studies. (PO Box 8888, Station Centre-Ville, Montreal, QC H3C 3P8). 238 pp. \$20.00. ISBN 0-919363-34-2.

Corson, D. (Editor). (1996). *Discourse and power in educational organizations*. Toronto, ON: OISE Press. (252 Bloor Street West, Toronto, ON M5S 1V6). 368 pp. \$29.50. ISBN 0-7744-0426-4.

Hern, M. (Editor). (1995). *Deschooling our lives*. Gabriola Island, BC & Philadelphia, PA: New Society Publishers (PO Box 189, Gabriola Island, BC V0R 1X0). 160 pp. \$17.95. ISBN 1-55092-283-1.

Jody, M., & Saccardi, M. (1996). *Computer conversations. Readers and books online*. Urbana, IL: National Council of Teachers of English. (1111 W. Kenyon Road, Urbana, IL 61801-1096). 194 pp. \$16.95 (NCTE members \$12.95). ISBN 0-8141-8011-3.

Milburn, G. (Editor) (1996). "Ring some alarm bells in Ontario:" *Reactions to the report of the Royal Commission on Learning*. London, ON: The Althouse Press. (Faculty of Education, The University of Western Ontario, 1137 Western Road, London, ON N6G 1G7). 182 pp. \$18.95. ISBN 0-920354-38-6.

Moffett, J., & McElhenry, R. (Editors). (1995). *Points of view: An anthology of short stories*, revised and updated. New York, NY: Penguin Group. (In Canada 10 Alcorn Ave. Toronto, ON M4V 3B2). 608 pp. \$6.99. ISBN 0-451-62872-1.

Phelan, P. (Editor). (1996). *High interest – easy reading. An annotated booklist for middle school and senior high school*, 7th Edition. Urbana, IL: National Council of Teachers of English. (1111 W. Kenyon Road, Urbana, IL 61801-1096). 115 pp. \$11.95 (NCTE members \$8.95). ISBN 0-8141-2098-9.

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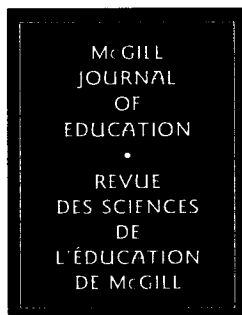
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*McGill Journal of Education* serves a distinct purpose and role in the field of educational research, theory, and practice in Canada. Its foremost purpose is to provide a window on developments in education in Quebec, where English education is conducted within a French-speaking milieu, and where French education is conducted in partnership with a large English-speaking minority. Because of this relationship, both English- and French-speaking universities contribute papers that reflect the developments in education from their own singular perspective. In addition, *McGill Journal of Education* serves as a Canada-wide and international forum for writers and researchers in diverse and unique settings to present their ideas and findings. No other education journal in Canada offers such a distinct contribution in the field of scholarly publishing. This journal, while celebrating the uniqueness of education in Quebec, solicits and values the scholarly research from an international audience, thus making it possible for scholars of international status to become acquainted with historical as well as recent developments in education in Quebec, specifically, and in Canada, generally.

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# TABLE OF CONTENTS

SPRING 1996 VOL. 31 NO. 2

- 117 EDITORIAL: COOPERATIVE EDITING *William M. Talley*
- 119 MULTIPLE INTELLIGENCES: PROFILING DOMINANT INTELLIGENCES  
OF GRADE EIGHT STUDENTS *Clifford Morris & Raymond LeBlanc*
- 143 ÉVALUATION DE LA MISE EN OEUVRE D'UNE INTERVENTION  
DE MENTORAT POUR PRÉVENIR L'ABANDON SCOLAIRE:  
LE PROGRAMME "PROMÉTHÉE" *Manon Théorêt*
- 159 STUDENT TEAM LEARNING IN MUSIC INSTRUCTION:  
RESTRUCTURING THE TRADITIONAL TASK-INCENTIVE SYSTEM  
*Bernard W. Andrews*
- 179 ADAPTING TO EXTERNAL ENVIRONMENTAL CONSTRAINTS:  
CLASSROOM TEACHERS' STRATEGIES *Y.L. Jack Lam*
- REPORT FROM THE FIELD**
- 195 SETTING STANDARDS FOR A PROVINCIAL LITERACY ASSESSMENT  
IN SASKATCHEWAN: PREMISES AND PROCEDURES  
*Darryl Hunter & Trevor Gambell*
- 215 BOOK REVIEWS
- 222 BOOKS RECEIVED
- Passim GRAPHICS *Clifford Papke*

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While references, notes, tables, graphs, and figures are necessary elements of scholarly research papers, they should be kept within a range which does not detract from or clutter the text of the article.

All submissions should be addressed to the Editor, *McGill Journal of Education*, Faculty of Education, McGill University, 3700 McTavish Street, Montreal, Quebec, Canada H3A 1Y2. (Telephone: 514 398-4246; Fax: 514 398-6968).

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Si les références, les notes, les tableaux, les graphiques et les figures sont des éléments essentiels des articles savants, il ne faut pas en abuser pour ne pas détourner l'attention du lecteur ou créer une impression de fouillis.

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