

Section 4: Strategies and Approaches for Learning

Glenda Bissex (1980), in Atwell (1998), says that “the logic by which we teach is not always the logic by which children learn”. This being so, it follows that appropriate strategies and approaches for learning are dependent on having a clear theoretical perspective on learning and on understanding the needs of the learner.

The strategies and approaches described in this section do not constitute an exhaustive list. They have, however, been selected because they support the principles and beliefs stated in Section I of this document and because, with varying degrees of accommodation, they can be incorporated into existing classroom structures in the province. These strategies and approaches are organized into three major categories: *Teachers as Learners*; *Teachers and Students as Learners*; and *Teachers, Students, and the Community as Learners*.

The *Teachers as Learners* category focusses on teachers as continuing learners. It examines teacher teaming, mentoring, and special interest/study groups as examples of ways in which teachers can learn from each other.

The *Teachers and Students as Learners* category examines the classroom as a ‘community of learners’ in which the teacher and students are full participants. This category is further subdivided into two sections: Integrative Approaches and Learning Groups. Integrative Approaches looks at resource-based learning, curriculum integration, and technology integration; Learning Groups deals with co-operative learning, classroom workshops, multi-age classrooms, multi-level instruction, mentoring, advisories, and exploratories.

The *Teachers, Students, and the Community as Learners* category examines ways in which learners in the community at large can become participants in the classroom/school ‘community of learners’.

Each strategy/approach in all three major categories is discussed under four headings: Overview; Links with Research and Benefits; Implications and Challenges; and Meeting the Challenges. The ‘Overview’ provides some background information on the strategy/approach; the

'Research and Benefits' section looks at supporting research; the 'Implications and Challenges' section explores some of the implications and potential difficulties in implementing the strategy; and the "Meeting the Challenges" section suggests some ways in which implementation might be facilitated.

Teachers as Learners

I invite them (teachers) to put their efforts into trying to elicit and understand someone else's explanation—to join me in practising teaching by listening rather than by explaining.

-Eleanor Duckworth (1987)

Teaching As Research: The Having of Wonderful Ideas

Teacher Teaming

Overview

Teacher teaming, as it is defined here, does not refer to the notion of two or more teachers working together in the same classroom. Rather, it refers to organizational structures that enable teachers to consult each other about students and/or the curriculum, to plan together, and to learn together. In other words, teacher teaming refers to the establishment of a 'professional community of learners' within the school.

According to Sara Coble Simmons (2001), teachers and schools traditionally have been characterized by isolation rather than by collaboration. Simmons states that:

The findings from research done by learning theorists and organizational experts show that people learn best through active participation and involvement and by reflecting upon and becoming articulate about what they have learned....This image of learning requires an expanded view of teacher development and demands an approach that encourages teachers to involve themselves as learners. Teachers must be engaged in the active pursuit of learning goals and must be provided with opportunities to combine experiential learning with content knowledge. Going beyond the mere acquisition of new skills and knowledge, teachers must deepen their understanding of the processes of teaching and learning. They must reflect critically on their practice and construct new knowledge and beliefs about content, pedagogy, and learners (p. 4).

In order to promote a collaborative learning environment for teachers, Simmons suggests that in-school organizational changes are necessary. These can include, for example; teaming and common planning times, interdisciplinary studies, grade level meetings, and study groups.

One example of teacher teaming, which is referenced by Kay Whitehead (2001) and attributed to the *Report of the Junior Secondary Review*, states that "middle schools should be organized as learning communities of up to eight teachers who work with the same cohort of students most of the time". This notion is described in more practical detail by Peter B. Grazier on the Web Site, www.Teambuildinginc.com. Grazier describes a visit to Charles F. Patton Middle School in which "812 students in grades 6–8 are broken down into smaller groups of 75–130. These groups are assigned to a team of 3–5 teachers who work together to teach the required subjects. Each team of teachers works exclusively with its group of students creating a more intimate teaching/coaching relationship....the rigorous curriculum and activities require the team to meet daily for 1–2 hours for co-ordination and planning".

Referring to *In the Middle: Schooling for Young Adolescents* (Schools Council, 1993, p.iii), Kay Whitehead cites the multi-disciplinary team as another example of teacher teaming. In this example, teachers co-operate with each other "in the planning, delivery, and evaluation of programs and activities to help avoid the fragmentation, duplication, and overlap that has bedevilled the middle years previously in some schools".

Links with Research and Benefits

According to Sara Coble Simmons (2001), "Fullan, Bennett, and Rolheiser-Bennett (1990) view the concept of 'teacher as learner' as the key element linking classroom improvement and school improvement, with the ultimate goal of increasing student engagement and learning". Simmons also cites Darling-Hammond, 1996; Hirsch, 1997; Joyce and Showers, 1996; and Lieberman, 1995 as supporting a broader view of professional development as "an integral part of the daily life within the school" (p.6).

Teacher teaming has many benefits, including the following:

- Teaming provides a strong support system which can encourage teachers to try new approaches and to take risks.
- When teachers plan and learn together, there are many more opportunities for sharing resources, information, and research.
- When teachers collaborate and share with each other in teams, they provide a model of co-operation for students.

- Members of teacher teams have an opportunity to observe others' strengths and to learn from them.
- A teacher team working with the same group of students can provide a secure environment for middle school students who need to have a sense of security.
- Interdisciplinary teams reduce the number of students that a single teacher works with. Teachers, therefore, get to know students needs and strengths better.
- Teacher teams facilitate student assessment and evaluation as well as reporting to parents because the team members can pool their information and observations on student progress. This enables more than one perspective to be brought to bear on student progress.

Implications and Challenges

If teacher teaming is to become a successful strategy to promote teacher collaboration and learning, it first requires the support of the school administration and staff. All have to see teaming as a viable and beneficial alternative to working in isolation.

Second, and equally as important, is the provision of time for collaboration, planning, learning, and reflection.

Meeting the Challenges

School administrators play a key role in supporting teacher teaming and collaboration. They need to provide opportunities for teachers to research and discuss the value of teaming. This requires an examination of school schedules in order to create time for teachers to work and learn together.

Sara Coble Simmons (2001) summarizes the ideas of several authors on creative ways of managing time in order to help with teacher collaboration. These include:

- weekly or monthly early dismissal days
- a delayed start of the school day once a week
- the use of teaching assistants, substitute teachers and others to release teachers
- teacher teaming that frees one teacher for a block of time
- common or shared planning times for teachers
- staggered teaching schedules
- block scheduling

Mentoring

Overview

Mentoring and teacher teaming are similar concepts in that both refer to teachers working and learning together in relationships that promote professional and personal growth.

Traditionally, mentoring has been seen as a one-way relationship between a skilled and experienced teacher and a newcomer, or between a skilled and experienced teacher and another experienced teacher who wishes to develop expertise in a particular area. In this document, mentoring is defined as the professional support and guidance one teacher, or a team of teachers, gives another teacher who may be a newcomer or a teacher in mid-career. This support may be formal (a program developed specifically for the purpose by the province, district or school), or informal (ad hoc and simply taken on by individual teachers either seeking help or offering it voluntarily).

On its web site, the Mentoring and Leadership Resource Network, an affiliate of the ASCD, includes a document that was developed by the Illinois Staff Development Council in April 1998. This document, in chart form, outlines the qualities of effective formal teacher induction (mentoring) programs. Many of the points apply equally to informal programs. Following is an adaptation of the ISDC chart:

The mentor :

- is a model of knowledge about the school, community, traditions, expectations, resources, and curriculum
- is an outstanding teacher whose students are all successful every day
- is a continual learner open to feedback
- collaborative, collegial, and desiring to improve

The mentor's roles and tasks include:

- guiding and directing the protégé through each job responsibility
- observing and coaching the protégé to reflect on and modify practices to improve student learning
- demonstrating and discussing the journey educators undertake together to be the best they can be

Mentor selection is based on:

- years of experience
- "people" skills
- willingness to help
- practical ability
- demonstrated effectiveness as a teacher
- ability to communicate clearly
- willingness to learn in front of others, think out loud, be vulnerable, and openly idealistic

Matching mentor and protégé is based on:

- geographical proximity
- similar grade level and job responsibilities
- common planning time
- mentor strengths in areas where the protégé needs help
- personal compatibility
- an expectation that different view points will accelerate the mentor's and protégé's learning and growth

The mentoring process is:

- a series of checklists to follow
- activities to accomplish
- knowledge to acquire and use
- a recurring cycle of planning, observation, data collecting, analysis, reflection, and revision
- a developmental model for teaching students and for professional relationships

Mentor training is focussed on:

- defining information that new teachers need to learn and planning who will do each of the tasks
- developing skills in conferencing, design of data collection tools, observation, data collection, and asking questions that prompt reflection and analysis
- strategies for surviving as a teacher leader, for turning negatives into positives, and for facilitating growth in others

Protégé training is focussed on:

- orientation to the district and school, to the expectations, and to the need to initially defer to the wisdom of the mentor

- the effective teaching model, its strategies and research base, the coaching model and expectations
- the continual learner concept and the district intent to professionalize teaching

On-going mentor support is needed for.

- reminders of tasks to be completed throughout the year
- practice and refinement of teaching and coaching skills and strategies, and communication skills
- practice and refinement of problem solving skills, retaining the vision, living out/modelling a learning community

Links to Research and Benefits

There is a wealth of literature on mentoring ranging from the documentation of need for mentoring programs, mentor selection, manuals for mentor training, frameworks for mentoring structures, and evaluative research on specific initiatives. There is also considerable related research, including the whole body of research on learning communities and teacher induction.

Sue E. Mutchler (2001), citing Little (1990), says that

Mentoring promises potential benefits in at least the following three areas:

- New teacher induction-to help transition beginning teachers into the classroom and acculturate them to the specific school and district setting in which they will work.
- Career enhancement-to provide an avenue for leadership, public recognition, and reward for skilled veteran teachers who serve their schools and districts as mentors, professional developers, and/or contributors to curriculum and instructional improvement.
- Professional development and program innovation to build capacity for school and district program innovation and to guide local education reform (p. 1).

Sharon Feiman-Nemser (1996) says that

by promoting observation and conversation about teaching, mentoring can help teachers develop tools for continuous improvement. If learning to teach in reform-minded ways is the focus of this joint work, mentoring will also fulfill its promise as an instrument of reform" (p.3).

Arlene Martin (2000) states:

In a true mentoring relationship, participants are capable of being transformed personally and professionally through risk-taking, empowerment, and vision change. Though transformation does not occur within every mentoring relationship, the potential to transform is possible. Growth is change. Change is risk. Taking risks empowers one to see in new ways, to try new things and change one's vision. Vision change transforms, and the transformative process achieved through mentoring is defined as transformational learning (Martin, 1998; Cranton, 1994; Mezirow, 1991) (p. 2).

Implications and Challenges

The National Center for Research on Teacher Learning (NCRTL, 2000) has been conducting a study on mentoring practices and the contributions of teacher mentors to newcomers to the profession. This study, entitled "Learning from Mentors" and led by Sharon Feiman-Nemser, has been conducted in the United States, the United Kingdom, and China. The study's initial findings raise several important implications and challenges related to mentoring. These include:

- **For mentoring to contribute to educational reform, it must be connected to a vision of good teaching.** Although mentor teacher programs are part of the current reform agenda in the U.S., mentor teachers do not automatically serve as a force for change. Their ability to do this depends on the kind of teaching they promote and kinds of professional norms they encourage.
- **For mentoring to be effective, it must be informed by an understanding of learning to teach.** An understanding of learning to teach includes a conception of what novices need to learn and how that learning occurs over time in the context of teaching. Mentors need such an understanding to create appropriate learning opportunities for novices, especially if they want to help novices learn new kinds of teaching.
- **Mentoring is more than a social role; it is also a professional role.** Mentoring is usually defined as a new social role for experienced teachers. But role definitions do not help mentors visualize what they are supposed to do. More helpful are clear statements of purpose linked to descriptions of specific mentoring practices in context.
- **Mentors need time to mentor and opportunities to learn to mentor.** While the time available for mentoring affects the quality of mentoring, mentors still need opportunities to develop their practice as mentors, especially if they are going to serve as agents of change. In particular, mentor teachers need opportunities to (1) critically examine their beliefs about teaching and learning to teach; (2) connect their practice as mentors

to novices' learning; and (3) discuss dilemmas and problems that arise in the course of helping novices learn to teach.

- **The professional culture of the school and broader national policies and values affect what mentors do and novices learn.** Cross cultural comparisons reveal how multiple contexts shape what mentors do and what novices learn... (p. 2).

Research and experience has taught us more about mentoring relationships. Successful mentoring programs are based on a number of underlying principles which, if they are to be held fast, will have specific implications and present particular challenges. Some of these principles are:

- Participation in the program is voluntary for both the mentor and the protégé. One cannot mandate effective collaboration; however there may be a phase of *contrived collegiality*, in the initial phases of the mentoring relationship to start the process.
- Mentoring requires special skills of listening, coaching, and reflective practice. These need to be recognized in the mentor selection process and once mentors are identified, mentor training should be provided. (Not everyone has the skills to be an effective mentor - some of the most exemplary teachers are not exemplary mentors.)
- The mentoring/protégé relationship is a non-evaluative one. While it may be difficult to categorically separate observation and evaluation, the protégé needs the security of knowing that asking for assistance is seen as a strength, not a weakness.
- To be effective, there needs to be a balance between informality (which brings with it a degree of comfort) and formal structure (which ensures that there is real ongoing support as opposed to "hit or miss" help). Clear expectations need to be articulated and a plan for scheduled mentoring meetings should be in place. The critical challenge here is time and opportunity to meet.
- Most effective mentors work in similar grade/curriculum assignments. However, in small schools with few staff members it is impossible to find a match in the school. The challenge is here

to determine whether it is preferable to have an on-site mentor who can assist with the reflective process or a curriculum or grade match in another school. Another model is the "mentoring mosaic" which would pair a teacher with a number of mentor partners for varying roles, recognizing that one mentor cannot possibly have all the answers to all the concerns which arise - personal, informational, curricular, etc.

Meeting the Challenges

While there is no doubt that informal mentoring of new and experienced teachers occurs quite often, formal mentoring will need more commitment both from mentoring teachers and school districts. School districts will need to develop guidelines and procedures for selecting mentors along with some professional development opportunities for mentoring teachers.

Time will remain an issue. Both districts and schools will need to consider how to provide the daily time needed for mentoring teachers and their protégés to plan, discuss professional issues, and problem solve. School administrators will have to be conscious of decisions they make regarding scheduling and classroom locations. Mentors and protégés will have to be resourceful and creative to find opportunities for sharing. The suggestions for solving time problems listed under "Teacher Teaming" would apply equally here.

Special Interest/Study Groups

Overview

Special interest/study groups consist of small groups of teachers who come together on an informal basis to discuss topics of common interest. Groups like this have been operating for many years in different regions of the province.

Ad hoc groups are formed to explore a variety of subjects which could include, for example: sharing of information and experience, discussing teaching approaches including implementation initiatives, discussing the implications of a recently published article, and discussing the successes and challenges of implementing a new or existing curriculum resource.

Special interest/study groups may be formed by teachers at a particular grade level or across grade levels according to the topic of interest or on any other basis determined by the members of the group.

Links with Research and Benefits

The research on this in one school district - District #3 - has been largely anecdotal. In one example from this District, a group of primary teachers came together to discuss classroom workshops and multi-age classrooms. The success of these meetings spread to teachers at other grade levels, and eventually the group expanded to include teachers at all levels of schooling. The group met for as long as it was seen to be beneficial and disbanded when the agenda no longer met everyone's needs. A second group in the same district consisted of a group of kindergarten teachers from a number of schools who met to share ideas and to discuss all aspects of the kindergarten curriculum.

Following are some of the benefits to be derived from ad hoc special interest/study groups:

- Teachers set their own agendas.
- Time frames are flexible.
- Groups come together and dissipate as the need arises or as needs are met.

Implications and Challenges

The timing of these encounters poses challenges for teachers who live and teach in outlying areas of the province. Attending after school meetings or evening sessions may be very difficult because of the distance from the location of the meeting.

Meeting the Challenges

To address the problem outlined above, the staff at district office could play a role in providing time for teacher sharing sessions. When in-service is to be provided, a block of time could be set aside for the sole purpose of sharing information on topics set by the teachers. This time would be used at the discretion of the group.

The Internet and the communication technology available today provide other options for the organization and maintenance of special interest groups.

Teachers and Students As Learners

At the Exploratorium, [Frank] Oppenheimer...had a provocative approach to learning, which can be summarized by saying that the best way to learn is to teach, the best way to teach is to keep learning, and that what counts in the end is having had a shared, reflected experience.

--Goéry Delacôte

Assessment Strategies

Overview

Section 3 of this document, "Theoretical Perspectives", cites J. Brooks, (1993) and Martin G. Brooks (1999) who describe five principles that define constructivist classrooms, among them the following statement on assessment:

Teachers assess student learning in the context of daily teaching. Constructivist teachers don't view assessment of student learning as separate and distinct from the classroom's normal activities, but rather, embed assessment directly into these recurrent activities.

From the above perspective, assessment must become more than an end-of-sequence evaluation and grade. Instead, it becomes important to gain an understanding of how students are thinking through such methods as observation, listening to students' discussions, holding conferences/interviews with students, reading students' written comments and reflecting on their learning, projects, portfolios and work samples. Below are brief descriptions of a few alternative methods of assessment. Some of these descriptions are adapted from the *Intermediate Evaluation Handbook* (2000) prepared by Avalon West School District.

Observation

Observation enables a teacher to assess performance or behaviour that is often difficult to measure otherwise. Informal observation is conducted discreetly as the student participates in various classroom activities. It gives the teacher information concerning student participation in small group activities, discussions, research projects, and problem solving; social interaction with peers; and completion of assignments. Formal observation is the deliberate observation of students for a specific purpose and can help a teacher determine student achievement of curricular outcomes. Such tools as checklists, rating scales, anecdotal records, and student-teacher interviews can assist in formulating observations.

Portfolios/Work Samples/Journals

The work sample file, portfolio, or journal can showcase a student's achievement over time. It should contain dated samples of a student's work collected from all subject areas over the course of the whole year. The student should be given an opportunity to select some of the samples to be included. The file may contain checklists of curricular outcomes in various subject areas, regular anecdotal recordings, summaries of student-teacher interviews, audio tapes of projects/presentations, rating scales, a student's reflections on learning, video tapes of performances or presentations, art work, and anything else that will fairly represent the student's learning over time.

Projects

Projects are formal assignments related to the curriculum. They provide students with opportunities to work co-operatively and independently while, at the same time, enabling students to acquire such skills as collecting, recording, and presenting information. They require a clear purpose, good planning, and careful monitoring. A great deal of teacher planning and guidance are necessary throughout the whole process.

Self-Evaluation

Self-evaluation provides an opportunity for students to reflect upon their own learning. It provides time to focus on what they are doing well and also to analyse areas in need of improvement. Self-evaluation can take several forms. It can be carried out by students following any activity. It can be an informal assessment done independently by the student as a written reflection, answers to guided questions, or completion of a checklist. This can be placed in the student's portfolio. To assist students with ongoing monitoring and analysis of progress, they have to know the purpose/s of activities as well as the expected outcomes.

Links with Research and Benefits

There is a great deal of research related to alternative assessment procedures and its benefits. Below, in summary form, are a few of the benefits:

Alternative assessment procedures enable students to:

- learn to become more reflective and to assume greater responsibility for self-evaluation
- feel free to learn because their ideas are valued
- ask more probing questions about their learning
- improve their ability to identify strengths and needs and to make decisions on how to improve

- recognize that there are many ways to go about solving a problem
- increase their self-confidence and self-esteem
- feel greater tolerance for others' ideas
- develop strategies for solving problems
- look less to the teacher for confirmation on the 'right way of doing things'

Alternative assessment procedures enable teachers to :

- understand more about how a student is learning
- see many more opportunities for assessing students' progress and achievement
- pose questions that encourage students to construct and share their knowledge and understanding
- see assessment as a process shared by both teacher and students
- accept that there are many ways of coming to know about a student's learning thereby encouraging respect for diversity

Implications and Challenges

For those who are accustomed to maintaining full control of the assessment process, making use of alternative processes and involving students more directly requires a definite change in thinking and in practice. It will require time, patience, and an opportunity to share understandings and practices with other teachers.

It will also require both district and school-based support for implementation. This support needs to involve not only time for professional development but also changes to school and district expectations and requirements for assessment and reporting.

Meeting the Challenges

Changing assessment procedures and processes can start in a small way rather than being seen as a major shift in expectations. It can start with discussions about readings, research and practices; meetings; and professional development at the school level.

Integrative Approaches

Resource-based Learning

Overview

The document, *Learning to Learn: Policies and Guidelines for the Implementation of Resource-based Learning in Newfoundland and Labrador Schools*, released by the Department of Education in 1991, presents two policy statements:

1. The philosophy of resource-based learning shall guide the development of the curriculum in the province of Newfoundland and Labrador and
2. Development of skills for life-long learning through carefully planned resource-based learning experiences will be an integral part of the instructional process (p. 4).

Definitions:

- Resource-based learning: Planned instructional activities based on student needs and curriculum objectives which actively involve students in the learning process through the use of a wide range of appropriate learning resources (*Learning to Learn*, p. 43).
- Learning Resources: All material and human resources which may be used to assist students in the learning process. Included are books, magazines, pictures, audio-visual programs, computer software, real objects, models, and people (*Learning to Learn*, p. 43).
- Learning Locations: The classroom is where most planned learning takes place. However, other parts of the school, the community, the local area are also important locations where students can learn about their world. (*Learning to Learn*, p. 12).

This approach has been used by many outstanding teachers throughout history. These teachers have supported learners in drawing from sources within themselves as well as from the world around them. Recent research such as the "Survey on Resource-based Learning" (www.ascd.org) and others support the validity of this approach.

Because of modern day dependence on information and technology, today's students must become more skilled at accessing and using information than students of past generations. Resource-based learning, because it involves students in actively seeking information through multiple resources, is a strategy that can help students develop the skills they need to become more 'information literate'. As well, this strategy encourages students to take ownership of their research and information-gathering thereby increasing their engagement with the learning process. It is constructivist in that students are given opportunities to construct their own knowledge as they solve the problems connected with finding, sorting, evaluating, and using information.

Links with Research and Benefits

There is a large body of literature and numerous web sites that provide information on resource-based learning. These include "The Role of the School Library in Resource-based Learning" (www.ssta.sk.ca/research/instruction); "Web-based Learning Resources Library" (www.outreach.utk.edu/weblearning); "Resource Based Learning: New Opportunities" (www.is.bham.ac.uk/publications/bulletins); and "Putting Resource-based Learning to Work" by Philip Cohen (www.ascd.org/readingroom/update/1995/1mar).

Implications and Challenges

Resource-based learning is dependent on co-operation and collaborative planning (teachers with teachers, teachers with students, students and teachers with the community). The development of inquiry skills through co-operation and collaboration fosters strong independent learning skills - skills that contribute to life-long learning.

Provincial curriculum guides of the last ten years have generally supported the policies and principles of resource-based learning. The student is an active learner; the teacher is a facilitator and learner who selects and uses the most effective instructional strategies to enable students to achieve defined outcomes" (*The Intermediate Levels Handbook* in draft form, 1996).

Resource-based learning is especially well suited for the young adolescent learner. Young adolescents are often 'seekers', but they can also be 'scoffers'. Sometimes they want to be alone; at other times, they want to be part of the group. Resource-based learning can be used to meet those changing interests and, thereby, provide the stability for learning needed during the intermediate years.

For resource-based learning to be effective, group interaction skills must be taught and practised from the very early days of school. Intermediate students who have had few experiences with such strategies as co-operative learning or independent research may find it difficult to adjust to the process. Without sufficient instruction in the routines and processes of resource-based learning, and without sufficient time to practice the skills needed, the effectiveness of this strategy will be diminished.

Meeting the Challenges

It may be argued that resource-based learning is a difficult strategy to utilize if there are insufficient resources in the school. It is important not to see resources only as print resources, whether in book or electronic form. Local field studies are good resource-based approaches. For example, in social studies and science, such places as Red Bay, L'Anse aux Meadows, Port aux Choix, Gros Morne National Park, Burnt Cape and such areas in other localities all have extensive resources that cannot be provided within classrooms. To make field studies at such sites effective, the teacher/facilitator must work with students to plan the study:

1. Visit the site in advance of a field trip. Work with students to compile a list of questions to research.
2. Work with students to develop a plan for on-site information gathering and recording.
3. Work with students to complete a post field trip analysis, synthesis, and report on the study.

Curriculum Integration

Overview

Curriculum integration refers to organizing curriculum to demonstrate that learning is connected; that the knowledge, skills and values of one discipline relate to those of other disciplines. It is interpreted in various ways and varies in practice. Ten levels of curriculum integration described by Fogarty and summarized by Kathy Lake (1996) are provided below.

Connected: Topics within a discipline are connected.

Nested: Social, thinking, and content skills are targeted within a subject area.

Sequenced: Similar ideas are taught in concert, although subjects are separate.

- Shared:** Team planning and/or teaching that involves two disciplines focuses on shared concepts, skills or attitudes.
- Webbed:** Thematic teaching uses a theme as a base for instruction in many disciplines.
- Threaded:** Thinking skills, social skills, multiple intelligences, and study skills are 'threaded' through the disciplines.
- Integrated:** Priorities that overlap multiple disciplines are examined for common skills, concepts and attitudes.
- Immersed:** The learner integrates by viewing all learning through the perspective of one area of interest.
- Networked:** The learner directs the integration process through selection of a network of experts and resources.

There are many variations and combinations of the above mentioned approaches and many different terms used to describe them. The key for teachers is to plan carefully to support the stated curriculum outcomes and to make sure that each subject area receives the appropriate depth of treatment regardless of the method of delivery. Connections must be meaningful and relevant. Teachers should evaluate their curriculum on a regular basis to ensure that it continues to be relevant, interesting, and effective.

Links with Research and Benefits

In terms of curriculum integration, consider the following:

- a means of dealing with a proliferation of knowledge and skills in subject areas (Drake, 1992) and provides more quality time for curriculum exploration (Lipson, 1993)
- makes sense to teachers at the grassroots level (Bean, 1991)
- students who are shown the inter-connectedness of school subjects begin to see the inter-connectedness of learning and life, and encourages depth and breadth in learning (Eisner, 1992; Lipson, 1993)

- promotes positive attitudes in students, and schooling becomes more relevant and purposeful (Lipson, 1993)
- has a positive impact on student achievement levels: learners retain and apply learning that is perceived to be useful and meaningful (Aschbacher, 1991; Greene, 1991)
- Roy Cole, principal of Musgravetown High and now principal of Clarendville High, won the Fortis Award for School Administrators largely as a result of the work done on interdisciplinary learning (1994). The team of teachers involved in that work included Lynda Morgan, Graham Keats (member of the Intermediate Working Group, now retired), and Lori Peddle (now teaching at Clarendville High)
- helps students apply skills (Lipson, 1993)
- leads to faster retrieval of information (Lipson, 1993)
- leads to a more integrated knowledge base (Lipson, 1993)

Implications and Challenges

Planning, managing and teaching a coherent, integrated curriculum has implications and presents many challenges including:

- developing collaborative/interdisciplinary teams
- devising plans and strategies to bring together similar or related elements from different disciplines
- ensuring that *discipline specific skills* such as number theory in mathematics, language conventions in language arts, notation in music, design in art, and physics principles in science are adequately addressed
- devising block timetables/flexible schedules that respect the requirements of the *Atlantic Provinces Essential Graduation Learnings*, the *Curriculum Outcomes*, *Curriculum Guides*, and the recommended *Time Allocations*.

Meeting the Challenges

The following are some suggestions for meeting the challenges of curriculum integration:

- Provide opportunities for teachers who are interested in making connections among subject areas to work collaboratively to design interdisciplinary/multi-disciplinary units or modules.
- Use the provincial database of curricular outcomes as a tool to identify outcomes across curricular areas which can serve as the basis for multi-disciplinary or interdisciplinary curriculum design. Use of the database as the first step in planning will ensure that outcomes are not excluded.
- Schedule subjects which lend themselves to curricular connections back-to-back on the school timetable.

Technology Integration

Overview

Technology integration at the school level has been of major importance since the release of the first personal computer in the 1970's. The past ten years have witnessed tremendous growth and expansion of computer and related technologies that can be employed to address a wide range of needs and wants by students and teachers at all levels of schooling.

"Technology is human innovation in action that involves the generation of knowledge and process to develop systems that solve problems and extend human capabilities...technology is how humans modify the world around them to meet their needs and wants or to solve practical problems." (International Technology Education Association, 2000)

Technology integration involves the planned and deliberate use of technology resources to enhance and complement the teaching-learning process.

The *Technology in Learning Environments: Enabling Tomorrow's Learners Today* (TILE) (Department of Education, 1994) document stated the following about technology integration:

"In order to achieve the technology integration goal of enabling students to become productive, technologically literate citizens, the K-12 education system will:

- develop a technologically enriched curriculum which promotes active learning, develops links to multidimensional work and life situations, and expects students to share responsibility for their own learning;
- use information and communications technologies to develop global learning strategies;
- use technology to expand the concept of the classroom beyond the traditional physical and intellectual walls by creating links to other cultures, other opinions, and to other concepts of time and place;
- provide learners and educators access to the expanding worldwide information resources and knowledge bases;
- use a variety of real-time and time-shifted interactive information and communications technologies to create home/school/community links; to expand notions of learning, of who constitutes the learning community, and the learning time; and to increase/improve collaboration between/among learners, educators, and parents;
- develop an infrastructure/infostructure which provides learners, educators, parents and the community with access to appropriate and timely information and services. This system will integrate the learning community with the provincial/national infrastructure/infostructure;
- encourage learners to take responsibility for their own education by developing a community concept of lifelong learning;
- engage the entire education community in identifying, comprehending, developing, and implementing a continuous improvement process in education"

<http://www.stemnet.nf.ca/DeptEd/Program/TILE/enabling.html>

Links with Research and Benefits

The International Society for Technology in Education (ISTE): The leading organization for educational technology professionals has developed a set of National Educational Technology Standards (NETS) to be attained by American students. Part of the NETS goals and objectives includes a section addressing the technology needs of students:

"Our Education System Must Produce Technology Capable Kids:

"To live, learn, and work successfully in an increasingly complex and information-rich society, students must be able to use technology effectively. Within an effective educational setting, technology can enable students to become:

- Capable information technology users
- Information seekers, analyzers, and evaluators
- Problem solvers and decision makers
- Creative and effective users of productivity tools
- Communicators, collaborators, publishers, and producers
- Informed, responsible, and contributing citizens"

<http://cnets.iste.org/quote.htm>

The TILE Report. Technology in Learning Environments states that technology provides opportunities for:

- **Multi-sensory delivery:** By involving multiple sensory channels, students with various learning styles can assimilate and apply knowledge.
- **Increased Self-Expression and Active Learning:** New technologies provide stimulating environments that encourage student involvement in the learning process.
- **Critical Thinking:** The use of new technologies promotes higher-level thinking skills.
- **Cooperative Learning:** The use of technology makes learning more student-centred, encourages cooperation, and increases interaction.
- **Communication Skills:** Communication skills can be enhanced by using technology in small groups

and integrating telecommunications into the curriculum. Also, technology can enable students with disabilities to overcome barriers.

- **Multicultural Education:** Email offers a more convenient, less expensive method to link students with vastly different backgrounds and build cultural bridges.
- **Individualization:** Students can learn at their own rate in a nonthreatening environment.
- **Motivation:** Technology can make learning exciting and relevant.

Implications and Challenges

The TILE document (Department of Education, 1994) outlined some of the opportunities to be gained by technology integration:

- increased student achievement
- literacy in a technological environment
- improved educational effectiveness

Some of the overall critical success factors that were identified in the document included:

- technology must be seen as an enabling force
- technological literacy must be seen as a PD issue
- must have flexible/effective resource allocation
- ownership/leadership issue must be resolved
- must develop project champions/change agents

Technology Integration must be viewed as a continuously evolving process at the school level. Challenges, some of which are outlined in the critical success factors, include the provision of:

- ongoing teacher professional development and training
- adequate technology infrastructure at the school level (Cabling / Internet Connectivity / furniture)
- ongoing technical support
- computer hardware and peripherals
- computer software
- effective access of technology resources by students and teachers. (Computer Networking)

The integration of technology into the teaching and learning process is also evolving:

- There has been a tremendous increase in technology-related **teacher training** and in-service.
- There is a strong trend toward the use of **multimedia** in education. Multimedia instruction can be loosely defined as educational programs integrating some, but not necessarily all, of the following media in an interactive environment controlled by a computer: text, graphics, animation, sound and video.
- Large numbers of professionally created multimedia titles, targeted for educational use, are appearing on CD-ROM.
- Many powerful but user-friendly authoring systems and multimedia tools are becoming available.
- Students are beginning to acquire multimedia skills earlier in their schooling.
- There also a strong trend toward the use of **networking** in education. Networks are computers that are connected by cables, telephone systems, or satellites to provide enhanced communication and research capabilities.
- More schools are connecting to on-line information sources using high-speed telephone or cable lines.
- Important skills for students now include the ability to utilize technology to access, analyze, filter, and organize multidimensional information sources.
- Remote collaboration on projects via the Internet will become more common and educationally beneficial.
- New authoring systems, which allow nonprofessionals to create multimedia materials that others can access over the Internet, will become available.

Meeting the Challenges

Many of the challenges posed by technology integration at the Intermediate level can be met through the acquisition, deployment, and maintenance of appropriate educational technology resources, and, through effective professional development initiatives for the teachers that employ the resources. More specifically,

- Schools will require computer hardware and software resources that supplement and support

the attainment of curriculum outcomes.

- Schools will require reliable and high speed access to the Internet to avail of the resources outside the school's intranet.
- Teachers will require professional development in the area of technology usage, and more importantly, in the area of effective technology integration.
- Technical support must be available at the school level to ensure the technological infrastructure remains functional and beneficial to the teaching-learning process.
- Strategic distribution of the technology resources will ensure maximum access by all students and teachers.

Learning Groups

Co-operative Learning

Overview

Cooperative Learning is a classroom strategy which involves organizing students into teams of generally not more than four members who work towards a common goal while simultaneously ensuring that they are each accountable for their own performance and realizing that they are dependent on one another to successfully complete the task. Kagan (1998) has refined Cooperative Learning such that it has become less intricate and rigid in its implementation. The *new* Cooperative Learning, according to Kagan, involves four basic principles which must all be present in the group dynamic in order to be truly successful.

FOUR BASIC PRINCIPLES (PIES)

POSITIVE INTERDEPENDENCE

The success of each team member is dependent on the success or contribution of each individual and the success of a team is not possible without the success or contribution of each member. All team members have the same goal but the task is structured such that it cannot be completed individually.

INDIVIDUAL ACCOUNTABILITY

There are two types of accountability: reward and task. Students can be made accountable by having each student receive a grade (reward) on his/her individual portion of the project or task, by having each student responsible for a unique portion of the task, or by having a rule that the team may not contribute to the next stage until the initial stage(s) are completed by each team member.

EQUAL PARTICIPATION

An essential question to ask to ensure that there is equal participation in a class or during a co-operative is *"What percentage of the class are active participants at any one time?"* There are two essential elements which will help ensure equal participation: turn allocation and division of labour.

SIMULTANEOUS INTERACTION

Students are active participants when they are given equal time simultaneously to contribute to the completion of a task.

Link with Research and Benefits

In terms of co-operative learning, consider the following:

Students

- can achieve the key stage outcomes and general curriculum outcomes prescribed by the Department of Education
- develop a positive self-image
- learn about themselves through their interaction with others
- become aware of their strengths and needs
- want to be appreciated by the members in their group
- learn to function better in a group by learning to praise, negotiate, encourage, listen, use quiet voices, share, take turns
- become more active and responsible for their own learning since everyone must contribute something
- learn and put into practice cooperative abilities
- adopt a positive attitude in terms of values, respect for others, sense of responsibility, solidarity, and empathy
- learn to know their classmates better since they don't interact solely with the teacher
- teams of four are ideal. There are three categories: heterogeneous, homogeneous, and random
- students should view the task/project as worthwhile or of interest

Where to Begin

- students must have the desire to co-operate; therefore teachers must use team building and class building structures/activities in order to facilitate this.
- teachers will be required to use a variety of classroom management tools to effectively implement co-operative learning in their classrooms.
- students will need to develop listening, conflict resolution, and peer tutoring skills in order to effectively work as a team. Kagan (1998) offers structures which will facilitate this development.
- the instructional strategies which teachers use determine how students will interact over the content. There are numerous strategies developed by Kagan and others which contain the PIES and which will ensure successful co-operative learning.

Meeting the Challenges

Following is an example of one procedure that can help to meet the challenge of establishing co-operative learning in the classroom:

1. Define or state the outcome/s.
2. Choose one or more structures/activities to match the stated outcome/s.
3. Design the lesson.
4. Ask the following four questions:
 - Will the teams feel better about working together?
 - Will students have interacted with classmates other than their home teams?
 - Will students have learned something they didn't know before and be able to demonstrate this?
 - Will students have had an opportunity to enhance their thinking skills?
5. Make any necessary modifications for the questions in phase four.

6. Following is an example of a possible plan:

Topic: Poetry
Outcome: Students will write a poem.

Plan for the Lesson:

Modeling: Students listen to a poem.
Think-pair-share: About the theme of the poem
Jigsaw: Four different poems per group with each person choosing one.

New group formed based on poem chosen.

Students find partner within second group.

Students read poem in order to be able to talk about it.

Partners pair to make an expert group in which they share thoughts on the poem.

Students meet back with base group to share poems.

Team Discussion: The four poems are discussed and consensus reached on the poem that seems most relevant to students' interests and experiences.

Simple Project: Present poem to whole class in a manner that allows all group members to participate.

Simple Project: The group creates a poem with the same theme.

Independent Writing: Students write their own poems.

Classroom Workshops

Overview

The classroom workshop is premised on a constructivist philosophy of learning. Teachers who use classroom workshops acknowledge that students enter the classroom with prior knowledge and experiences. Their construction of new knowledge is dependent on their prior knowledge and experience and this will vary among individuals in the class.

A classroom workshop is a student-centred approach to teaching and learning. Student voice and active engagement are key ingredients in any classroom workshop.

There are four major components to a classroom workshop:

1. **Mini-lesson**

The mini-lesson is a short, usually ten minute, time for demonstrating and explaining such matters as routines and procedures, content, and skills. It usually takes place at the beginning of a workshop, but can be done any time during. Mini-lessons can be provided for large groups, small groups, or individuals. Mini-lessons can also be done at times when the teacher happens upon a 'teachable moment'. This keeps the learning relevant and connected for students.

2. **Activity Time**

During this time, students are actively engaged in the learning. They may be researching answers to questions, doing a science experiment, problem solving in mathematics, or writing. Collaboration is encouraged among students during the activity time. The teacher takes on the role of facilitator and moves around the room ensuring that students receive the help needed and that they are focussed on their learning.

3. **Sharing**

After sufficient time has been spent on the activity, students meet as a whole class group and are encouraged to share completed work or work in progress. What is shared will depend on the nature of the activity. It may consist of how a mathematical problem was solved, a discovery in science, or a significant part of a story in language arts. The

sharing time is very important to the structure of the classroom workshop since it allows for students to get feedback from their classmates and to celebrate each others learning. It also gives the teacher opportunity to informally assess how students are doing. To ensure the greatest success during sharing time, it is essential for the teacher to attempt to create a secure classroom community of learners who are not afraid to take risks. Discourse is encouraged.

4. Reflection

During reflection time, students think and talk about their learning. They reflect on such questions as : Did I achieve the goal/s?; What did I learn?; What are my strengths and needs in this area? The reflection time is fundamental in terms of having students take ownership for their own learning and helping them develop the skills needed to assess their own progress.

Links with Research and Benefits

There is considerable literature available on the topic of classroom workshops. Perhaps the best known resource is Nancie Atwell's *In the Middle: New Understandings About Writing, Reading and Learning* (1998).

Classroom workshops are beneficial to all learners regardless of age. There are many reasons for this, among them:

- students learn best when they are actively involved in their learning and physically interact with their environment
- students develop a deeper understanding of things when they are encouraged to construct their own knowledge as opposed to blindly memorizing and repeating the ideas of others
- students benefit from choice, both as a motivator and as a mechanism to ensure that they are working at an optimum level of understanding
- students need time and encouragement to reflect on and communicate their understandings
- students need considerable time and experience to construct knowledge

Implications and Challenges

The classroom workshop approach/strategy is workable regardless of the classroom structure. It works best, however, when the teacher can meet students for longer periods of time since a longer block of time allows for greater engagement in the activity. If the school schedules 40–50 minute blocks of time only, classroom workshops are more difficult to operate successfully.

Meeting the Challenges

Many schools support teachers in their use of classroom workshops by providing double periods where possible. Other schools attempt to incorporate a *home room philosophy* which ensures that one teacher gets to spend a considerable part of the day with a particular group of students.

In setting up a classroom workshop with a group of grade 7 and 8 students, June Abbott of School District #3 found that they were leery of the concept at first. As time went on and students became familiar with the classroom organization, they gradually became more comfortable. Students at this level were not accustomed to having a voice in their learning and it took some getting used to. They did not view the activities done in class as 'work'. The students, through involving themselves in the classroom workshop, became very engaged in their learning. The high level of engagement was evident in the nature of the discussion, reading, responses to reading, and problem solving that occurred with minimal teacher direction. The classroom became an exciting place for learning for both the students and the teacher.

Multi-age Continuous Progress Classroom

Overview

The *Multi-age Continuous Progress Policy Handbook* (draft, 2000) for School District #3 defines multi-age continuous progress education as follows:

Multi-age education is a classroom organizational structure in which students of two or more age levels work together. In their everyday lives, students interact with people of all ages. Their lives are enriched by the many experiences they have and by the relationships they develop. Multi-age education is a natural and

logical extension of students' home environments. Multi-age education is based on a belief that students will benefit from a learning environment that values diversity. In a classroom in which there is a wide range of ability, students' contributions to classroom life strengthen both their academic and social experiences.

Characteristics of a multi-age continuous progress classroom:

- Students of different ages and abilities learn together.
- Students stay with the same teacher, when possible, for more than one year which gives time for the teacher and students to get to know each other well. Also, teacher-parent communication is enhanced because parents get to know the teacher well.
- Students become familiar with the routines of the classroom so there is an easy transition into a new school year.
- Siblings are encouraged to learn together in the same classroom.
- Because grade level boundaries are blurred, students' learning is not confined to grade level expectations.
- Students have many opportunities to be leaders and mentors.

Links with Research and Benefits

Research on multi-age continuous progress education reveals that:

- "Multi-age classrooms are 'socially and psychologically healthy places' because they promote students' friendships and provide extended contact with adults and peers of varying ages" (Pratt, 1983).
- "Students in nongraded (multi-age) classrooms fare as well or better than students in single-graded classrooms on standard measures of achievement" (Gutierrez and Slavin, 1992; Pavan, 1992; and Miller, 1990).
- Bruce Miller (1989) reviewed studies comparing graded and multi-age programs. He concludes that multi-age classes are as effective as single-grade classrooms in terms of academic achievement. (Miller, B.A. 1989).
- Wendy Kasten and Barbara Clark (1993) state that "most studies found that multi-age grouped students performed better academically, both in reading and math". (Kasten, W.C. & Clarke, B.K. 1993).
-

- Northwest Regional Educational Laboratory's research shows that multi-age classrooms have benefits in addition to academics:
 - Compared to students educated in traditional graded arrangements, those in nongraded settings have more positive attitudes toward school, classmates, and teachers as well as higher self-concepts as learners and higher general self-esteem.
 - Notable behavioural outcomes of nongraded grouping include greater social and leadership skill development, better school attendance, and markedly lower levels of aggression and anti-social acts.
 - Nongraded grouping decreases the incidence of retention and improves relationships between parents and school personnel.
 - Nongraded settings are more congruent than single grade groupings with the kinds of curricular content and learning activities that are developmentally appropriate for young children.

Implications and Challenges

Following is a list of factors that influence the level of success of a multi-age continuous progress classroom:

- having supportive parents who have been well informed and actively involved
- having a flexible principal who is supportive and understands the change effort
- providing ongoing staff development which includes the whole staff working together
- having co-operation and communication among all stakeholders
- having active school board and Director support
- having a flexible and well-organized plan co-operatively developed well in advance of implementation
- using open-ended teaching strategies such as hands-on science and math, whole language, and co-operative learning to ensure success
- having teachers who are enthusiastic, flexible, and open to change

- having teacher teams situated in close proximity to one another and given time for mutual planning and collaboration
- having an understanding and belief in multi-age instruction as a tool for addressing and respecting the diversity of students' development and learning.

Meeting the Challenges

While all the above factors are critical, it is possible to have successful multi-age classroom without some of them. In one teacher's personal experience with a multi-age 7 and 8 class, the following factors were a key to success:

- a teacher who understands how students learn and who is willing to try new things
- a supportive administrator
- open communication with parents
- a teacher who values differences in students and communicates that message clearly to them
- a teacher who works hard to establish a community of learners who have a voice in their learning

The above factors will help ensure that students become engaged in their learning and make the necessary connections between life inside school and life outside school.

Multi-level Instruction

Overview

Multi-level instruction (also referred to as adapted/differentiated instruction) allows for different types of learning within one lesson plan. The focus will be on accepting multiple outcomes, along with different ways that students express their learning. It is built on the premise that all students, regardless of skill level, can be accommodated through flexibility and the use of a wide range of instructional strategies.

Links with Research and Benefits

In terms of multi-level instruction, consider the following:

- allows for different kinds of learning within the same lesson

- allows for the inclusion of all students in a meaningful way - true multi-level instruction will contain a definite purpose for every student
- accepts the wide range of diversity as a natural component of every classroom
- incorporates co-operative learning among students as a way of meeting the specific outcomes for any given lesson (Collicott, 1991; Johnson and Johnson, 1989, as cited in Roeher Institute, 1992)
- requires minimal training
- allows teachers to incorporate students' learning styles
- encourages the evaluation of students on an individual basis
- requires a more individualized and student-directed approach to learning (Collicott, 1991; Porter, 1991, as cited in Roeher Institute, 1992)
- allows students to move beyond the knowledge and comprehension levels of Bloom's Taxonomy—using this taxonomy is also a way of involving all students at all levels of thinking
- consists of strategies that can be used across the curriculum rather than being situation specific
- emphasizes the importance of high expectations for all students (Asch, 1989; Lezotte, 1989, as cited in Roeher Institute, 1992)
- allows students to choose their own methods for demonstrating their learning
- complements the process of outcomes based instruction
- allows for different kinds of learning within the same curriculum (Biklen, 1985; Collicott, 1991; Porter, 1991, as cited in Roeher Institute, 1992)

Implications and Challenges

Keep the following points in mind for implementation:

- challenges teachers to become facilitators and to move away from teacher-controlled lessons and classrooms
- requires teachers to possibly restructure current classroom practices and procedures
- obliges teachers to accept that differentiated participation may require adapting how each student participates

Meeting the Challenges

This process, as outlined by Collicott, uses a four-step approach to assist teachers with lesson planning:

- Identify the underlying concepts.
- Determine the teacher's method of presentation—teaching style, questioning techniques, partial participation.
- Determine the student's method of practice—allowing for variation in assignments based on Bloom's taxonomy, different presentation modes, and partial participation.
- Determine the method of student evaluation taking into consideration different levels of skill and accepting a variety of evaluation procedures.

Mentoring

Overview

Mentoring, a concept that has been used for numerous years, can be defined as *a relationship based on one person helping another reach a ...goal.* (Goff and Torrence, 1999) It involves *encouraging and guiding the personal growth and development* of another. (Campbell-Whately, 2001) The 1991 New York State Mentoring Program Training Manual defines mentoring as *a supportive one-to-one relationship between an adult and a child to facilitate the child's educational, social, and personal growth.* (J. Terry, 1999)

The functions of a mentor include being:

- a supporter and active listener
- a facilitator and a coach
- a source of encouragement
- a role model
- a friend and confidant

(Adapted from American Counseling Association, Feb 1999)

Mentoring programs are recognized throughout North America. There are chapters of the National Mentoring Program in every province in Canada. This program also includes *peer helping* and *coaching* components.

A form of mentoring already exists in many of our high schools through the co-operative education courses and peer counselling programs.

Links with Research and Benefits

There is considerable research available to support the effectiveness of mentoring programs in the school system.

Although the intermediate level has not been the focus of these initiatives, it is well worth examining their viability at this level. It is a supportive means of addressing the needs of a diverse population. Mentoring:

- helps give students a sense of direction and allows them an opportunity to expand their horizons (Barton-Arwood et al., 2000)
- provides opportunities to form supportive relationships (Barton-Arwood et al., 2000; J. Terry, 1999)
- enhances self esteem and confidence (Barton-Arwood et al., 2000; Campbell-Whatley, 2001)
- is a promising approach for students who need individual attention (J. Terry, 1999)
- helps students establish goals and aspirations (J. Terry, 1999)
- can be tailored to learning styles (Campbell-Whatley, 2001)
- results in increased knowledge and skills (Barton-Arwood et al., 2000)
- results in an improved social network (Barton-Arwood et al., 2000)
- is a viable approach to targeting the needs of students with academic and behavioural challenges (Campbell-Whatley, 2001)
- can engender community involvement and cooperation (Campbell-Whatley, 2001)
- increases student motivation, increases ability to resolve conflicts and results in more positive attitudes (Campbell-Whatley, 2001)

Implications and Challenges

The complexities of some learning environments can make implementing mentoring programs a challenge:

- screening mechanisms must be established to identify suitable mentors (e.g., criminal checks, references)
- a flexible school schedule is needed to enable students to participate
- a teacher training plan that focusses on the concept of mentoring and how it can connect to student learning and social development is needed
- promotion of mentoring to the community is needed in order to get full participation and support
- allocation of teacher time may be needed to permit out-of-school events and supervision,
- financial and material resources necessary to implement the program need to be addressed
- matching the needs of the mentee with a suitable mentor requires consideration
- for some high-risk students, it may be difficult to find a mentor with the requisite skills
- sustaining the relationship between a mentor and a mentee in a situation that requires a long period of time is often difficult

Meeting the Challenges

Some of the following may be helpful in implementing mentoring programs for students.

- Create partnerships with local high schools. Someone at the high school can mentor someone at the feeder school. If there is no high school in your community, consider linking or networking with a school that uses mentoring.
- Contact a national organization that promotes mentoring. It has expertise available to those wishing to establish mentoring programs and can be reached through a web site such as www.peer.ca/peer.html.
- Begin small and build on successes. A possible starting point may be peer counselling programs in

high school, in addition to teacher mentors within the intermediate grades.

- Recruit a bank of volunteers within and outside of the school community and categorize them based on time available, sector of society such as corporate or post-secondary students.
- Focus on students who are most in need.

Advisory Programs

Overview

The National Middle School Association (<http://www.nmsa.org>) defines an Advisory Program as an arrangement whereby one adult and a small group of students have an opportunity to interact on a scheduled basis in order to provide a caring environment for academic guidance and support.

A daily block of school time also incorporates administrative details, recognition celebrations, and various other activities including silent reading, impromptu discussion, mini sports competitions in the gym, sign making, classroom decorating, computer searches, self portraits, storytelling, birthday celebrations, drawing and the like. Such activities help to develop positive relationships between teacher and students.

Links with Research and Benefits

A growing body of research including Simmons and Klarich, (1989); MacIver and Epstein (1993); Zeigler and Mulhall (1994); Midley and Urdan (1995); and the National Middle School Association Report supports advisory program objectives. The research claims that advisory programs provide students with opportunities to display leadership skills, participate in problem solving situations, practice appropriate social skills, disclose personal issues, receive advice regarding options to solve day-to-day problems, mediate between academic and social concerns, and much more.

Implications and Challenges

Like any other session with students in a school day, the following must be taken into account:

- individual learning/teaching styles
- teacher comfort level with change
- group dynamics
- individual classroom management skills
- normal discipline issues

- student willingness to participate
- time restraints
- age appropriate activities

Meeting the Challenges

Some school advisory programs have replaced the home room concept. It is usually a scheduled block of time (10–15 minutes) at the beginning of each school day. When creating advisory groups, small numbers work best. If every teacher on staff serves as an advisor, the load is shared evenly and more students are better served.

In essence, the advisory program should be seen as a relationship to be nurtured between teacher and students rather than as a curriculum to be covered.

Exploratories

Overview

Exploratories include the varieties of ways of enriching and extending the learning environment so that all students can be challenged to reach their full potential. Exploratory programs also provide opportunities for students to pursue interests and develop talents. While exploratories often extend curricular options, they also complement and support various curricular goals and outcomes.

Exploratory programs utilize the innate curiosity of young people as a medium to expose them to a broad range of academic vocational and recreational options. The exploration can last for several days, a week, a month, a full term, or half the school year depending on how the school decides to organize the program.

Exploratories could include independent study projects, foreign languages, music, public speaking, photography, journalism creative writing, mini-courses, consumer education, student governance, sports, painting, community service, and many other examples.

Links with Research and Benefits

There are many benefits to be gained by involving students in activities that they choose themselves and that are of interest to them:

- They facilitate the development of student and teacher interests and talents.
- School becomes more meaningful for those involved because the participants take ownership of learning that is authentic.

- Students can learn to apply their interests, knowledge, creative ideas, and task commitment to a self-selected topic and to the development of a product or a service for a real audience.
- There is a great possibility that students can develop more positive attitudes to school and to learning as well as greater confidence and self-esteem.
- Students can develop self-directed learning skills in planning, organization, time management, decision making, and self-evaluation.

Scales (1991) suggests that there are six developmental needs that must be addressed by any school that attempts to meet the needs of adolescents. They are:

1. Positive social interaction with adults and peers
2. Structural and clear limits on physical activity
3. Creative expression
4. Competence and achievement
5. Meaningful participation in families and school
6. Opportunities for self-definition.

The opportunity to explore topics and activities that would not normally be covered extensively in the curriculum can address all six of the above developmental needs. In fact, the implementation of an exploratory program in schools often leads to the development of talents and skills that would not otherwise be realized since students may not have another outlet in which to exhibit those talents.

Scales (1991) suggests that a growing number of young people are "at risk of being unprepared and unsuccessful in the modern social and economic world" (p. 3).

These growing numbers of students 'at risk' accentuate the importance of helping young adolescents form coping strategies, develop a positive self-image, and a social support system.

Implications and Challenges

Causes for the decline in beliefs, values and self-esteem among young adolescents can be explained in part by the fact that school settings often do not meet the developmental needs of young people.

On the one hand, young adolescents have an increasing need for autonomy, a growing orientation to peers, a concern about social acceptance, an increased need to resolve identity issues, and an increased tendency toward an egocentric view of the world. On the other hand, these attributes are often at odds with those traditional middle/intermediate schools which are characterized by fewer opportunities for decision making, choice and self-management, whole class practice, and positive teacher-student relationships.

Many of these concerns can be addressed through the introduction of exploratory programs in schools. Implementation, however, will not be without difficulty. In order for schools to offer exploratories, it will be necessary for school and community to work together to identify individuals who can offer enriching experiences for students.

Small schools will face an even greater challenge as the fewer numbers of staff members and community resource persons will limit the variety and size of offerings available. Regardless of the limitations, however, students will benefit tremendously from efforts to offer an exploratory program in a school.

Meeting the Challenges

Before exploratories are implemented in any school, there are some issues that will need to be considered:

1. the commitment and involvement of teachers and students
2. administrative support
3. parental involvement and approval
4. school scheduling and time-tabling for the activities
5. financial considerations for extra resources

It would be useful to conduct interest inventories at the beginning of the school year for both students and teachers. This is valuable in planning for particular kinds of activities.

A school-wide enrichment team can be established to assist classroom teachers in planning exploratories; to develop a compendium of resources—human and material—that might help in planning particular activities; and to help oversee and manage any school-wide events such as clusters or minicourses.

Below are four examples of exploratories from among the many possibilities with a brief explanation for each. These examples were adapted from *Enriching the Prescribed Curriculum: A Handbook for Schools*, a handbook prepared and used by School District #3.

Schoolwide Enrichment Clusters

Enrichment clusters allow students and adults who share a common interest and purpose to come together for given periods of time. Students who share common interests are given the opportunity to meet in non-graded groups to pursue their interests during specially designated time block with a product or a service as a focussed outcome. This may happen once a week, once a cycle or at any other time the school decides is best. Usually, though, clusters are offered during an extended block of time from one hour to one-half day per week for as long as interest remains high.

Clusters place a premium on the development of creative productivity. Common goals make co-operation a necessity, and divisions of labour within the clusters allow for differentiated levels of expertise and involvement, varying levels of challenge, and opportunities for different types of leadership to develop. Clusters may include such activities as desktop publishing, newspaper publication, theatre, video production, music composition, inventions, puppetry, volunteer work, woodworking, art, outdoor education, and photography.

Minicourses

Minicourses are intended to introduce students to topics of personal interest. Courses may range in time from a few hours to several weeks. Time may be built into the school day or take place outside the day, depending on how the school wishes to operate them and on the availability of resource persons. Instructors can be drawn from universities, technical schools, the business community and the community at large. The topics for study in minicourses are as limitless as students' interests and the availability of instructors and may include such things as outdoor education, canoeing, skiing, creating a web page, graphic design, oil painting, printmaking, or music composition.

Independent Study

Independent study provides opportunities for individuals and small groups of students to participate in activities of their own choosing. Projects may flow directly from the prescribed curriculum or from student interest. The independent project is an opportunity for students to pursue a special interest in greater depth.

An independent study is student-directed rather than teacher directed so that the student begins to work with the teacher as a partner. With support and coaching, the student learns how to decide on a focus, how to develop a plan of action and follow it through, and how to monitor the process. The process of preparing for an independent study can best be accomplished through the use of a contract or a management plan in which the student records the steps needed to complete the project and also includes a time line for completion.

Scheduled Short Courses

Students select a short course from among those offered for the month, the term, or the year. Courses are usually based on the available expertise within the school's staff. They may include areas of interest, expertise or hobbies such as painting, photography, fly-tying, guitar or some other musical interest, journalism/creative writing, folklore, map and compass, electronics, computer programming, and software applications. The list is only as exhaustive as the knowledge, expertise, and willingness of staff members to participate.

Teachers, Students, and the Community as Learners

The truth is that in many communities, the real saviors of schools are the staff and community. Well-functioning schools generally reflect a strong sense of ownership, responsibility and leadership from the community as well as from the ranks of teachers, principals, and other long-term employees...

-Larry Leverett,

Superintendent of Schools
in Plainfield, New Jersey

Overview

This section deals with some of the ways in which teacher-student-community partnerships can promote improved learning for students and stronger ties among all those who have a stake in education.

According to the George Lucas Educational Foundation (2001):

Children learn best when the significant adults in their lives—parents, teachers, and other family and community members—work together to encourage and support them. This basic fact should be a guiding principle as we think about how schools should be organized and how children should be taught. Schools alone cannot address all of a child's developmental needs. The meaningful involvement of parents and support from the community are essential.

This teacher-student-community connection is a collaborative one in which all partners recognize common goals and contribute to the process as equals. Therefore, it is *not*, as Sandra L. Christenson, in "Supporting Home-School Collaboration", states:

- parents only in schools as volunteers who are directed by the school's agenda
- parents serving on advisory councils and educators not listening to their needs
- parent-teacher conferences that are a one-way exchange of information
- school to home contacts when a student is failing
- the availability of programs sponsored by non-school organizations in the schools
- parent education programs determined by educators to be important for parents

Home-school collaboration is not the delivering of services to parents. Home-school collaboration is the establishment of a mutual goal between educators and parents to create an ethos for learning. Home-school collaboration occurs when parents are seen as key resources who work to improve their own children's education and the education of all children (p. 1).

Epstein (1992), cited in Christensen (no date), "developed a well-researched model of home-school collaboration that is characterized by six types of activities" that require a planned implementation process over a three to five year period:

Type 1—Basic Obligations of Families refers to the responsibilities for their children's health and safety, parenting and child-rearing skills at each age level, and positive home conditions for learning at each grade level. Educators must be sensitive to families' customs and cultures and provide information with the understanding that families differ in their energy, time, knowledge and skill level for applying the information.

Type 2—Communication from the School refers to the responsibilities of schools for communications from school to home about school programs and children's progress in forms and words all families can understand and for options for home-to-school communications.

Type 3—Volunteers refers to those who assist teachers, administrators, and children in classrooms, parent rooms, or other areas of the school; to those who assist at home; and to those who come to school to support student performance and events....Volunteering by parents in schools is a traditional form of parent involvement and one which schools value highly, but because of parents' working schedules, requires educators to alter their practices slightly. Also, it is important to differentiate volunteering from establishing a shared responsibility for children's learning.

Type 4—Learning Activities at Home and Connections to the Curriculum refers to parent-initiated, child-initiated, or teacher-initiated ideas to monitor, discuss, or assist children at home on learning activities that are co-ordinated with children's class work.

Type 5—Decision Making, Committee, Advocacy, and Other Leadership Roles refers to parent participation in decisions in PTA, advisory councils, other committees or groups at school, or independent advocacy groups...Successful home-school collaborative efforts often use the Type 5 activity.

Links with Research and Benefits

Type 6—Collaboration and Exchange with Community Organizations refers to school actions and programs that provide or co-ordinate student and family access to community and support services. Also, collaborations with businesses, cultural organizations, and other groups to improve school programs for children and services for families to support their child rearing and guidance of children as students are included (p.,10).

Shields (1994), cited in "Critical Issue: Constructing School Partnerships with Family and Community Groups", (NCREL, 1998), stresses the "importance of including families and the community in school reform efforts":

This vision of school improvement compels us to create a new conception of the appropriate relationship between the school and its community, parents, and families. Pedagogically, as we have come to know the importance of rooting learning in children's real lives, we can no longer tolerate the artificial boundaries between the classroom and the home. Politically, as we move the authority for decision making down to those closest to children, we cannot afford to exclude parents and the community members from the process of crafting new schools. Nor can we avoid being held more directly accountable to the immediate community constituency for decisions made at the school site. Practically, schools have no chance of enacting the fundamental changes on the reform agenda in the absence of whole-hearted support from the entire community—parents, citizens, and business (p., 6).

The NCREL (1998) also list such research studies as Henderson & Berla, 1994; Ballen & Moles, 1994; and Epstein, 1995; all of which support the notion that there are many benefits to be gained from a broader family—community involvement in education. Among these benefits to students are the following:

- higher test scores and grades
- better attendance
- more completion of home assignments
- more positive attitudes and behaviour
- higher graduation rates
- greater enrollment in higher education
- more opportunities for meaningful, engaged learning
- greater ability to make connections between the school curriculum and the skills that are required in the real world

The preceding benefits are further documented in such research literature as Henderson, 1989; Walberg, 1984; Sloane, 1991; and Keith, Keith, Troutman, Bickley, Trivette, and Singh (in press).

While much of the research literature focusses on benefits to *students* of community involvement in education, educators and the community also benefit. Parents and the community come to better understand the educative process, learn more about how children learn, take a more direct role in the decision-making processes in the schools their children attend, and themselves contribute to the learning process. Teachers have opportunities to learn more about students' lives outside school and benefit from the professional support and understanding that can come from a collaborative relationship with parents and the community.

Implications and Challenges

Lintos (1992), in Christenson (no date), identifies barriers to parents and educators.

For parents:

- feelings of inadequacy
- previous bad experiences with schools
- suspicion about treatment from institutions
- limited knowledge about school policies, procedures or how to assist with schoolwork
- economic (e.g., transportation, daycare)
- emotional constraints (e.g., daily survival)

For educators:

- educators' commitment to parent involvement
- dwelling on family problems (e.g. "These parents have too many problems of their own to get involved.")
- crises oriented or negative communication with parents
- stereotyping parents as uneducated or dysfunctional
- lack of training in ways to work with families as partners

Other barriers:

- limited time for communication
- frequency of ritualized contacts (e.g. parent-teacher conferences, back-to-school nights)
- differences in parent-professional perceptions
- lack of funding
- lack of clarity about parents and educators roles and responsibilities (pp., 3-4).

Meeting the Challenges

In *Critical Issue: Constructing School Partnerships with Families and Community Groups*, the NCREL lists many "action options" that can help address the challenges of establishing strong school–community relationships, among them:

- Learn about the development and implementation of parent and community involvement programs and how creating new relationships with families, parents and communities supports learning and makes school more relevant to students' lives.
- Offer professional development to school staff on communication skills, using volunteers in the school, and home visiting.
- Convene an action team comprising parents, family members, teachers, other school staff, community members, and students to brainstorm ideas for family and community involvement, implement programs, and determine next steps for improvement.
- Develop a needs assessment to determine the needs of the school, students, and families.
- Make a point to introduce school policies and programs to families at the beginning of the school year.
- Establish two-way and on-going communication between school and home. Such communication might include introductory and year end letters to parents and students, notes for keeping in touch, telephone communication, and classroom newsletters.
- Create a parent centre or place in the school that parents and families can call their own. Equip it with comfortable furniture, a phone, a coffeepot, and resource materials.
- Provide opportunities for families and the community to visit the school.
- Offer workshops to parents and families on school-related issues as well as parenting issues.
- Use special programs and practices to involve families at the school. These might include workshops, programs to promote family involvement at the secondary level, or informal social gatherings.

- Encourage parents and community members to share their skills and experiences with students as part of classroom activities.
- Reach out to engage community groups (such as service organizations, churches, cultural organizations), social service agencies, and businesses in true collaboration on behalf of children and families.
- Regularly assess family involvement efforts using questionnaires, telephone interviews, meetings, and discussions to learn which efforts are most productive and to improve those that are not (pp., 7–9).

