"A CASE STUDY OF CURRICULUM LEADERSHIP AND DEVELOPMENT WITH A GLOBAL PERSPECTIVE"

by

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ABSTRACT

In April, 1990, a team of teachers at General Wolfe Elementary School, Vancouver, B.C., began the planning and design of an interrelated curriculum with a global perspective. The implementation of the interrelated grade 6 and 7 curriculum, named "Wolfe's E.Y.E.S. (Elementary Youth Earth Studies)", commenced in September, 1990.

During the 1990-1991 school year, the teaching team concentrated its efforts on cross-curricular approaches to develop a practical infrastructure that significantly connected skills and content from the various curricular domains. Their eclectic reworking of the school's existing curriculum models to include a global perspective provided opportunities for the team to gain professional knowledge within the context of their own classrooms.

The problems addressed in this study are: What does the infrastructure of the global curriculum look like; and what were the roles of the practitioners in the context of this curriculum development?

This study is a unique-case description of a site-developed curriculum initiated by a team of elementary teachers. This recording of their first year of collaboration is derived from their planning notes, daybooks, unit plans, files, yearly previews, journals, photographs and audio and video tapes. The purpose of this document is to present evidence of curriculum leadership and development in global education.

This study consists of descriptions of the global curriculum and the team's leadership roles, followed by a two part comparative analysis using elements indicating effective curriculum leadership and development. The study concludes that indicators of effective curriculum leadership and development are present, that the team's work has influenced the school's culture, and that practising elementary teachers can assume leadership in initiating curriculum change.

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CHAPTER ONE

INTRODUCTION TO THE STUDY

A Glimpse of the Future.

A fairly large body of literature exists on the philosophy and strategies for developing curricula with a global perspective (see Algers & Harf, 1986; Hanvey, 1982; Kniep, 1986; Leestma, 1979; Pike & Selby, 1986; for discussions of this work). However, within that literature, there is a surprising lack of information on translating the philosophy of global perspective curricula into interrelated, practical classroom experiences for early intermediate students. The literature also reveals little evidence of cooperative efforts between elementary specialists to develop interdisciplinary studies with a global perspective. Given the global issues with common ground in all disciplines, and more than a decade of scholarly endeavours, it is odd that in Global Education there is not more evidence of teacher collaboration in curriculum designs linking content areas.

Recently, there has been a recognition that the global challenges of the present and future are of such magnitude and complexity that interdisciplinary cooperative action in problem-finding and problem-solving is not only desirable but is increasingly necessary (Gang, 1989; Meyers, 1990; Suzuki, 1990). Leestma (1979), stated that a global perspective was the most urgent common challenge now confronting educators, and urged that the scope of efforts be widened and the pace of development be accelerated. If, as educators, we accept the premise of the need for interdisciplinary action by future global citizens, then we also must accept the challenge of working together as specialists-in-the-field to prepare our students through their studies to live and make decisions as global crises evolve throughout their lifetimes.

While the literature argues the need for a global perspective in curriculum design, it rarely documents specific case studies of curriculum leadership and development in global education. This study contributes to knowledge by presenting a unique case study of the first year of a locally developed global curriculum.

Rationale for the Study

The intent of this case study is to offer educators an example of local curriculum leadership and

development in global education. Instead of building content studies around specific global issues, teachers may be able to effectively relate issues across disciplines as proposed in the literature. Teachers with expertise in specific content areas could suggest ways to address issues from their disciplinary perspectives. Professional consultation facilitating interdisciplinary studies of issues might lead to collegial cooperation and team teaching. It is the process of the design and implementation of global curriculum combined with the elements of professional leadership that this investigator hoped to define and document in this study.

The Underlying Theoretical Perspective

The underlying theoretical perspective for this study is the Bradley Community Curriculum Change Model (Bradley, 1985). This model was chosen because of its compatibility with the holistic philosophy of global education, the collaborative process, and the inclusion of community components. The Bradley model focuses on how leadership and development come together in curriculum design and implementation within communities.

From his research in curriculum leadership and development, Bradley has described indicators present in successful curriculum implementation. He has selected ten indicators each for curriculum development and leadership which he suggests are common across disciplines. Bradley's model provides an annotated checklist of the indicators his analysis has shown to be significant in curriculum leadership and development.

The teaching team selected examples from their work that they felt matched Bradley's twenty indicators, which were submitted to the investigator. Submissions were evaluated for their consistency with the indicators by discussions with the teaching team. This was done informally, following strategies used in peer coaching, collegial consultation, and other techniques familiar to the team members.

The Research Questions

1. What does the infrastructure of the constructed global curriculum look like? More specifically, what theoretical models are present? What is the nature of the global education model used? How are the prescribed knowledge and skills accounted for?
2. What are the roles of the teachers in the context of developing this global curriculum? More specifically, what tasks are specific to the development of this curriculum? What are the roles of the

teachers during the development and implementation process?

Methods of the Study

Two intermediate teachers who had previously worked together were the focus of this study. Their efforts at curriculum development and leadership in global education involved their peers, who were invited to participate in this study. As a participant-observer, the author contributed as one of the curriculum designers, and consequently, as an implementer through team teaching situations.

The documentation of the process of designing and implementing the year-one curriculum was approached through a variety of records produced by the team. Our planning notes, daybooks, unit plans, content files, yearly previews, personal journals, photographs, audio and video tape recordings were reviewed, and reflected upon by the author. Initially, questions from other teachers concerning student activities directed the public presentation of our work. Their individual requests were discussed collegially, and we responded collaboratively. As interest in the project increased, patterns could be seen in the inquiries. Teachers continued to be interested in obtaining ideas and materials, but increasingly they were also asking for guidance in obtaining administrative support at their school and district levels. Some were taking the opportunity to connect with us to share their experiences as global educators. Their enthusiasm and commitment have been encouraging and greatly appreciated.

While I submit this thesis as an individual, I write as a team member. In order to form as accurate and comprehensive an understanding as possible, material to be included was agreed upon before committing our ideas to this paper.

Overview of the Thesis

This document is presented in six chapters. Chapter one presents the general problem area, the choice of approach, and the conceptual orientation. Data collection and analysis procedures are briefly discussed. Chapter two describes the review of the literature dealing with intermediate curriculum development and leadership in global education, and recent educational directives promoting the kind of curriculum proposed in global education. Chapter three describes the context of the study. Chapter four documents the intended, implemented, and attained global curriculum. Chapter five describes the roles assumed by the global curriculum leadership team. Finally, chapter six presents the conclusions based on Bradley's model, a

discussion of the limitations of the study, and recommendations for further research.

Summary

If credence is given to the global education view of an interrelated world, it follows that studies of world issues might benefit from an interconnected approach. Furthermore, the onus will be on teachers to facilitate the interdisciplinary studies of world issues in their classrooms. A curriculum has been proposed which may provide teachers with an infrastructure for interdisciplinary studies in global education. This study allows a team of participant practitioners to make explicit their theoretical base, some of their practical knowledge and reflective activity. In chapter two, a review of the literature dealing with the notions of curriculum leadership and development in global education is undertaken.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

The purpose of this chapter is to review the literature pertaining to the theoretical perspectives which underpin this study. Calls for curriculum leadership and development, Bradley's notion of community change in schools, and recent literature in global education will be drawn together to promote curriculum change.

Context of the Study

British Columbia's emerging Intermediate Program is a move away from the traditional view of curriculum as a prescribed, finely specified, sequentially ordered body of topics for all learners, to a broader vision of curriculum that begins with a focus on the learner. All planned and unplanned experiences students have while at school form the basis of knowledge gained in the school setting. Because students' learning experiences are affected by their needs, interests and choices, and because curriculum is interpreted through teachers' expertise and influenced by their judgements, it is useful to examine curriculum leadership and development by their intents, manifestations, and outcomes. A clear distinction of these three aspects of the curriculum was made in The Report of the Royal Commission on Education (Sullivan, et al, 1988). According to the report, the intended curriculum, the implemented or experienced curriculum, and the attained curriculum are three aspects closely associated with the cyclical pattern of curriculum decision making, implementation, and evaluation.

The Intended Curriculum

The intended curriculum refers to the goals that community curriculum planners intend to have students pursue, and the learning experiences they plan to facilitate. Many individuals including curriculum leaders, academics, classroom teachers, parents and citizens should be involved as curriculum is the one universal element of the school that reaches the entire school community (Bradley, 1985). Including students, their families, educators, support staff and the public in decision making, and extending learning opportunities beyond the classroom contribute to the creation of school culture and a feeling of community (Ministry of Education, 1992). Such a collective process should result in the reflection of the interests and needs of the

stakeholders and determine the ethos of the school (Lounsbury, 1990). Addressing curriculum intentions is the responsibility of schools and districts (Ministry of Education, 1992). As a result, responsibility for implementing the goals of human and social development, and career development is shared by the school, family and community (Bradley, 1985).

The current development of B.C.'s Intermediate Program is in response to a call to restructure curriculum (Sullivan, 1988; Shanker, 1990; Ministry of Education, 1992). One of the problems identified by the Sullivan Report was a fragmented intended curriculum resulting in a less than coherent program, ill-suited to the physical, social, and emotional needs of adolescents. Responding to this problem requires change at the school, specifically, those who develop curriculum (Sullivan, 1988). As well as developing knowledge, skills and attitudes associated with school subjects, underlying conceptual understandings should be pursued (Ministry of Education, 1992). Value is placed on fostering the ways that young people think and express their learning (Sullivan, 1988; Breivik, 1991; Brown, 1991; Nelson, 1989). Connections between and among various issues and questions may form the basis of multidisciplinary study and information literacy (Ministry of Education, 1992).

Multidisciplinary studies across subject areas provide an opportunity for more relevant, less fragmented learning experiences, and begin to actively foster a range of perspectives that will serve learners in the larger world (Jacobs, 1989). It is claimed that such restructuring will empower students to become lifelong learners and enhance their sense of social responsibility (Betts, 1985; Gang, 1989; Breivik, 1991).

Greig, Pike and Selby (1987), argue that global educators have made the transition from compartmentalized views of knowledge to an awareness of the interconnectedness of all things because they emphasize the importance of interdisciplinary approaches, infuse the school curriculum with a local-global perspective, and regard education as a lifelong process. They further suggest that the intended curriculum must develop students' capabilities to deal constructively with personal and global change so that they will be better equipped to assume responsibility in an increasingly complex world.

The Implemented or Experienced Curriculum

When planning the curriculum, justifiable experiences for students is the main priority of the educational endeavour. The planned curriculum bridges the gap between theory and practice. If a planned curricu-

lum exists, and it is being used in the classroom, then the curriculum intentions are being practically implemented. The scope and sequence of curricula are controlled and maintained through systematic monitoring of the horizontal and vertical continuities (Bradley, 1985). Curriculum goals are lateralized at each grade level, and become a part of the greater sequential hierarchy. But the curriculum and its goals must engage students in relevant tasks and situations so that their learning is meaningful to them (Gang, 1985; Nelson, 1989; Sullivan, 1988). Our goal as educators must be to help students become increasingly able and willing to guide their own learning for the rest of their lives (Betts, 1985; Haas, 1987; Wigginton, 1989; Myers, 1990).

Rogers (1983) writes about what needs to be done to humanize schools. Students must have facilitative conditions for learning where they feel free to learn and find new ways of personalizing their experiences. Such autonomous learning provides the opportunity for students to set independent educational goals. Further, such learning entails the development of the ability to engage in self-learning and to take the responsibility to pursue knowledge (Betts, 1985). Treffinger (1978) defines self-directed learning as responsible autonomy in which students become actively engaged in making meaning of both the immediate world and the global community (Betts, 1985; Sisk, 1987; Whaley, 1987). The degree of autonomy experienced differs for each student and is determined by individual interests, needs, attitudes and abilities. Curriculum quality control is indirect through strategies built into the learning environment by the teacher (Kirstead, 1985).

A great deal of time, energy and money has been committed to build the Foundations for B.C.'s educational restructuring task, as evidenced by the number and variety of published documents related to the intended curriculum. However, Bradley (1985), states that the intended curriculum has at least four obstacles to overcome in order implement curricular change. First, the amount of money required to fund the changes is not as significant as the source and duration of the financial support. Curriculum changes may be unpopular if they are seen as short-term, or isolated. Second, there is need for participants to have specific time during the regular working day, to devote to the collective planning process. Non-instructional time is preferable so that participants can concentrate their efforts on the curriculum task at hand, without the interference of classroom responsibilities. Third, the lack of commitment on the part of some teachers, administration or support staff could make the curriculum changes more difficult than necessary. Stages in careers,

degrees of personal resistance to change, and job satisfaction are just some of the factors affecting curriculum implementation. Fourth, the lack of expertise in curriculum leadership and development could seriously hamper local implementation of new programs.

Bradley's four obstacles may effectively handicap the implementation of the Intermediate Program for students in Vancouver's schools, as the School Board contends with funding shortfalls, resulting in loss of expert personnel. Without continued expertise support, there is danger that Bradley's obstacles will deter implementation of the new Intermediate Program and in so doing, perpetuate the continuation of the out-moded traditional curriculum in Vancouver schools. Hopefully, some locally developed curricula with future-oriented studies will provide initiatives for students seeking global perspective education.

The Attained Curriculum

The attained curriculum refers to the knowledge, skills and attitudes that students actually acquire as a result of the experienced curriculum. Betts (1985) states that most content presented to students is "prescribed" and limiting in the variety and complexity of thinking skills. Because the majority of the content is confined to the use of recall and comprehension thinking, the entire range of thinking skills is seldom included. Gang (1989) argues that education is not a series of adult impositions on the student but rather a search for freedom on the part of the learner. He describes freedom without responsibility as anarchy; responsibility without freedom as despotism. Earlier writings by both Friere (1984) and Montessori (1946] 1974:3) support Gang's position by advocating the creation of learning environments which foster inquiry; that is, experiential learning where the traditional roles of teachers as masters to students cease to exist, and the relationships of teachers as students with students as teachers emerge.

As the transition from the traditional, prescribed curriculum to the B. C. Intermediate Program takes place, both students and teachers will experience a shift in emphasis from what is taught, to how students learn. It is similar in kind to other types of changes around us. The acceleration of change has shown that knowledge is based on a range of possibilities in a given time and place (Sagan, 1975; Gang, 1985; Suzuki, 1989; Meyers, 1990). Traditional education "imparts" knowledge and experiences and portrays it in terms of cause and effect relationships, which are measurable and predictable. The focus on objective testing with well defined exact answers, contradicts the reform efforts currently under way in schools. Gang (1989)

asserts that individuals who have experienced traditional education, are ill prepared for dialogue, collaboration and cooperation with other human beings: these are three essential elements in the foundation of a democratic society. Betts (1985) and Gang (1989) suggest that we should view schooling as "real world" experience that contributes to the lifelong learning for all.

Jacobs (1989) suggests multidisciplinary studies help students break with a traditional view of knowledge and begin to foster a range of perspectives that will serve the students in the larger world. Collaborative work by teachers in multidisciplinary teams benefits learners by sharing resources, approaches, experience and expertise; by providing mutual support; by developing complementary strategies and operational procedures; by reducing redundancy, and by maximizing opportunities for in-depth study (Ministry of Education, 1992). Sullivan (1988), supported the assignment of an interdisciplinary team of teachers to different groups of students. The rationale for the support cited the need to assist students in making sense of the many complex, interrelated dimensions of our world, to counteract the perception of many students that school subjects are arbitrary and fragmented divisions, and to recognize the value in enhancing students' abilities to apply competencies gained in one context to other appropriate contexts.

Personal, curricular integration can be fostered by involving students in curricular decision making to enhance perceived relevance (Kennedy & Mitchell, 1980; L.S.Team/Richmond, S.D.38, 1990; Tripp, 1990). Schwartz (1991) comments that students often bring aspects of their learning to his attention that he wouldn't have seen if he had been the only evaluator. Students can provide insights into their emotional security, skill competency, knowledge integration strategies, and personal values that they bring to given tasks. Students benefit from a strong sense of identification with their community and especially with adults in that community (Sullivan, 1988). Collaborative consultation helps learners to negotiate their personal educational paths by allowing them to negotiate the degree of difficulty and amount of time involved in given tasks.

Global educators accept that teachers no longer have "all the answers," but instead should strive to become facilitators of co-operative, participatory learning situations. Consequently their classroom teaching places emphasis on experiential and co-operative learning, group problem solving, active participation by individuals and groups, on the initiation, direction and evaluation of what is experienced, and on creative, imaginative and divergent thought and action (Pike & Selby, 1988). Enhancement of communication and

negotiation skills enables students to explore their own biases and attitudes and to consider other points of view and feelings (Hanvey, 1982).

Hanvey (1982) describes certain modes of thought, sensitivities, intellectual skills and explanatory capacities that he feels contribute to the formation of a global perspective and are attainable by young people during the course of their formal and informal education. Hanvey suggests five dimensions to put flesh on the truisms that 1) there are underlying factors to the visible event and 2) culture affects the perception of human affairs.

The first dimension, "perspective consciousness," concerns the recognition or awareness on the part of the individual that their world-view is unique, that it has been and will be shaped by overt and covert influences, and that others view the world profoundly different. The second dimension, "state of the planet," deals with awareness of prevailing world conditions, trends and developments in order to obtain a sense of important patterns and influences. Dimension three, "cross-cultural awareness," examines the diversity of ideas and practices found in societies around the world, to engender respect, acceptance and willingness to participate in other social groups. "Knowledge of global dynamics" is central to global education. Key traits and mechanisms of the world system are examined with emphasis on theories and concepts of change. Hanvey presents three rules of global change: 1) things ramify; 2) there are no "side effects" but there are "surprise effects;" and 3) look for the concealed wiring. The first two rules are his prescription for caution and humility, while the last explains the need for both. Finally, dimension five "awareness of human choice," is based on the proposition that as new knowledge of effects finds rational use in planning human action, human choices expand. Put simply, the more we understand, the more options become available to us. Through using his five dimensional model, Hanvey feels educators might be able to 1) increase the number of solutions students propose for a given problem, 2) increase the quality of solutions measured in terms of global cognition, and 3) incorporate empathy for individuals and generations directly and indirectly involved in given situations.

Rogers (1983) writes about what needs to be done to humanize schools, and implores teachers to facilitate conditions for learning that provide environments with a feeling of freedom to learn, and guidance for students to find new ways of personal growth. He states "changingness," a reliance on process rather than

static knowledge, is the only thing that makes sense as a goal for education, if we are to survive in the modern world.

Summary

The related literature reviewed in this chapter has indicated the breadth of proposals of how global education might be promoted. It has suggested the plausibility of developing and implementing trans-disciplinary studies which purport to foster understanding of global issues. It has given little evidence of case studies of teachers' design or implementation of global studies, but exhorts teachers to use their practical teaching knowledge to make changes in their classrooms. Furthermore, the literature reveals the uniqueness of the problem which this study pursues: to document the leadership and development of a practical global education curriculum.

CHAPTER THREE

CONTEXT OF THE STUDY

Introduction

The purpose of this chapter is to describe the events that led to the curriculum change and the rationale for initiating the change. In addition, the chapter provides background information about the site, the student participants and the teaching team. By providing the context of the study, the results of the study presented in chapter six may be better understood.

The Vision: Opening Wolfe's E.Y.E.S.

In April, 1990, a team of teachers at General Wolfe Elementary School, Vancouver, began the planning and design of an interrelated grades 6 and 7 curriculum with a global perspective. Implementation of the interdisciplinary studies, named "Wolfe's E.Y.E.S. (Elementary Youth Earth Studies)" began in September, 1990.

The global political and social crisis of the first months of 1990, exacerbated by vivid media coverage, caused such emotional upheaval in their classrooms that the teachers undertook the task of reworking the curriculum to allow students opportunities to engage in global studies. World events had presented the team with classroom opportunities for "Verification of likelihood of improvement" (Bradley, 1985); that is, teaching situations arose concerning the rate and complexities of global change, that needed curriculum revision. The prescribed Social Studies curriculum was in most need of change. Students initiated the first curricular adjustments by repeatedly requesting extensions of "Current Event" discussions, by their intense interest in debating the newest world issues, by seeking public audiences for their views and by their personal willingness to participate in voluntary community relief-action initiatives.

For many of the students it was a time of awakening of their personal consciousness as global citizens. For some it was a reawakening of emotional trauma caused by their experiences in previous socio-political conflicts. For everyone it was a time of coming together as a group in search of comfort through mutual understanding and support.

The emotional involvement of the students caused their teachers to re-examine the existing, pre-

scribed curriculum for opportunities to incorporate more current affairs background information. Weekly scheduled problem-solving sessions were the first areas to be reworked to include practical problems connected to global issues. Prescribed Social Studies texts became just one of many resources for background information on global issues, as current information became more abundant and accessible. Figure 1 illustrates the process of the global problem-solving sessions.

The process is symbolized by the world map in the centre of four roles variously performed by the

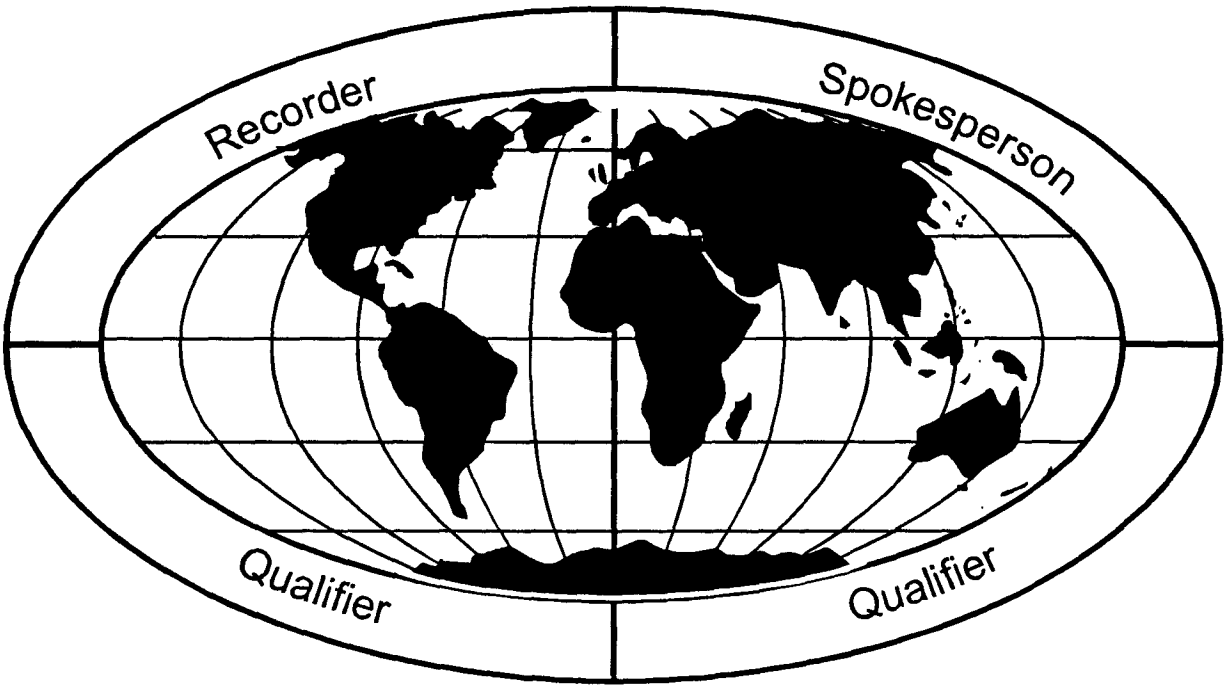


Figure 1. The graphic organizer used to signal the beginning of student problem-solving sessions focusing on gaining a global perspective.

participants during round-table discussions of world issues. During discussions, students are encouraged to express different points of view that might represent opinions from stakeholders such as government, business, scientists, artists, lobbyists, etc. Students take turns assuming responsibilities for recording ideas, speaking on behalf of their group, and qualifying their proposals to the larger group. This arrangement of role-tasks for students allows flexibility of the number of students in working groups. Groups of two, three or four are easily formed without the loss of any role-task.

Each problem-solving task requires the participants to cooperatively 1) discover and uncover under-

lying problems contributing to the issues event, 2) elicit as many solutions as possible given their collective knowledge of the issue, 3) evaluate their solutions and make recommendations, and 4) assess their thinking as individuals and as a group.

Solutions are classified as "possible", "plausible" and "preferable." Possible solutions must have an explanatory relationship to the given problem. Plausible solutions are those that 1) will have a positive impact on the problem, 2) are practical to implement, and 3) are most likely to receive the most support, locally and globally.

By establishing criteria for factors such as cost, time, personnel and safety, the small student groups analyse their plausible solutions to select their most preferable solution for presentation to the larger class group. The class then elects to 1) accept and support all recommended solutions as equally viable, 2) query student groups for clarification of their proposal, 3) debate the recommended solutions, and 4) select new criteria to evaluate the proposals in order to reach a consensus.

With each new session, the students demonstrated increasing enthusiasm for the problem solving tasks, greater use of their inter-personal skills, and better understanding of the complexity of global issues. Several parents reported their childrens' enthusiasm for the "new" approach. These positive results were so encouraging to the teaching team, that they began the rethinking of the traditional grades 6 and 7 curriculum. They began to envision an interrelated global curriculum, using existing low-cost, high-value materials. As they explored the possibilities, they soon realized they would only be limited by their own imaginations. The global pursuit had begun!

In a very short time period, the team members had experimented with the innovative idea of a global perspective within their areas of expertise, and were ready to begin the formal process of planned curriculum change. By reworking the educational models already in use at the school to include Hanvey's dimensions, the team developed a practical classroom programme of studies and started the field test.

The field test was awarded "Lighthouse" status by the British Columbia Teachers' Federation, and has received ongoing support from Wolfe's Administration, parents and students. Now, as the five-year field test reaches its mid-point, its emergent model faces a great challenge. As the innovation and development process continues, the model must move from the security of the field test site to implementation at other

sites, an area where Bradley (1985) says planned change often fails.

This study may be one of many needed to clarify the worth of Wolfe's E.Y.E.S. Project, to validate its continuation or termination. While formal evaluation may reflect specifics, student, staff and community perceptions will continue to be based on the total role performance of all participants in the project. Using Bradley's Community Curriculum Change Model, key indicators can be identified to decide whether effective curriculum development and/or leadership has taken place. This study blends the curriculum leadership and development together and illustrates the key indicators of success by presenting for each indicator, verification evidence to substantiate its presence in Wolfe's E.Y.E.S. Project.

The Site

General Wolfe Elementary School is located in the geographical centre of Vancouver, British Columbia. The original building was completed in 1910, with two classroom wing additions added in 1912. An adjoining gymnasium was constructed in 1956. Presently, there is a "Temporary" classroom annex existing on the site, as it has for more than 20 years.

The traditional wood and brick design of the school is shared by other Vancouver schools built during the same time period. Unlike some of its contemporaries that have undergone major renovations to create larger learning areas, Wolfe's separated, self-contained classrooms have been upgraded, but remain structurally isolated from each other.

Classrooms are on all levels of the 3 story main building and on a single level in the annex. Few classroom spaces are available for large group full-participation activities on a regular basis. Negotiated timetabling of non-classroom spaces allows multiple use of the 2 basement play areas and the student lunchroom. Access to the gymnasium is extremely limited and usually requires trading because of strictly scheduled times. Other than their classroom, the school spaces most often available for the grades 6 and 7 students were the school's library and student lunchroom.

The physical plant had definite limitations of space and times that different sized spaces were available. The team analysed the compatibility of group sizes to the various space options available during weekly timetables. The larger spaces that were available least were reserved for cooperative events involving other classes. The school library was used for cross-grade buddy activities, for research purposes involving

small group studies and independent assignments. The classrooms were the most frequently used spaces.

In order to enhance a broader world view, a concerted effort was made to change the perception of the traditional classroom through the rearrangement of its furniture. Rows of individual student desks reminiscent of former lecture methods were abandoned and continually reconfigured to allow maximum student interaction for given student tasks. Peripheral benches and tables with collections of texts were reclaimed. Though some were permanently fixed, the tables and benches served multiple purposes such as display areas, study stations, and centres for interactive student activities. Because the classroom teachers had maintained a traditional approach in the classrooms for several years, they felt the reworking of classroom space was a clear indicator of significant curriculum change, and was necessary in spite of a limiting physical environment.

> " The old floor plan just doesn't work with the round-table discussion format, or the hands-on problem- solving! We need more options for grouping and mobility."
>
> " Boy! This 'new' room is going to surprise them! Talk about CHANGE, and ADAPTABILITY."

The Participants

The participants in this study were the educational professionals and students directly involved in the design, planning, implementation, and evaluation of the first year of Wolfe's E.Y.E.S. Project. The focus was on the teaching team and their collaboration in meeting the needs of their students in the grades 6 and 7 classes. The time period analysed starts in April, 1990, and ends in June, 1991; that is, from the earliest stages to the first major public event.

The Students

Most of Wolfe's students come from within its catchment area. Students in Wolfe's two District ESL and two District Communications classes (who may live in other areas of Vancouver) partially participate in the regular intermediate classes. The students at Wolfe represent a broad range of ethnic and socio-economic backgrounds. Approximately 60% of the school's population is ESL, but with integration, the grades 6 and 7 ESL population factor ranges between 65-70%. As in all regular classes at Wolfe, the grades 6 and 7 students had been randomly placed in two multi-ability level classes. Though Wolfe has a fairly high

rate of change in student population over the school year, sixty grades 6 and 7 students were involved in the E.Y.E.S. Project from September, 1990, to June, 1991.

The Teaching Team

Heather and Sandy, as full-time enrolling (FTE) classroom teachers co-planned and exchanged content expertise responsibilities. Heather had more than 10 years experience at Wolfe, and mentored Sandy, who was a second-year teacher. In my role as Gifted & Talented/ESL Resource Teacher (GT/ESL-RT), I collaborated with Heather to design the intended curriculum, to co-plan the implemented curriculum, and to help facilitate the attained curriculum by team teaching with her or by model teaching for Sandy. Peter, our Music/Computer Resource Teacher collaborated with us by using his curricular areas to enhance the knowledge students gained through other subject areas.

During the 1990-91 school year, Heather mentored Margaret, a fourth-year student teacher for two practica. As well, both Heather and Sandy took six-week Maternity/Parenting Leaves, in December and April respectively. During their absences, I mentored their substitute, who worked in both classrooms.

The Context of the Curriculum Change

At Wolfe, no formal effort had previously been made to interrelate all prescribed subject areas in the grades 6 and 7 curriculum, nor had there been a conscious effort to present content with a global perspective. Until the global curriculum initiative, the curriculum had been approached through continuous, lineally-sequenced units of information and skills. Teacher specialists independently developed the various content areas within their assignments as specialists.

The separation of the content strands had been further reinforced by the on-going practice of platooning students to teachers with expertise in a particular curricular domain. Objectives for the separate courses of study were set by individual instructors from provincially prescribed curricula. Hence there was great variation in emphasis of content, depth and breadth of studies and skills, through learning situations ranging from very traditional to very innovative.

The staff at Wolfe had previously participated in the successful design and completion of several month-long, school-wide, theme studies. Topics were chosen by consensus, then each classroom teacher developed their own course of studies for their age/grade level within the theme. Co-planning was limited to

resource access and public display/events. Resource teachers planned only for their student groups who were regularly "pulled-out" of their enrolling classrooms for special needs. While the continuation of the yearly thematic studies suggests the staff and students enjoy the thematic studies, the collection and preservation of the ideas seem to be major problems in recording these popular events.

Teaching Assignments

Teachers in this study had had no previous formal training or experience in collegial collaboration. They approached their teaching assignments as specialists in specific studies and kept content objectives within their own curricular domains. Most student tasks were paper and pencil type, with enrichment and problem-solving assigned to particular time periods over the week. While there was a strong sense of camaraderie among the teachers, professional exchanges of ideas and materials usually arose from casual discussions of questions/concerns/celebrations of specific student achievements, rather than from curricular analysis and planning. The teachers' timetables did not allow formal co-planning during the regular school day. Professional development time was usually used to pursue individual teaching interests.

Perceiving Change

By the early Spring of 1990, major political and ecological events of global importance had impacted on the staff and students at Wolfe. Emotional responses, such as anger, fear and hopelessness expressed by the grades 6 and 7 students caused concern for their teachers. The impact of the global events on their classrooms forced the teachers to each make major professional decisions. The extraneous events had presented the ultimate "teachable moments", just as the teachers were being encouraged to endorse the Ministry's Year 2000 Document. A "window of opportunity" had presented itself, and a decision had to be made whether to slam it shut in retreat or to step forward and gain a global perspective.

Scouting the Learning Environment

As the 1990 school year ended, the teachers involved with the grades 6 and 7 students had been experimenting with real-world issues in their scheduled creative problem-solving (CPS) sessions. Students were required to use familiar strategies on unfamiliar problems. They began to use skills and knowledge from various content areas to complete cooperative, jig-sawed tasks (Johnson & Johnson, 1984). An example of one of the problems is presented in figure 2.

Ocean Environment; Group Problem Solving/Decision Making Task 1

A) Problem: Design a self-contained ocean environment capable of sustaining the life of a given community for 2 earth years.

B) Question: What would be the important factors you would have to consider when thinking of a shelter for an ocean environment? Consider all factors as you are to be isolated for 2 earth-years in this sealed ocean environment!

C) Process:
① (Students brainstorm Factors in co-operative groups, then return to whole class group to share ideas.)
② (Whole class involvement in list-making of Factors to consider.)
③ (Group consensus as to priority of list items.)
④ (In original co-operative groups, students design a plan for a sealed ocean shelter that will meet the priority needs of the inhabitants, considering their isolation period of 2 earth-years.)

D) Product: (One group listed these factors, and ranked them in this order.)
Air, food, pollution, medical, heat, disaster plan, water, light, government, power/energy, communication, transportation, waste disposal, entertainment, education, vegetation, personal hygiene/needs, equipment/storage, animals/pets, security/defense, personal space/housing, time, maintenance.

Figure 2. Ocean environment challenge problem

The successful completion of several global CPS sessions and the satisfaction expressed by students of varying abilities and language competencies, encouraged the teachers to continue. When students began to research information concerning global issues, their literature searches uncovered the deficiencies of the prescribed-Text approach for the E.Y.E.S. project. The available texts were insufficient as resources for studies for a global perspective on topics such as world resource management, international law, human and animal rights, and environmental terrorism.

When free of text book limitations, students involved in the global CPS sessions repeatedly contributed ideas and information from their cultural perspectives.

> "In my country, no one thinks about maybe there won't be [*sic*] any (natural resources) one day. I worry about that."
>
> "I remember something like this from before I came to Canada." (Student examines simple water pump.)

"People in my country treat animals very differently."

"My father says Canada lets in too many criminals. He's afraid that things will turn bad here, too."

The richness of these accounts, (often from recently integrated ESL students), further convinced the teachers to draw more from their students' experiences. Through their daily communications on global issues, students naturally embellished their curriculum by adding their own international perspectives. Wolfe apparently had its own valuable global resources waiting to be used.

Setting the Site

While students were experiencing the events that usually mark the finishing of the school year, the grades 6 and 7 teachers began referring to themselves as a team and became more productive as their commitment to the emerging E.Y.E.S. Project revitalized their usually waning year-end energies. As the school year ended, the teaching team expressed the desire to work collaboratively and plan across the content areas for the following school year. The school's administration supported the proposed curricular exchange of expertise and encouraged collaboration though no special timetable arrangements were made to accommodate collegial planning during school hours.

Summary

This chapter's description of the characteristics of the site and participants in the study discusses the limitations of the physical school building and the readiness experiences of the participants as world events impacted on their classrooms. While the physically isolated classrooms and the practice of platooning students to content specialists reinforced the separation of content areas, this team of teachers began to design interdisciplinary problem-solving activities. The students' increasing interest and enthusiasm for the activities prompted the teachers to request administrative support in order to continue their work in developing curriculum with a global perspective.

CHAPTER FOUR

CURRICULUM DEVELOPMENT

Introduction

The purpose of this chapter is to discuss the development of the intended, implemented and attained curricula of the first year of Wolfe's E.Y.E.S. Project, when the existing grades 6 and 7 curriculum was reworked to attain a global perspective. The underlying principle of global education: that all things are interconnected, is reflected in the transdisciplinary studies designed by the teaching team.

Educational Models Established at Wolfe

Several recognized instructional models and heuristics are in place at Wolfe (Johnson & Johnson, 1984; DeBono, 1985; Mohan, 1986; Buzan, 1974; Betts, 1985). Earliest informal discussions by the grades 6 and 7 teaching team centred around the identification of expertise available and accessible on-site, and the assessment of the collective knowledge with the global educational models being considered. Once the theoretical models had been agreed upon, more formal planning took place to analyse the models for their common and unique elements. From this analysis, the team connected the established elements in a way that expressed the origin of the theoretical base for the E.Y.E.S. Project. The following graphic (Figure 3) shows the four areas of consideration in designing student experiences at Wolfe prior to the global initiative.

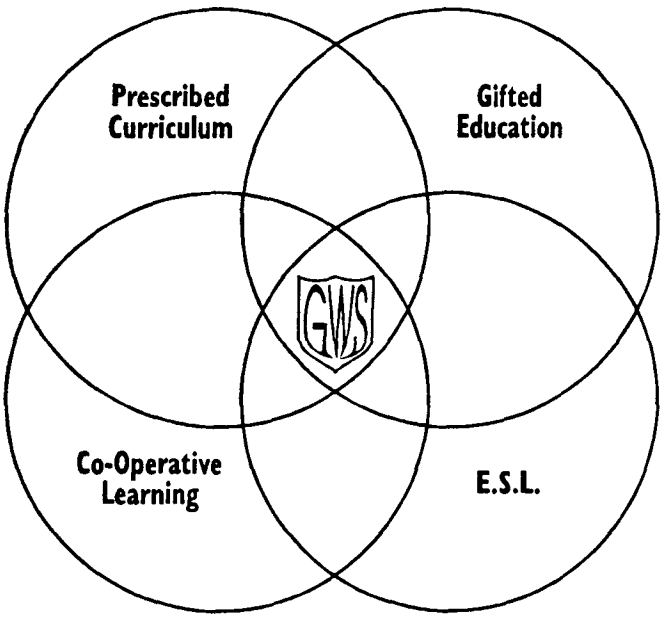


Figure 3. The four areas of curricula considered the basis for student classroom experiences at Wolfe.

The mandate to develop a curriculum, and the desire to add a global perspective required the E.Y.E.S. team to include a representative model from the Global Education domain. The addition of Hanvey's (1982) model was represented as follows (see Figure 4).

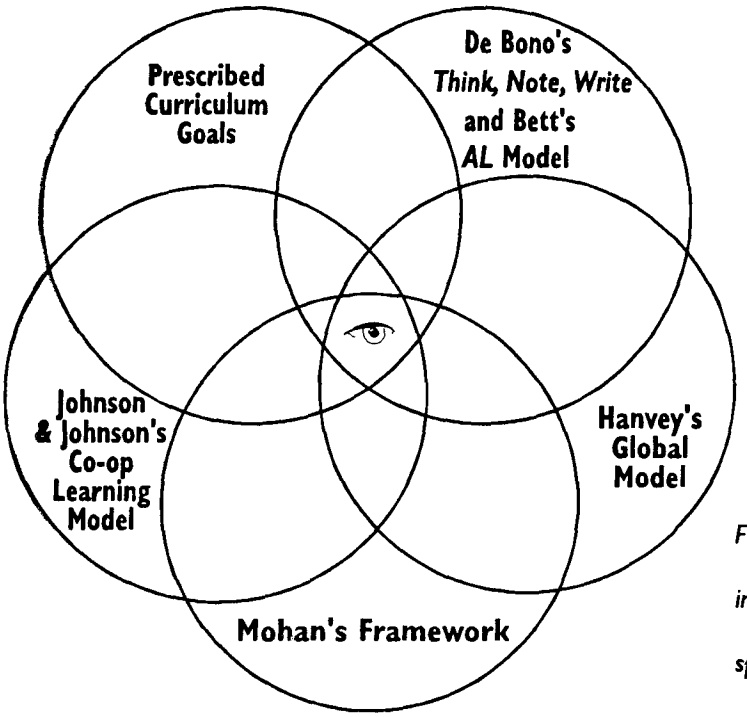


Figure 4. The E.Y.E.S. theoretical model, including Hanvey's model and noting specifics from the four areas of curricular concern at Wolfe.

Adding Hanvey's Global Dimensions

Of the Global Education models researched and discussed by the teaching team, it was decided to incorporate Hanvey's (1982) Five Dimensional Model into the E.Y.E.S. Project. Hanvey's inclusion of Cross-cultural awareness as one of his dimensions particularly appealed to the team members because of the ethnic diversity of students at Wolfe. Hanvey's assertion that the model was modest increased the team's comfort in adopting it. The team used their familiar Venn circle graphic to interpret Hanvey's model (see figure 4).

Remodelling the Prescribed Curriculum

Hanvey's model proposes three important principles of change; 1) things ramify, 2) there are no "side effects" but there are "Surprise effects", and 3) look for the concealed wiring. As several sources had called for educators to use multidisciplinary approaches with students (Gang, 1989; Suzuki, 1990; Meyers,

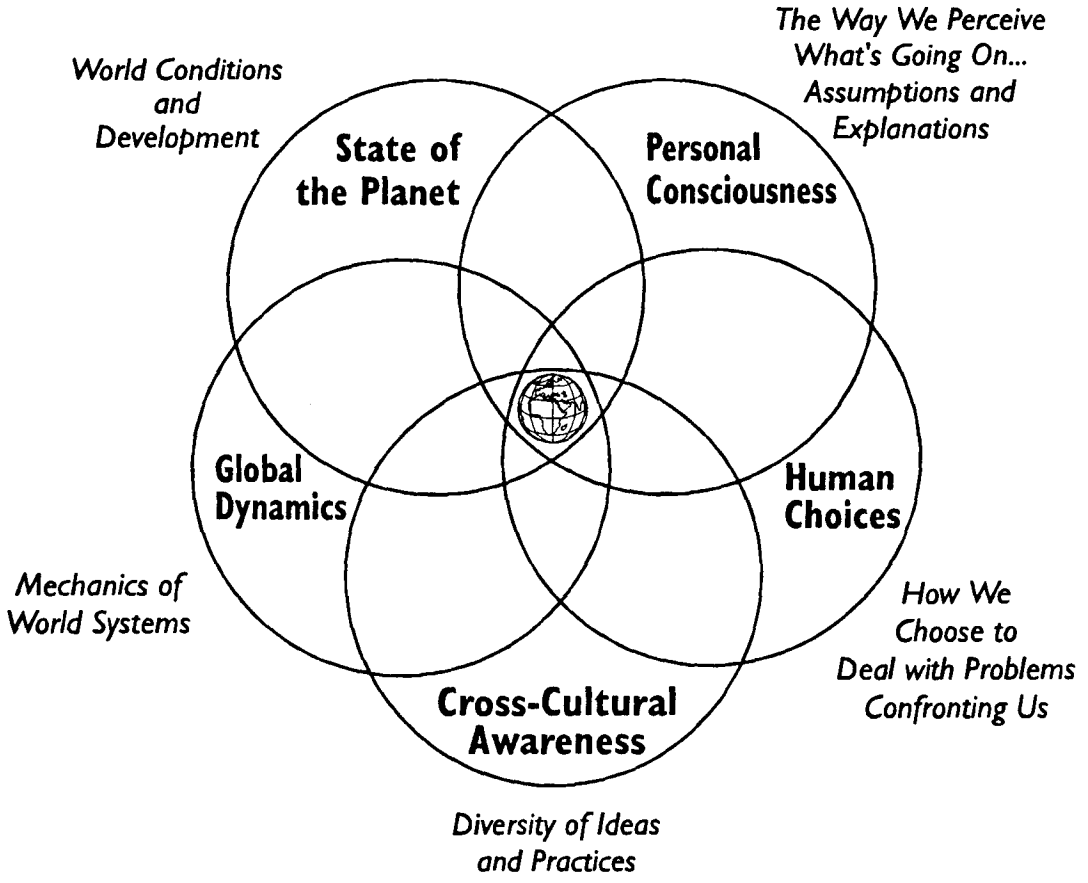


Figure 5. The teaching team's representation of Hanvey's model, illustrating the "interconnectedness" of his ideas and the goals of the E.Y.E.S. project.

1984), and the team had had some experience in integrating content in theme studies, they accepted the challenge of applying Hanvey's three principles to their new work.

The teaching team intended to rework existing materials and to develop their own ideas through collaboration. In their support roles, computer and ESL resource teachers agreed to take their planning cues from the team's efforts to interrelate concepts across the content areas.

Informal discussions outside of class times provided opportunities for team members to clarify their understanding of the interrelated models, overview curriculum and content, articulate new ideas, and to reflect on previous work. Prescribed scope and sequences were reviewed as team members rethought their areas of expertise. Each subject specialist contributed by ensuring essential knowledge and skills were included and by providing suggestions for linking subject concepts across content areas. The collaboration of

the subject specialists produced patterns which Drake (1992) has termed Transdisciplinary Webbing.

Global Issues Awareness

In order to become competent facilitators of a global curriculum, the team began an ardent quest for knowledge and information sources on emerging global issues. The team reviewed and considered the exploration of those issues in light of Hanvey's five global dimensions. As well, they began experimenting with global problem-solving through roleplay simulations. The team presented students with problems requiring them to assume stakeholder roles to make decisions about topics such as resource distribution (arbitrary allotment of cookies to different-sized groups), ethical practices (restricting water access to sick and healthy age groups in a community) and bartering for materials needed to accomplish a goal.

The initial collection of information on current issues challenged the management skills of the team. Items included the usual newspaper, flier, pamphlet and magazine articles. As well, cartoons, advertisements, free materials, lists of resources, calendars, kits, and memos circulated between team members. Soon the number of transient bits and pieces required an easily accessible storage-retrieval system. Recycled file folders and cardboard boxes housed in one of the resource rooms provide a user-friendly system.

Global Issues Selection

At first, the issues files were labelled with key content words in issue topics (e.g., "Water", "Air", "Rainforest"). When the plethora of print and visual information swelled the topic files, secondary classification took place. Items from original topic files were sorted into an alphabetical series of files by topic name and an issues clarifier. Hence the original "Water" file was reorganized into such titles as "Water-Conservation", "Water-Pollution", etc.

The reorganization of the files expedited the tally of the accumulating resources. Team members could quickly assess the quantity of information readily available by noting the increasing volume of the files. Variations in volume and the number of related files were taken as indicators of the frequency of the occurrences of the topics and the number of concerns related to the issues in the public domain. When time allowed, team members assessed the balance between factual and emotional content of filed items. Whenever possible, credibility was checked by cross-referencing similar items from various sources. Varying points of

views from local, national and international sources were actively pursued. Once a set of related files had been screened and judged to have merit, the items they contained were referenced to content areas and to the dimensions of Hanvey's model.

The files also revealed which global issues were receiving more "Press" attention than others. The team concentrated its effort on finding materials for topics that were not being filled by newspapers, magazines and other publications available locally. Then, members began extending their searches beyond their homes and school site into the larger community.

Telephone calls and personal visits were made to businesses, universities, non-governmental offices, government agencies, and research institutions. A file of willing resource persons was begun and cross-referenced with the themes. The team previewed and assessed all the materials collected. Usable items were collated and filed, the remaining items were either passed on to other interested teachers or returned to their source with thanks and an explanation.

Then, the simple filing system provided the team with an unexpected benefit. As a result of the secondary sorting, eight different topics each had more than 5 related files. Quite by accident, the filing system had organized an incredible amount of information into the beginning of eight thematic units, with other topics showing similar potential. The team began to align issues across the content areas, and over time, their casual comments indicated that they were encouraged.

"I had a gut feeling that the chaos would sort itself out!"

"I wondered if we would EVER make sense out of all that STUFF!"

"Well, there's September!" (pointing to a thick set of files)

Theory Into Practice

The team used a 6-step planning process developed through their participation in Wolfe's school-wide theme studies. As all team members were familiar with the process, it was decided to continue this approach as long as it served the project well. This six-step planning process is outlined in Table 1.

Wolfe's Six-Step Planning Process

Step 1	✔	Survey prescribed materials for topics/skills
	✔	Search for available support resources
Step 2	✔	Develop scope/sequence across disciplines
	✔	Establish essential sub-topics
Step 3	✔	Using Steps 1 & 2, develop Principles of Knowledge Framework (Mohan, 1986).
	✔	Develop rest of Knowledge Framework
Step 4	✔	Identify content-specific vocabulary, skills, and processes
	✔	Develop checklists for above across disciplines
	✔	Brainstorm: Enrichment, Folklore, connections between ideas
	✔	Develop student tasks
Step 5	✔	Prepare Key Visuals (Mohan, 1986) for classroom presentations to students
	✔	Prepare progress report for rest of staff
Step 6	✔	Individual, peer, group, collegial evaluation
	✔	Reflection
	✔	Recommendations
	✔	Formal recording of theme plan

Table 1. The Wolfe school planning process.

Setting the Yearly Plan

A portable bulletin board was used as the planning board for the E.Y.E.S. Project. It provided a large enough space to practically plan the preview of the whole year. Its central location allowed it to be easily accessed by all. As a public display area, it was open to all who were interested; staff, students, parents, and visitors.

The team was determined to interrelate as many global issues as possible across the discipline areas.

Early in their planning, the team opted to use a cross-matrix grid as the organizer for the year's scope and sequence. Curriculum strands were listed down the vertical axis, while the months of the school year ran across the top. The team then began to plan collaboratively the rest of the grid utilizing their eight sets of theme files. Ideas placed on 3x5 cards were posted, reworked, and rearranged throughout the grid with relative ease. The exercise tested the team's collaboration abilities.

The more analysis the team did, the more connections in and between issues were revealed, and the more complex the organization became. It was agreed that it would be very difficult to manage the eight themes simultaneously over the school year. However, Hanvey's model required the issues be related in ways that allowed their interconnectedness to be explored.

Team members felt positive about the manipulative grid as an organizational strategy.

" It's great being able to mesh the whole year, vertically and horizontally."

" It appeals to me because I can explore options by physically moving things around...like a board game."

" Sometimes I just like to come in and say WOW! This is going to be great!

After several hours of "playing" with the grid, a monthly thematic approach was felt to be the most manageable (see Table 2). It was decided to order the themes to allow students to acquire a cumulative

Month	Theme	Rationale
September	Environment	Adjustment/back to school
October	Food/Water	World Food Day/Thanksgiving
November	Conflict Res.	Remembrance Day/Peace
December	Cross-Cultural	Winter festivals
January	Resolutions/laws	Constants/change over time
February	Communication	Self expression
March	World Management	New beginnings/growth
April	Connectedness	Pulling it all together
May	Community	Action planning
June	Reflection	Looking back-looking forward

Table 2. Assignment of Monthly Themes

knowledge base about the issues and their influences. Consideration was also given to the traditional events of the school's culture over the year. During the first week in September, with those ideas in mind, the team ordered, reordered and finally assigned the monthly themes after several good-humoured attempts.

Whenever time permitted, team members would work individually or together to complete the grid. Post-it notes were used to mark items that needed reviewing for change or replacement. Notes could be made on the Post-it without altering the original card until it was agreed to do so. The notes served as memos communicating questions and reflections between team members, allowing each teacher to work independently, but in concert with the rest of the team.

As the planning grid evolved, the team began to invite other interested persons to review their work. The enthusiastic encouragement received by the team was gratifying and reinforced their commitment to the project. The planning board became a meeting place. The grid became both a concrete measure of the development of the E.Y.E.S. Project, and a constant reminder of the task at hand, as the grid's vacant spaces challenged its viewers.

> " The whole thing has the challenge of a giant multi-dimensional puzzle with the magical element of all pieces having the potential to fit each other. It could drive you crazy!"

Once the team was satisfied with the finished grid, they focused on the first 2 months of the 1990-91 school year. While they concentrated their attention on the beginning of the next school year, they agreed to continue to work on the other themes and to monitor and adjust the curriculum for depth and breadth of content and skills once it was being implemented in the classrooms (see Table 3).

	September Themes	October Themes
Subject	Shelter	
	Environment	Food & Water
Think Note Write	CAF--different biomes FIP--types of pollution PMI--journal AGO--survival in biomes P&O--archeology role-play	Alternatives--resources Prioritize--uses of water PMI--distribution of resources AGO--journal Consequences--no electricity
Reading	creation stories, main idea sequencing and setting	folktales, character analysis, plot, predicting and summarizing
Language	adjectives, adverbs, thesaurus, comparatives, nouns and verbs	phrases & prepositions, sentence combining and conjunctions
Writing	discriptive paragraphs, topic & closing sentences and summaries	characterizations, phrase poems, early man role-play narratives
Vocabulary	thesaurus--words for biomes, context and changing descriptors	noun & verb vocabulary expansion, word caches for food & water
Journal	family statistics, using your senses and weekly self-evaluation	goal setting, needs vs. wants and privileges vs responsibilities
Social Studies	evolution, early man and archaeology	early/modern farming comparision
Science	biomes, ecosystems and adaptations	water cycle, water purification & distribution, hydroelectricity
Research Skills	note taking, skimming and scanning; mind-mapping	outlines, proofreading, multiple source, indexes, and almanacs
Problem Solving	graphing, survival problems, types of pollution	hands-on group problem solving--designing biome shelters
Math	whole numbers, rounding off, estimation and graphing	place value and expanded notation
Guide for Life	conflict resolution strategies	forces that shape behaviour, basic needs and friendship
Activities	archaeology trunk, VanCity contest, jigsaw, class presentations	guest--Jim Scoton and refugee game
Art	Hopes for the Future posters	Canadian stamp design
Computers	designing shelters for the future	
Audio-Visual	Canadian Wildlife posters	*Water: The Hazardous Necessity; Farming Around the World*
Displays	timeline graphs, food chain charts, biome poems and posters	water usage survey and water distribution map

Table 3. Notes taken from the planning grid showing the topics and skills for September and October across the content areas.

The Implemented or Experienced Curriculum

Monthly themes.

All team members were familiar with the Framework For Teaching and Learning (Mohan, 1986). While the framework is an organizational tool that allows the team to compact learning objectives and student tasks onto one page, the team values it most for its inclusion of higher order thinking (see Table 4).

The framework approach was initiated as a strategy that integrated language and content teaching for

	Classification	Principles	Evaluation
Background Information	classifying, categorizing, defining	explaining, predicting, interpeting data & drawing conclusion, developing generalizations, hypothesizing	evaluating, judging, criticizing, justifying, preferences & personal opinions, recommending
Action Situation	observing, describing, naming, comparing, contrasting, illustrating	time relations between events, sequencing, spatial relationships, steps in process	forming personal opinions, making decisions, planning action
	Description	Sequence	Choice

Table 4. Mohan's (1986) Framework For Teaching and Learning, illustrating some of the thinking tasks associated with each element.

ESL students. Team members had been using the framework since 1987 as a way to support ESL students' academic and cognitive development while they acquired English. It is generally accepted at Wolfe that the strategy helps ALL students in the mainstreamed classrooms. Verification of the framework's strategic value has come from its use by classroom teachers in preparing Wolfe's annual school-wide theme studies.

Team members were comfortable using the framework and felt their prior common knowledge preparing and working from the frameworks would help the implementation process. The frameworks would also serve as records of the course of studies within the theme issues.

Other Vancouver schools use the framework approach, but the Wolfe team has made two unique adaptations. First, the items listed in each frame relate directly to those in horizontal line in adjacent frames.

Secondly, the horizontal lines of the top three "Background information" frames provide the base for the student "Action situations" of the bottom three frames, in order, top to bottom. Hence, the first classification item relates directly to the first description activity, the first principle to the first sequence, the first evaluation to the first student choice, and so on (see Figure 6).

After the monthly themes had been established for the E.Y.E.S. Project, the staff collectively agreed to develop two school-wide themes, "Shelter" (October), and "Environment (February). The team opted to

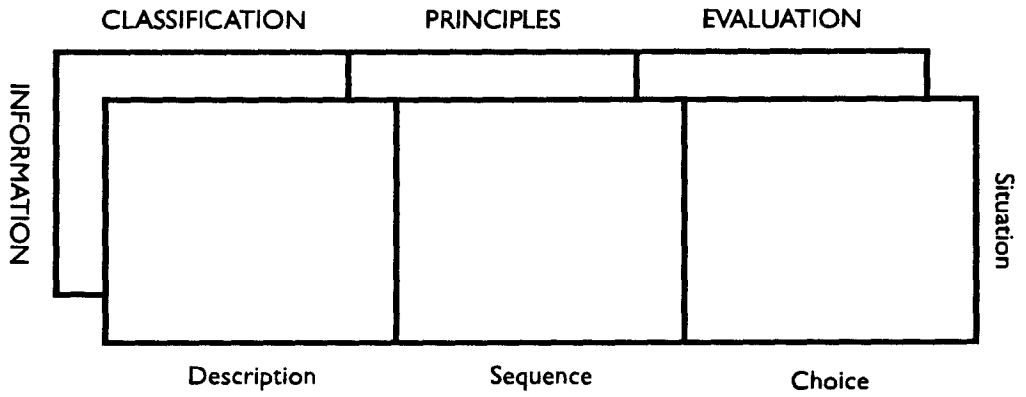


Figure 6. Illustration showing the relationship between the top and bottom sections of a framework, as developed by the Wolfe team.

include those topics within the themes already in place, as part of the projected cumulative knowledge base. The team consolidated key ideas from the three monthly themes they had previously prepared to make a single framework that overviewed the first trimester, emphasizing the idea of "shelter" (see Table 5).

The process of working through this framework helped the team make significant connections between the ideas within the three themes. It also helped them to prioritize topics and skills within the themes, in the order that students needed them to successfully build on their prior knowledge. The team generated many ways to enlarge on the ideas, and to keep everyone's expectations reasonable, the classroom teacher calculated the amount of class time available in each calendar month. The time factor had a sobering effect on the team's grandiose plans but couldn't dampen their enthusiasm. The team began experimenting with ways to get the most out of each time period by grouping natural combinations of concepts, thinking

Classification	Principles	Evaluation
Types of Shelters: permanent vs. temporary, rural vs. urban and biome specific	humans need shelter; shelter used is determined by availability of materials, function, and climate	In given biomes, evaluate goals of shelter, shelter needs past and present.
Cultural Diversity: modern, traditional and status	influences of family, culture population density on access to shelters	Rank shelter suitability cross-culturally.
Emergency Shelters: stationary, mobile, group and individual	natural disasters displace people	Evaluate people's opinions on the homeless.
Laws: owners, renters and homeless	rules governing shelter	Evaluate fairness of laws, and rules.
Housing: needs vs. wants	essentials vs. dispensables	Justify opinions on shelter issues.
Describe types and uses of resources and tools in shelter construction. Compare and contrast shelters in different biomes.	changes in shelters over time, tool development & house design changes	Choose material and design for suitable shelter in given biome. Prioritize tools, resources available and the need for shelter
Compare and contrast cultural differences in shelters.	development and land use, construction & planning	Choose suitable shelter, given the culture.
Observe the effects of natural disasters on shelters.	shelter & health issues	Identify the type of threat to shelters in given biomes.
Describe types of emergency shelters.	emergency preparedness	Problem-solve shelter solutions to natural disasters.
Description	Sequence	Choice

Table 5. A framework showing some key ideas in relating shelter to biome resources, food and water, and conflict resolution.

skills and social skills. Figure 7 presents an example of an interdisciplinary problem.

Weekly Plans

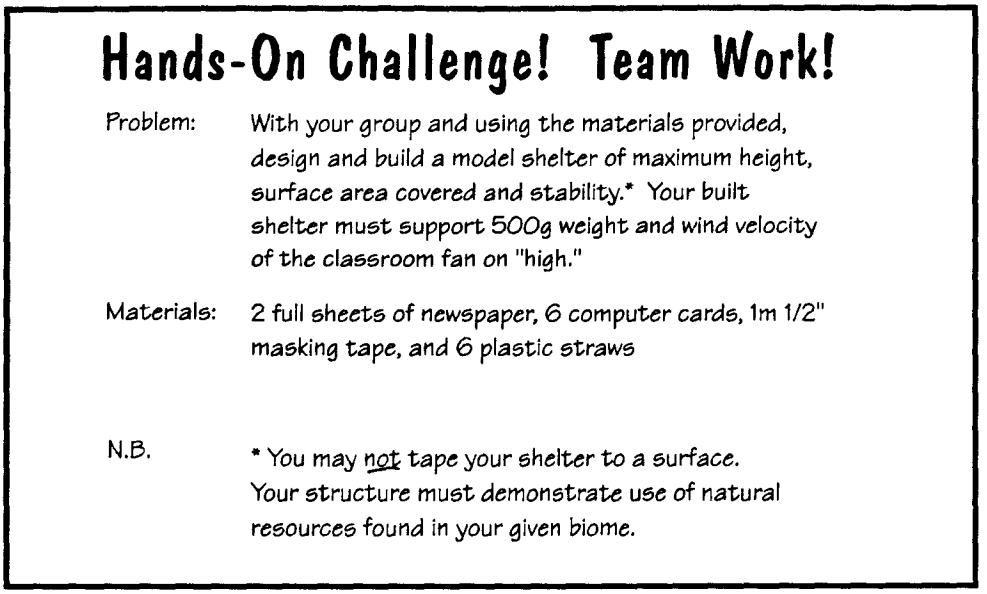


Figure 7. An example of a hands-on problem presented to students at the end of September.

In facilitating an interrelated curriculum, the classroom teachers had to contend with seven, 40-minute periods per school day (regulated by bells), and the platooning of various groups of grades 6 and 7 students to and from other teachers in various parts of the 3 story building. Also, there were some built-in timetable restraints. Gym time was the least flexible as all students had several regularly scheduled P.E. classes per week. Access to the computer lab was also limited due to the availability of the lab instructor, who is also the school's intermediate music/band teacher. Intermediate Art classes are scheduled as 2 blocks of 2 back-to-back 40 minute periods per week. Once the P.E., music, band, choir, computer, and art times had been set by the administration, the remaining subject areas were timetabled by the classroom teachers. Determined to maximize the potential for interrelating the subject areas, the classroom teachers innovatively reworked the class' timetables.

In contrast to the previous year's fragmented timetables separating each discipline, an attempt was made to combine disciplines when concepts or ideas overlapped, when different disciplines were taught by the same teacher, when co-planning, and when collaboratively team teaching. The team combined Language Arts and Social Studies to become "Humanities", taught by the classroom teachers. The classroom teachers also exchanged their classes, one teacher assuming responsibility for Science for both classes, the other for Math. Students in both classes platooned to other teachers for P.E., Art, Music, and Computers. In-class

support for ESL, LAC and Gifted students was arranged by the classroom teachers through consultation with the resource members of the team. Every effort was made to amalgamate rather than scatter discipline times over the school week.

To help students adjust to the new interrelated timetables, a colour coding system was uses to indicate the larger, chunked blocks of study times (see Figure 8).

The formal timetable ensured the prescribed allocation of time for each subject and was a concession

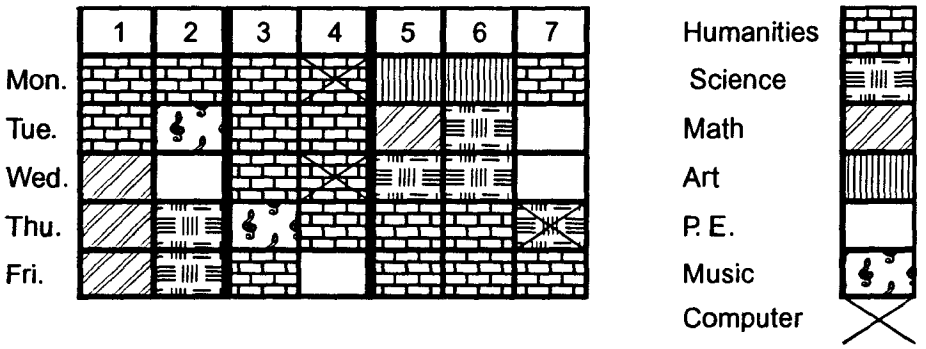


Figure 8. The colour coded grade 7 timetable.

to the need to observe the scheduled platooning times. The rest of the "timetable" had been designed to help the students shift viewpoints by symbolizing when themes would be approached from the various academic perspectives.

The sequence of the shifts in discipline perspectives was taken into account when weekly learning experiences were arranged. The anticipated difficulty of the concepts helped to determine the amount of time students might need to familiarize themselves with the ideas. The quantity of quality material that met the varying language competencies of the students indicated the choices in presentation and grouping. Over the course of any given week, opportunities were given for students to participate in whole class, large group, small group, paired and individual activities.

This weekly planning graphic (Figure 9) was used during collaborative planning sessions. It had been drafted originally to track idea sources and resource references, but soon was used more to ensure a balance of starting points in planning across the disciplines. The symbol in the boxes indicates the initiator

WEEKLY PLANNER

week of: Dec 9-13

Humanities	Topics	Resources	Skills	Activities
Reading Fiction				
Reading Non-fiction	boundaries ☆	see student bibliography	independent research, using multiple resources, note-taking	stations, comparison chart, cultural exchange across boundaries
Writing	dialogue, direct quotations	thesaurus	quotation marks, tag words, paragraphing	write dialogues ☆
Problem Solving	cross-cultural sharing activity	learning about others, "bingo game" ☆	questioning, peer interactions	students find classmate who can fit given criteria
Math/Sciences	**Topics**	**Resources**	**Skills**	**Activities**
Science	Genetics, heredity	biology texts, library books, resource person--UBC & MDs	develop knowledge base, analysis, classification ☆	tree diagrams, classification chart, reproductive cycles
Math				
Problem Solving				

Figure 9. A weekly planner showing Heather's organization of her responsibilities for this week.

of the activities.

Collegial Collaboration in the Development of Key Visuals

Most of the collegial collaboration focused on the development and use of key visuals and key vocabulary within the themes. The potential power of key visuals had been introduced to the team at Wolfe

through a previous ESL Pilot Initiative (Early, Mohan, Hooper, 1988). Team members had developed, used and evaluated the effectiveness of their own and other visuals throughout the pilot. The team was satisfied that key visuals display content information in ways that lower the language barriers for ALL students. They also knew the importance of visible knowledge structures underlying the content information in key visuals.

As the team wanted the students to develop an integrated knowledge base over the year, it was important to provide structures that could be returned to repeatedly to maximize learning opportunities over time. The designing of such key visuals became an ongoing challenge.

The key visual in Figure 10 was used to help students understand the interconnectedness of geogra-

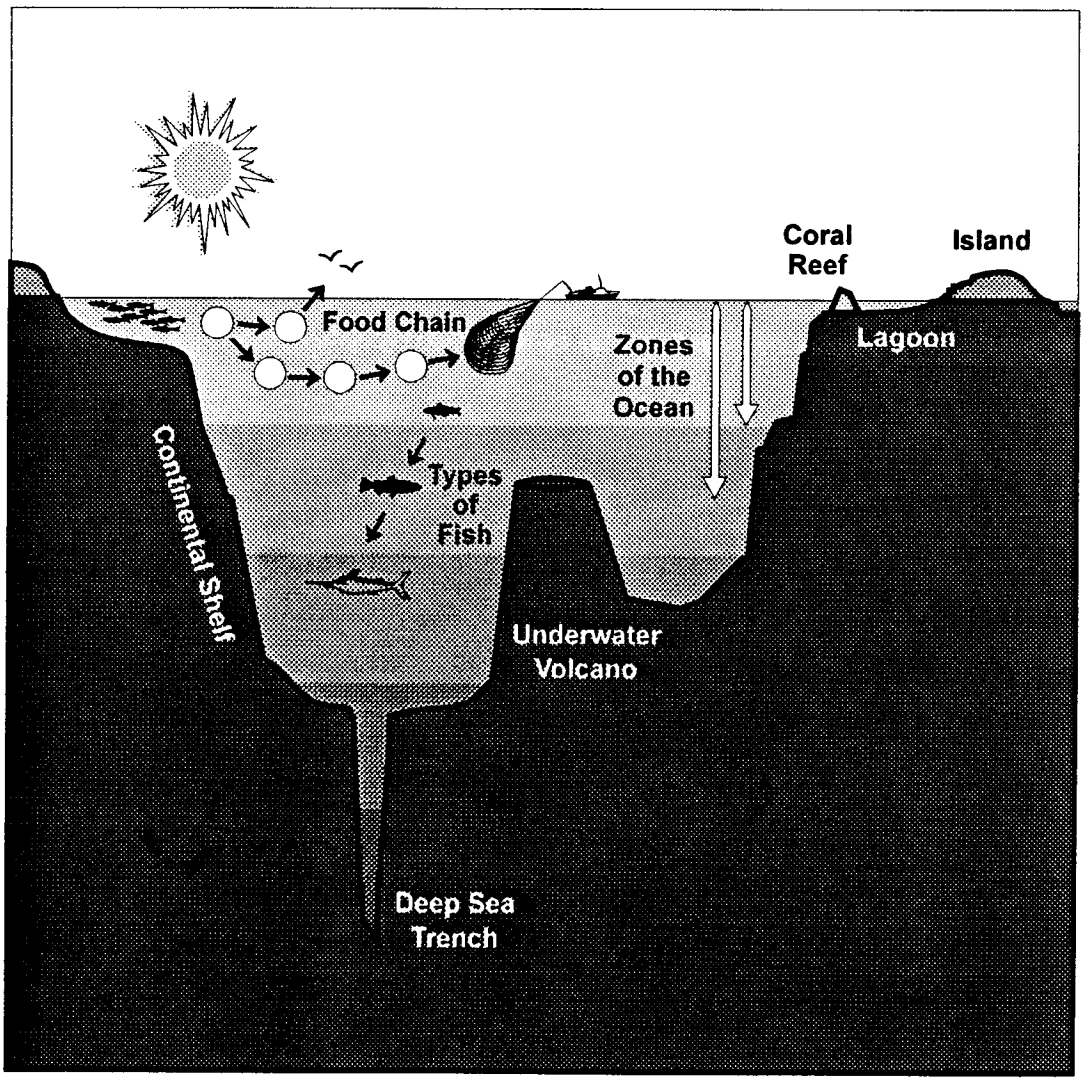


Figure 10. An example of a visual produced by the teaching team.

phy, water, and food. Significant information was added to the original structure as it accumulated over time. Using this visual, students recorded: the types of land configurations in oceans (during their environment studies in September), the vertical zones of the oceans and ocean food chains (during water and food studies in October), and the ocean resources/political boundaries (during conflict resolution studies in November). The frequent use of this visual throughout the three monthly theme periods focused students on the interrelatedness of the basic components involved in the issues concerning ocean use, conservation, and international law.

As information accumulated on this visual, it served as a presentation aid for new information, as a summary of previously given data, and as an advanced organizer for information to follow. The diagram format chosen for this key visual supports the knowledge structures that underlie the content, i.e., a cross-section of an ocean. By including a number of related concepts, it organized the various information units into a concept "ocean."

Other key visuals were also used by the team (see Figure 11).

During the planning of key visuals, the team identified key concepts and skills typically taught

	Classification	Principles	Evaluation
Background Information	webs, trees, tables, graphs, data base	diagrams, graphs, tables, cycles	rating charts, grids
Action Situation	tables, diagrams, pictures, plans, drawings, maps	steps, flow charts, time lines, action strips, cycles	decision trees, choices wheels, flow charts
	Description	Sequence	Choice

Figure 11. Some of the key visuals used with the framework.

within the single-subject approach. Once the priorities had been established, the team looked for shared commonalities of the curricula strands. In the visual in Figure 10, the geography of the ocean environment

was combined with the biology of its inhabitants to lead to the exploration of international laws concerning the harvest, conservation and claims to ocean resources.

Using this strategy, the team reworked dense text information into visuals known as "Text busters". The ocean visual compacts the significant information from several resources concisely and explicitly. Team-designed visuals were used to support discussion presentations. Students were encouraged to develop a repertoire of knowledge structures. As part of their research assignments, students used key visuals to plan their investigations, organize their data, and present their findings.

Many of the key visuals designed by the team required the students to conduct research in order to complete them. While the underlying knowledge structures remained the same for all students, they allowed students choices in degree of difficulty in text language as they searched through various resources to complete their assignments. Co-operative visuals helped students to add others' ideas, and to evaluate their efforts.

For the team, the most exciting key visuals were those produced by the students from their own research. Sometimes students were guided by choices of knowledge structures within a given theme. Often they were given free choice in producing informative key visuals. Students were encouraged to experiment with a variety of key visuals as they organized their own understanding and made presentations to enhance others' learning.

The Attained Curriculum

Over the Course of the Year

As students explored the issues related to the monthly thematic studies, they were required to use their knowledge and skills to research and develop new ideas. Projects often required students to employ their interpersonal skills to share ideas and promote community problem-solving. As well, students were encouraged to bridge generations to facilitate their own and others' learning. Exploration of career opportunities were an integral part of the thematic studies, and students were encouraged to do independent studies in areas of special interest to them. Students were offered many opportunities to extend their ideas into the public forum, and were expected to actively participate in decision making processes. Students contributed verbal-visual displays for neighbourhood businesses, non-governmental organizations, shopping malls, media

centres, and a provincial exhibition. Some students participated in public forums and hearings, others lobbied politicians, and most were involved in letter writing to newspapers, business and community leaders, and special interest organizations.

The Culminating Event

At Wolfe, the end of the school year was celebrated traditionally with public participation in a school-wide event. Wolfe's first Global Conference continued the tradition of presentation but changed the role of the audience. Rather than being passive viewers, the audience was invited to participate in interactive displays and student presentations.

The initial impression of the conference reminded the viewer of a science fair, as students each manned booths displaying verbal-visuals and science experiments or models. A closer examination revealed significant differences. Unlike science fairs where students compete with each other, this conference was a celebration of student-community effort. With the help of mentors, students had worked together gathering ideas, data and materials, collecting whatever they could find whether it was for their own topic or for someone else's. Some partnerships shared the same view of an issue, while others, as individuals, developed opposing points of view, and embarked on friendly, responsible debates. Also in contrast to science fairs, issues presented were required to demonstrate local-global connections through their verbal-visual, experiment or model, and oral presentations.

In preparation for the event, an intensive six-week mini-course was designed to focus students on transferring the knowledge they had acquired through mentorships with volunteer resource persons from the wider community. Students assumed roles as "Experts-In-The-Field" (see Figure 12).

Communication skills were emphasized as students prepared their verbal-visual displays and their

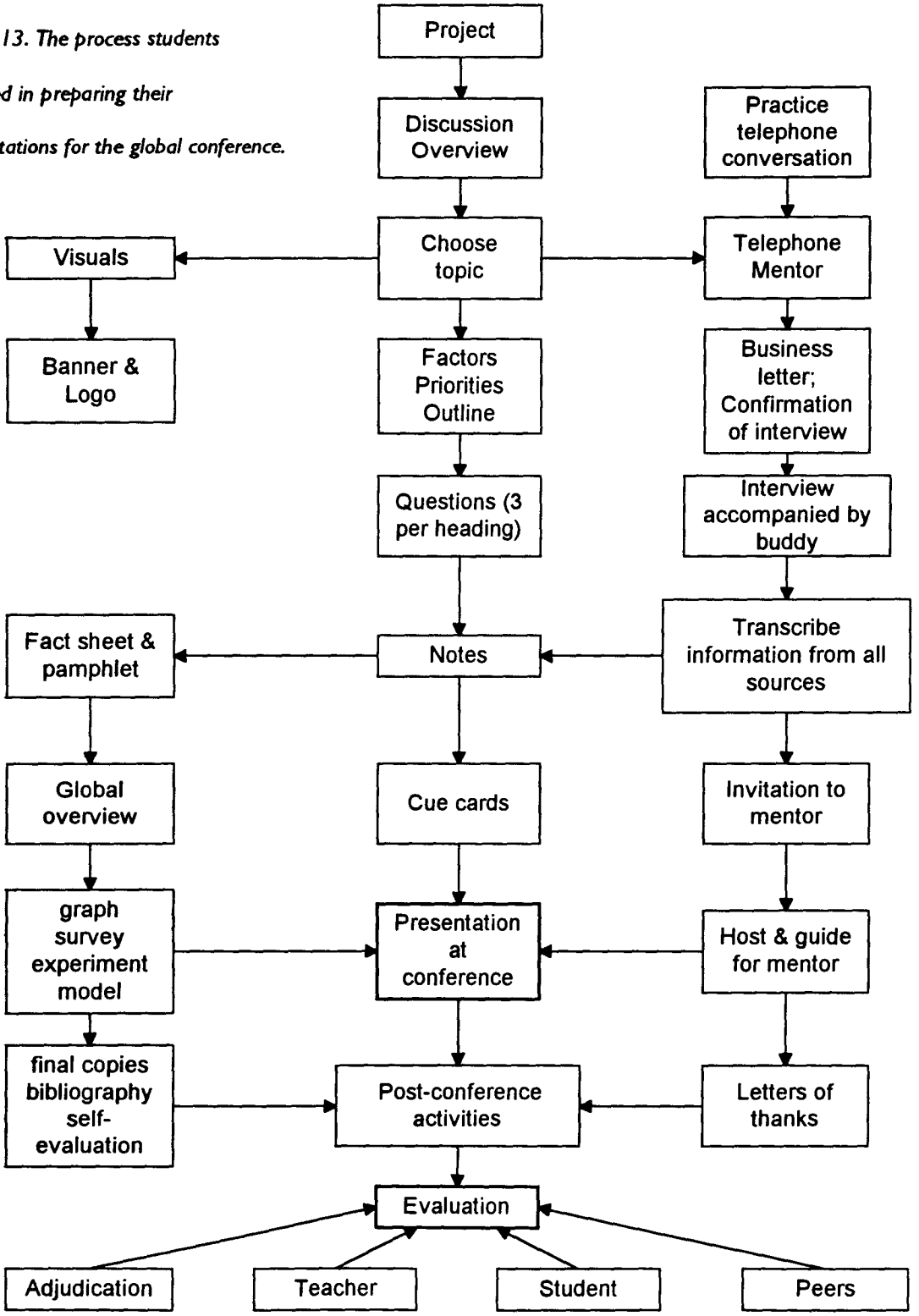
Student	Role	Issue
Daryl	Public Rel. Advocate	Pulp & Paper
Judy	Researcher, Critic	Pulp & Paper
Caroline	Public Educator	Household Waste
Carlos	Caregiver	Animal Rights
Sarah	Elder	Hunting

Figure 12. Examples of roles students assumed relating to global issues.

oral presentations. Figure 13 showed the students the process of preparing their presentations.

Students were asked to select topics from global issues that had special interest for them. Students

Figure 13. The process students followed in preparing their presentations for the global conference.



were encouraged to work with a "Partner" who would develop an opposing point of view on their issue. Some students worked cooperatively on a single issue or related issues. Forty-one student-designed exhibits produced and presented by sixty students engaged the public in dialogues concerning a wide range of local-global related issues (see Table 6).

While they were preparing their projects, students also designed and produced interactive computer

	Topics		
1.	Pulp and Paper Industry	22.	Hazardous Wast Disposal
2.	Dioxins and Furans	23.	Water Purification/Control
3.	Fishing Industry	24.	Water Reservoirs/Dams
4.	Marine Biology	25.	Pest Control
5.	Oil Industry	26.	Transportation/Fuel Consumption
6.	Oil Spills	27.	Garbage Gardening
7.	Transportation Expert	28.	Insulation
8.	Air Pollution	29.	World Food Production
9.	Resource Developer	30.	Water Pumps/Water Hazards
10.	Deforestation	31.	Home Energy Use/Waste
11.	Agricultural Practices	32.	Excessive Packaging
12.	Organic Gardening	33.	Recycling Garbage
13.	Hunting	34.	Composter/Worm Ranching
14.	Wildlife Management	35.	Mining
15.	Diaper Industry	36.	Mining/Environmental Damage
16.	Benefits of Space Research	37.	In Your Own Backyard
17.	Solar Energy	38.	Home Water Use/Waste
18.	Nuclear Energy	39.	Deadly Throwaways
19.	Noise Pollution/Air Pollution	40.	S.P.C.A.
20.	Composting	41.	Animal Rights
21.	Soil Pollution Landfill Sites	42.	Gift Giving Practices

Table 6. Topics chosen by students for presentation at Wolfe's Student Global Conference, 1991.

displays giving the public access to data on global issues, collaboratively painted a mural entitled "The Blue Planet" (to completely cover the back wall of the school's stage), researched, developed and performed a

mock hearing on the expansion of Vancouver's Airport. They also wrote, rehearsed, and dedicated their mural in their opening address.

Prior to the public opening of the Global Conference, students participated in a dress-rehearsal as they were evaluated by adjudicators representing academic, business, and community organizations. During their adjudications, students were required to explain the significance of their verbal-visuals, their models or experiments, and the local and global connections of their issues. Their presentation style and self-confidence were as important as their grasp of the content. Adjudicators had been instructed to give positive comments and coaching tips when debriefing with students. No letter grades or rankings were involved. Students received anecdotal comments and recommendations from their adjudicators, teachers and peers.

Summary

This chapter discussed the development of the intended, implemented, and attained curricula of the first year of the global project. The existing grades 6 and 7 curricula were reworked to incorporate Hanvey's (1982) five dimensional model for global education. The model was used to design and implement transdisciplinary thematic studies on global issues, that culminated in a Student Global Conference open to the public.

CHAPTER FIVE

CURRICULUM LEADERSHIP

Introduction

The purpose of this chapter is to examine the various roles performed by the teaching team as they designed and implemented the curriculum changes. This chapter details the five groups of tasks shared by the teaching team as they developed the global curriculum.

Breaking down each team member's role into functions might make it easier to understand, but the effectiveness of a team depends on how well it all blends together to make a total performance. Aside from their usual teaching responsibilities, the team members variously performed voluntary day-to-day operations tasks particular to Wolfe's E.Y.E.S. Project. The majority of these voluntary tasks can be grouped into the following areas: expertise tasks, role-function tasks, communication tasks, supervisory tasks, and personal growth tasks (Bradley, 1985). These various tasks will now be discussed in more detail.

Expertise Tasks

1. Making Connections With Other Major On-Site Initiatives

Other significant on-site projects also required the expertise of the teaching team. At Wolfe, there has been a long term commitment to the establishment of strong support for ESL students. Consequently, through district initiatives, the staff has been involved in on-going inservice, management and evaluation of their ESL support system. The teaching team members have undergraduate and graduate level coursework in ESL and each member has 6-12 years practical classroom experience supporting ESL students. The global curriculum maintained or increased the level of ESL student support, through co-planning involving ESL resource teachers, and through team teaching that lowered the student-teacher ratio within the regular classroom.

Another initiative directly involving the Vancouver District was the provision of an on-site resource person responsible for the support of gifted students. At Wolfe, this support has evolved over the last 6 years and includes gifted ESL students.

From the work done with gifted students, the staff has gradually incorporated the Autonomous Learner

Model (Betts, 1985) into regular classroom curricula.

Both the ESL and gifted initiatives presented a wide range of student support, from small group pull-outs to in-class monitoring. Concomitant with the service for students was the level of support given to classroom teachers. Some teachers requested little support, while others expected to collegially plan, peer coach and team teach. The resource persons had to be available to meet the needs of both students and their classroom teachers.

2. Participating in Creative Problem Solving

The uniqueness of Wolfe's E.Y.E.S. Project required the team to seek new ideas and to consider, adapt, combine and assess them. The team was charged with the responsibility of considering new ideas, continually producing useful ideas for the school administration to consider, interpreting theory into practice and giving sufficient attention to the action research process. Their thoughts ranged from the practical, feasible, possible ideas:

> "Let's use the old 'Science Fair' set-up, but use a GLOBAL agenda!" to lofty, ideal ideas:
>
> "If we're really going to go 'Global,' wouldn't it be great to actually link our kids with others around the world? We could use the computers, modem and satellite technology!"

The onus was on each member to stay current in their specific field of expertise while maintaining the perspective of global education. The team exchanged pertinent readings collected from different sources.

From their readings and through their personal connections with other groups, each team member kept abreast of the current issues and trends in their own curricular areas and within their extended social environments. This gathering of opinions from professional and personal sources provided balance in determining the values of the current issues in the public domain, helped determine the selection of the study themes and reinforced the neutral role of the teaching team in their presentations on issues.

The team's eclectic collection of skills and strategies offered them a comprehensive repertoire to draw from when they planned student activities. Their successful transfer of pedagogical knowledge to and from various educational domains facilitated their interdisciplinary approach.

As those not directly involved became more aware of the E.Y.E.S Project, there were numerous

requests for input from the team. Teachers asked for innovative ideas to help them make their own local-global connections. Business interests consulted the team on ways to include student work in their public displays. Non-governmental organizations asked the team to preview educational materials. Independent film-makers had the team help produce two videos for international audiences. Through correspondence, inservice, informal and formal talks, published articles, and by hosting guests, the team tried to share their ideas and to inspire others to get involved.

3. Connecting With Resource Persons

Through personal networking, team members initiated the search for available materials. While on-site resources were being collected, reviewed and assessed, colleagues at other sites, businesses, publishers and non-profit organizations were being contacted for their support. As information and materials accumulated, resources from different content domains were reviewed and shared by the teaching team.

4. Being Resource Persons for On-Site Administrator and Teachers

Because team members had expertise in various content areas, other staff looked to them when they needed specific information. At least two team members reviewed all materials for factual content and bias of opinion. Then the materials and evaluation comments were passed on to other team members who screened the material for their content/skills domain, selecting useful items and forwarding others. By sharing the task of screening of materials, it was manageable, and allowed the team access to limited resources.

Team members used five criteria to sort and select materials to be used in the project.

1. Materials had to fit Hanvey's 5 Dimensions.
2. Materials had to support educationally sound practices.
3. Materials had to be practical to use with grades 6 and 7 students.
4. Materials had to be of low cost, high educational value.
5. Materials had to have other points of view available.

Those materials that met the screening criteria were filed under theme headings. Materials that met the criteria but were not age appropriate, were offered to other interested teachers on-site. Materials that failed to meet the criteria were returned to their source with a note of explanation.

Team members recruited a number of persons from the off-site community on behalf of the E.Y.E.S. Project. As a result of these contacts, a number of resource persons became directly or indirectly involved with the school. In several cases, resource persons made extended or return visits in order to include students in other classes in similar presentations.

Role Function Tasks

1. Full-Time Teaching Assignments

The E.Y.E.S. teaching team was composed of both enrolling and non-enrolling teachers. The enrolling teachers' responsibilities centred on the management of the learning experiences for students in their assigned classes with extensions into the wider school experiences through various student and teacher initiated projects. Non-enrolling teacher' assignments involved the support of all Wolfe students and their teachers. Since the commitment of the team to develop the global perspectives curriculum, the team had assumed the added responsibilities for the redesign of the existing grades 6 and 7 traditional curricula, and of infusing global awareness into the regular school-wide theme studies.

2. Participation in School-Wide Theme Studies

For several years, Wolfe teachers have on occasion, cooperatively planned simultaneous month-long thematic events for all students. Formerly the themes chosen related to content topics that were common strands through the prescribed course of K-7 studies. Early topics included "Space", "Time", and "Clothing." With global awareness, the themes were related to local and global issues. Recent themes were developed concerning "Shelter", "Sharing and Caring", "Physical/Affective Environments", "Recycling", and "Adopt An Elephant." The school-wide themes often evolved as extensions of the monthly thematic studies planned for the E.Y.E.S. students (see Table 7).

3. Developing the Working Model of the Global Curriculum

E.Y.E.S. Project	School Theme
Biomes/Adaptive behaviour	Environment
Biome resources	Shelter
Cross cultural/generations	Sharing and Caring
Zoos/Endangered species	Adopt an Elephant

Table 7. School-wide theme studies planned to coincide with the grade 6 and 7 global themes.

Wolfe's E.Y.E.S. Project evolved from curriculum documents written prior to its beginning. Previous goals, objectives, skills and concepts from prescribed academic content areas were continually redefined as new ministry documents became available. Because team members came from various fields of expertise, it was expedient to begin with the work that was completed and available, and then adapt it for a global perspective through additions, deletions, and revisions.

There was a security in reworking the prescribed curriculum. By using existing documents, the team maintained consistency of educational language, while writing on a level of generality that provided needed flexibility. The working model for the E.Y.E.S. Project was a combination of strengths from many educational sources.

4. Scope and Sequence Development

The team replaced the traditional grades 6 and 7 curricula. They reorganized individual prescribed scopes and sequences into interdisciplinary thematic studies. They added content concerning global issues, specified thinking skills to be taught, and included short-term independent studies with off-site mentors. They incorporated the elements of Hanvey's (1982) global dimensions within monthly themes and over the year's course of studies. The team designed key visuals to reinforce the interconnectedness of content and skills across disciplines over time. Real-world issues were topics of choice in planning student experiences. Task emphasis was on student participation in the problem-solving process, and on their active involvement as citizens in community groups.

5. Answering Correspondence

Once the team made requests for assistance from the public domain, answering the mail became a significant task. There was a temptation to allow the excitement and novelty of the new sources to intrude into other daily tasks. No clerical help was available to the project, so each team member received, assessed, distributed and/or filed materials. Heather and I answered requests and sent thank-yous on behalf of the team, but students were responsible for communications with their mentors, once the team had established the mentorships.

6. Setting Up In-service Meetings and Conducting Workshops

Wolfe's E.Y.E.S. Project was not intended to be developed and implemented in isolation. The rest of Wolfe's staff was kept abreast of the latest developments through regular information items presented at the Principal's meetings and through their Teacher Action Committee meetings. Less formal debriefing took place over lunches, in small groups or during the team's peer coaching sessions.

On several occasions the school staff requested the team to provide coaching and/or workshops arising from some particular aspect of the project. Thinking skills, interrelating the curriculum, and future-oriented problem solving were some of the topics specifically requested. When time allowed, arrangements for inservice sessions were made as soon as possible, on-site, at the convenience of the majority of those interested in the particular topic.

7. Developing Budget Proposals

In order to make Wolfe's E.Y.E.S. model easily transferable to other sites, the team was determined to minimize the cost. It was also important to the team members that the project did not burden the school board's funds. Consequently, outside support that included a small discretionary fund was gratefully received, and used to purchase global information materials and graphic art supplies for the students. When and how the money was spent was decided through collective agreement. Because money used by the school must be audited, bookkeeping was monitored by the team but maintained in an account through the school's office.

8. Long Range Planning

As the project developed, the range of long term planning extended. Initially, the long range plan covered one school year. Then it was extended to three years and has since been set at five years by the participating team members.

While the current year was being implemented, the next year was planned and the following year was in the design stage. Input from the grades 4,5 and 6 teachers helped the team select the content and approaches that were suitable to the incoming class. Target dates for the goals, objectives and activities were set during the implementing year when they were adjusted to meet individual student needs and aptitudes. Throughout the course of the project, the team, the school's staff, parents, and students, were involved in review of the project's long range plans.

Communication Tasks

1. Public Relations

As well as educators, representatives from various community groups such as business, special interest, and the media have visited Wolfe School to experience the E.Y.E.S. Project first-hand. To acquaint visitors to the global curriculum, the team shared their knowledge of global education and expressed the goals, objectives and strategies of the project. Visitors were invited to participate actively in the classrooms and students were encouraged to take active roles in demonstrating the skills they were acquiring and their applications is exploring global issues.

Regular, written communications sent by the team to parents ensured the on-going information exchange between school and home. Information sent home concerning major events reiterated the goals of the project and related them to the practical experiences in which the students were involved.

Through personal interaction with other staff members, parents, off-site professional resource persons, and the general community, the team was able to survey interested groups to determine their perception of the project. Occasionally, through these interactions, new resources were discovered, or the project found new ways to be involved with the off-site community.

2. Collecting and Summarizing Critical Analysis

Team members welcomed others to evaluate their efforts. In response, the team received both oral and written communications expressing colleagues', parents', mentors' and visitors' impressions and recommendations. All written communications received from off-site parties were shared by the team. There has been some on-going written communication with formal evaluators through the B.C.T.F. Global Education Project. To date, no formal evaluation of Wolfe's E.Y.E.S. Project has been undertaken.

3. Speaking on Curriculum and Instructional Topics

The teaching team was frequently requested to make formal and informal presentations concerning the development of the global perspectives curriculum. Regular updating and debriefing sessions during Principal's and Teachers' Committee meetings kept Wolfe's staff informed. Continuous interaction with the wider community offered many opportunities to communicate the goals and objectives of the project. The lighthouse status of the project encouraged the linking of the project with other global development sites in British Columbia through mutual exchanges and collaboration, and provided opportunities to network with global educators

across Canada.

4. Disseminating Research

When other teachers expressed interest in global education, the teaching team offered to help them with information and ideas. Theme bibliographies and literature sources were made available, and field tested books and student materials were recommended by the team. The team directed inquirers to the resources that would be most helpful to them.

5. Writing Memos

Effective communication between the teaching team members required few written memos. During the early planning stage, informal notes were exchanged several times daily, as ideas were generated. The notes covered a wide range of topics, some with great detail, others with graphics. Because of team member's personal styles of note making, no official form was designed. Memos requiring action from the receiver were kept until the task was completed, then the memo was initialled and rerouted back to the originator. Larger items, such as budget proposals, inservice preparations, and requests to visit, requiring greater team input, were exchanged through a file folder system.

6. Preparing Agendas

Most meetings held by the teaching team were informal, often over lunch. For such gatherings, no formal written agenda was made. When major events were being planned, an agenda was posted in the resource room where the meetings took place. The posting looked more like a listing of ideas to be considered in reaching a goal than a compilation of information/interest topics. The team met as often as necessary to ensure the continuity and management of the project.

Supervisory Tasks

1. Development of Models

The team was required to generate an exemplary global education model suitable for use by other teachers. The team was in charge of generating this model. They set goals and organized themselves for the tasks involved with curriculum development.

2. Co-operative Management

Because team members assumed many roles in the school, they had to stay in close communication with the administrator. As interactions between the global project and the off-site community became more varied and frequent, Heather and I met regularly with our principal in order to give ample time to consider ideas that required administrative support.

3. Monitoring the Project

The team's evaluation of the project centred on the project's progress, activities, resource materials and roles of personnel within the project. It did not infringe upon the principal's administrative evaluation areas.

Professional Development Tasks

1. Participation in Professional Activities

The nature of this curriculum with a global perspective required the team to stay current with curriculum trends and research in education. The team members regularly surveyed current literature sources. They attended district, provincial, and international professional meetings. They arranged and hosted visits with other teaching professionals, and were in regular communication with university professors and specialists at the B.C.Teachers' Federation.

2. Literature Reviews

Members of the team set aside some time each day for reading and reflection. The volume of material shared demonstrated their eagerness to pass on anything worthwhile. They enjoyed learning from each other as they manipulated their out-of-school/on-site time for regular brainstorming and problem-solving sessions.

3. Developing Professional Materials

The team designed and presented professional workshops throughout the development of the project. The presentations were for on-site, district, regional, and provincial teaching professionals. In conjunction with those presentations, packages of written materials were designed for distribution.

Summary

This chapter describes the leadership roles performed by the teaching team as they designed and implemented the global project. In addition to their usual teaching responsibilities, team members performed various day-to-day operations tasks particular to the project. Their leadership tasks were grouped as 1) expertise tasks, 2) role function tasks, 3) communication tasks, 4) supervisory tasks, and 5) personal growth tasks, as in

Bradley's (1985) model.

With respect to expertise tasks, team members were resource persons to the school's staff, students, and off-site community. They used their talents to gather global content materials, stage real-world problem solving situations, and link students to off-site mentors.

In performing role function tasks, the team adapted their participation in regular school events by using Hanvey's (1982) model to guide the selection and design of student experiences. As classroom facilitators, the team worked collegially to provide students with curricula plans, resource materials and mentors current with global issues.

With respect to communication tasks, the team made both written and oral transmissions. The team sent, received and answered requests, surveyed and collated ideas and opinions, and made presentations on behalf of the project. They also held meetings and debriefing sessions, recorded work related to the themes, hosted visitors, and reported on the project's development, student achievements, and the roles of facilitators.

Supervisory tasks were also shared by the team. They focused on the development of the global education model, with the support of the school's administrator.

Personal growth tasks centred around literature and trends in global education curriculum development. Team members actively pursued ideas and materials that promoted a global perspective in all content areas. They attended professional meetings and hosted visitors in order to network with other global educators. Through teamwork they supported each other to achieve competence in interdisciplinary curriculum development, and gained confidence to help other teachers gain insights into global education.

CHAPTER SIX

INDICATORS OF CURRICULUM EFFECTIVENESS

Introduction

This chapter relates the previous chapters' descriptions of curriculum leadership and development within the global education project, to indicators of effective curriculum leadership and development as described in Bradley's (1985) model. His model provides specific indicators to be used to determine if effective curriculum leadership and development are present.

Bradley's model was not known by the teaching team until late in the second year of implementation. At the beginning of their third year, team members agreed to review their first year's work for evidence of curriculum development and leadership in global education. This chapter's discussion begins with evidence indicating effective curriculum leadership, and ends with evidence indicating effective curriculum development.

Bradley's Indicators of Effective Curriculum Leadership

Indicator # 1: Others Seek Out Curriculum Leaders For Help

There were many processes and decisions that the teaching team was involved in because of their various assignments in the school. However there were many other decisions and processes that the team also participated in as a direct result of their commitment to global education, and the E.Y.E.S. Project.

Increasingly, other teachers requested personal consultation time with the team for the purpose of global perspectives curriculum planning, materials preview, cross-grade sharing and reflective problem-solving. Several requests were made for guidance in selecting student activities, books, guest speakers and audio-visual materials. A few requests were for readings from the team's literature reviews.

As the E.Y.E.S. Project evolved, the team received information and materials from agencies requesting their consideration for use within the curriculum. Community media and video makers approached the team on numerous occasions inviting participation in productions for various causes associated with global issues. The team regularly hosted visiting professionals interested in gaining personal insight into a classroom environment with a global perspective. As requested, the team made inservice presentations on-site,

and at District, Provincial and International conferences, often infusing global awareness into other educational domains.

While none of these events may be unique to a global classroom, the frequency of occurrence, depth of personal involvement, and time commitments of the team members were significant.

Indicator #2: Consistency of Curriculum Document Quality

The number of teachers comprising the teaching team required that the curriculum documents generated be formalized from the beginning. As the project continued, the originals were modified and new formats were added as the needs arose. The planning formats were deliberately chosen for their universality in application across disciplines. The team set the standards for the documentation of the global curriculum.

The use of the cross-matrix grid for the thematic unit layout provided the team with a practical organizer for the yearly scope and sequence. The Framework for Teaching and Learning standardized the outlines for thematic units. Weekly overviews provided all team members with up-to-date modifications to meet immediate student needs. The use of Key Visuals throughout the curriculum provided everyone with advance organizers, information structures, and review graphics, to enhance text.

By using these formalized documents, design elements did not vary significantly because of the content or subject issue of the curriculum development. Each thematic study followed the same design process and was recorded using the same unit organizers.

Indicator #3: Teacher Willingness to Work on Curriculum Committees

Members of the teaching team were experienced in the curriculum development process. They had individually and collectively been involved in many local, district, and provincial curriculum committees, as specialists and as generalists, as participants and as facilitators.

The time committed to their curriculum work ranged from individual days to blocks of time. The team had been involved in other pilot initiatives and innovative projects prior to initiating the E.Y.E.S. Project. Previously, as individuals, they had spent time providing inservice symposiums and presenting at conferences, for their various special interest professional associations. Presentations concerning the E.Y.E.S. Project were co-presented. As a result of the global project, the team became more actively involved in the wider school community, specifically with local interest groups, community associations, and their Partner in

Education, a local bank. As these commitments were by invitation and voluntary, the teams' willingness to serve again and again indicated that the time and effort were considered worthwhile.

Indicator #4: Communication

Initially, the team sought other educators knowledgable in the global education domain, in order to clarify their understanding and to seek guidance in implementation of their ideas. During the planning stage, the team explained the curriculum changes to the various groups of people who were affected by it. They explained the project to other educators in terms of classroom implementation while communicating with the public in lay terminology.

During implementation, communication was continuous in order to nurture ownership in the projects' various stakeholders. Community resource persons were most often kept informed by personal phone calls from the team, though on occasion there were written communications. There were regular oral and written communications with colleagues responding to specific enquiries and/or requesting input for plans of special events that concerned them. Parents received daily debriefing through student homework logs which doubled as response journals between home and school. The off-site school community received updated information through the regularly published school newsletter. The level of public communication over time was proportionate to the degree of direct involvement in the project.

Indicator #5: Identifying Working Models

Because attaining a global perspective does not require the replacement of, or adding-on to the traditional curriculum, the models already in place became the foundation for the organization of the global curriculum. Hanvey's (1982) Global Perspectives Model was selected by the team because of its modesty of goals and because it seemed likely that its dimensions would fit the school's established models with reasonable success.

Indicator #6: Moulding of a Workable Group

The teaching team had worked together at this site for more than 5 years. Some members had worked together for more than ten years. As Intermediate teachers, platooning each others' students, they comprised an informal group. Also, they had previously worked together formally to produce intermediate courses of studies and activities for school-wide thematic studies. The experimentation with the global

perspective initiative followed from their informal and formal relationships as intermediate curriculum developers. The successes of the various short-term global issues experiments carried out by individual teachers, sparked their interests in pursuing the long-term group-process development of the E.Y.E.S. Project.

Indicator #7: Comprehensive Ownership of the Curriculum

The commitment of the teachers to the development of a global perspective curriculum was a collective response to anxieties expressed by their students over the catastrophic global events of early 1990. Their students' attempts to debate issues and make sense of the ramifications they were feeling in their daily lives, required the team to make as much time and information as possible available to the students. The students indicated a deficiency in their studies , demanded change in their courses of study, and began to pursue information concerning global issues.

The global events of the time were of such magnitude and frequency that the team opted to facilitate the teaching of skills to help students deal with the global challenges presented daily by the media. Very quickly, the experimental phase showed that the future role of the teaching team would be as facilitators of skills and strategies needed to manage the ever increasing amount of incoming information. No shortage of content was anticipated for the global education studies.

From the beginning, parents were pleased to have their children take active interest in the expanded current event discussions. Some parents commented that they were mildly amused with the seriousness their children expressed concerning world issues. Several parents expressed surprise at the depth of interest their children pursued, while others commented on the pressure they were feeling to keep abreast of affairs themselves.

Students were encouraged to survey their family and friends for opinions and beliefs connected to issues of concern to them. They participated in cross-generation activities, establishing links with their wider global community. Though their active participation in the school and their wider community, students became "ambassadors" for the E.Y.E.S. Project. Their contribution to a number of public displays in support of global issues furthered their visibility in the off-site community.

Because of the frequency of pilot initiatives at Wolfe, the advent of the E.Y.E.S. Project did not receive special attention. Typically, colleagues expressed interest in its development and included it in the

staff sharing sessions. As the curriculum developed, their support was shown in their continuous recommendations of materials, resources and ideas. They encouraged cross-grade sharing of issue studies and asked to be included in numerous special projects undertaken through the project. Gradually, other intermediate teachers began experimenting with a global perspective in an effort to prepare younger students for the grades 6 and 7 E.Y.E.S. Project. It was not long before the global curriculum became a favourite project involving many people working together.

Indicator #8: Problem Solving

Because team members have worked together on several previous projects, they were aware of each others' professional strengths and interests. They have established a working relationship based on their willingness and ability to participate in problem-solving processes. Part of problem-solving is problem-finding, the ability to sense potential problems before they become a reality. The team seems to have an innate ability to intuitively assess and determine plausible solutions, and they are able to prioritize preferable alternatives very quickly and easily.

Another strength of the teaching team was their collective positive attitude. This attitude was reflected in their approach to the challenges of developing a new curriculum. They were positive in their support of each other's efforts and were willing to accept mistakes as well as to participate in attempts to correct them. There was a relaxed atmosphere and great sense of security within the team.

Their collegial support of each other reduced the risk to any one member through their shared responsibility of accepting any professional risk involved in developing new curricula. Creativity and humour were always welcomed by the group, but were especially prized during their problem solving sessions.

The team was as comfortable using thinking skills strategies in their own problem solving sessions as they were using them with students in the classrooms. As well, the team had formally trained and used strategies in creative problem solving, future problem solving and conflict resolution.

Observers commented on the team's continual state of activity. Members of the team responded to questions about their state of perpetual motion claiming they were a reciprocal "event" with energy flowing back and forth between themselves and the students as they learned together.

Indicator #9: Use of Personal Power over Positional Authority

The team took the opportunity to develop and implement a global perspectives curriculum during the time of the transition from the former Provincial Intermediate Curriculum to the proposed Provincial Intermediate Foundations Curriculum. The length of time taken in the development and implementation of the new Provincial Intermediate Curriculum provided impetus to continue the development of Wolfe's E.Y.E.S. Project, as its base was firmly rooted in the skill and discipline areas of the former curriculum, yet it also incorporated new ideas and concepts through global future studies.

This project was self-initiated by a small group of local teachers, responding to the needs of their students at a given time in space. It was not mandated, and demonstrated a willingness by the teachers to commit to work in areas not necessarily within the team's legal responsibilities.

Team members had many functions entrusted to them that were not vested authority. They performed these functions through entrusted power from others, given to them personally, and derived from the influences of their personalities and behaviours. Their collective power came from their knowledge of the prescribed curriculum, their areas of specialty and their understanding of issues in global education. They also had understanding of the school and its off-site community based on their years of teaching at Wolfe and their personal involvement with its stakeholders. The members of the team had previously contributed individually and in other arrangements to provide leadership and cohesiveness to the school. Aside from their professional contributions, they had been involved in setting up private support for individual students, in organizing fund-raising events, in sponsoring social events for both students and staff, and in producing celebrations of students' accomplishments. Team members were often approached for their consul by students, staff and parents when an idea for an event came forth. It was assumed that the members were advocates and that their inclusion would ensure some measure of success for the event.

The ongoing leadership of the team members in the everyday affairs of the school attested to their requisite skills in human relations, and not simply on positional power or authority. They did not agree with everyone or about every idea, but they did disagree agreeably. The result was usually a rousing, enthusiastic discussion ending in good-natured resolution.

One of the strongest human relations skills exhibited by the team was their ability to manage disagreements. Within the team, on the rare occasions when disagreements occurred, they developed over ideas,

concepts or decisions....not over personalities. Their ability to work closely on projects beyond their regular assignments, over extended periods of time, attested to their collective interpersonal skills and their manipulation of conflict as a positive element in a change process, factors indicating power through personality and behaviour.

The team maintained a low profile. As individuals, they pursued other interests and professional commitments that took precedence over their contributions to the E.Y.E.S. Project. Responsibilities for the global project were shared and no one assumed a role of positional authority. Through mutual support, team members kept other members informed about personal adjustments they perceived and the actions they intended to take. Their respect for each other did not require defence of their positions though there was a sense that it would have been willingly given if requested.

The strength of their personal bonds allowed the team to complete the first year of the project and to successfully manage two full term pregnancies at the same time. There was an intrinsic satisfaction shared by the team that needed no window dressing nor flashing lights.

Indicator #10: Use of Multiple Leadership Styles

Team members' full time teaching assignments were content based. As curriculum developers, their task was viewed differently. Because of the diverse academic nature of the global curriculum they did not expect to be experts in all content areas. They had a collective knowledge in curriculum planning, design, format, decision making, and evaluation. As a team they facilitated the whole curriculum development process from planning through evaluation. Each member was expected to make content decisions, and to lead in the curriculum process as part of the interrelated curriculum development. Given the diverse nature of each team member's job, behaviour while performing roles was not always the same, no one member was always in control, or directing, or identifiable by some consistent leadership style.

The following leadership styles (Bradley, 1985) were used by the team.

1. Instructor:

In situations calling for the dissemination of information from a specific content area, the resource member assumed an "Instructor" style using lecture methods until the rest of the team was comfortable with the input. The assumption of the instructor style was useful when time was limited because it gave informa-

tion quickly, enhanced the team's collective understanding and reduced the risks of shared ignorances.

2. Advocate:

The team's advocacy of the development of an interrelated curriculum with a global perspective had been clearly stated. They shared their beliefs through discussions with all interested parties. They added a global dimension to their school's culture and developed a model for the global curriculum's organization, development and implementation. Because they advocated what they thought was best for their students, they were confident of their position and received ongoing support from their colleagues, administration, parents, and off-site community. It was recognized generally that the global education project was THE grades 6 and 7 curriculum at Wolfe.

3. Servitor:

The development of the global curriculum provided many opportunities for discussions, debates, and compromises. Many decisions needed to be made in which there was no right or wrong, but many plausible choices. To serve the development process, members participated in group problem-solving, then facilitated the work by performing tasks necessary to complete the curriculum development. By acknowledging many points of view, it was reasonable to assume that the best possible choices were made given the variables of time and situation. Team members took turns organizing and performing tasks given priority by the team.

4. Troubleshooter:

There was no evidence of personal desperation, lack of ability to reach a solution, or conflict. Minor content-based problems needing immediate attention were dealt with by the resource-expertise persons. The selection of materials and resources to present a balance of points of view on issues and the exposure of bias were examples of content watchdog tasks. A larger problem that required continuous monitoring by the team was the issue of teacher neutrality. Many problem-solving sessions included reflections on personal values, biases and professional accountability. The team's experience with problem-solving processes allowed them to anticipate potential problems and reach consensus on appropriate actions. Team members were comfortable initiating problem-solving sessions and facilitating recommendations.

5. Facilitator

Through the collaborative efforts of the team, they supported each other in their attempts to achieve

a level of competence in global curriculum development. By working across disciplines, they gained self-confidence as curriculum developers that allowed them to help other teachers interested in interdisciplinary studies and attaining a global perspective in their own classrooms. The team's inservice presentations concentrated on the needs that were commonly important to most people advocating global perspective curriculum development.

Bradley's (1985) Ten Indicators of Effective Curriculum Development

Indicator #1: Vertical Curriculum Continuity

The evidence for vertical curriculum continuity came from the prescribed curriculum documents used by the team in the first steps of their planning process. The content and skills for grades 6 and 7 were sequenced to follow those prescribed for earlier grades and precede those presented in later grades. Reinforcement of learning objectives occurred through the ordering of skills and content over the school year. Through interrelated thematic studies (e.g., the "layered" graphic, Figure 10), students were encouraged to use prior knowledge and skills in ongoing interdisciplinary problem solving. There was a system for the introduction and reinforcement of significant learning objectives.

Indicator #2: Horizontal Curriculum Continuity

The cross-disciplinary approach taken by the team integrated the four major disciplines, Math, Science, Humanities and the Arts, by setting curricular priorities in each and finding the overlapping skills, concepts and attitudes in all of them. The ideas that were interconnected came from within the various disciplines and the connections were made as commonalities evolved. For example, the study of ratio was used in Math to determine scale measurements (e.g., models); in Science for exploration of natural resources (e.g., supply:demand); in Humanities to compare population density; and in Art for the analysis of relationships of colour proportions in camouflage patterns.

Indicator #3: Instruction Based on Curriculum

Lesson plans were derived from the models used to pattern the content. Within the general themes, lessons and student activities were selected for specific relationships to the issues studied, and thus provided the rationale for their inclusion at given times on the year's curricular continuum. Planning guides were used to monitor and adjust the curriculum, to provide enrichment and remediation to meet individual student

needs.

Indicator #4: Curriculum Priority

The establishment of educational priorities and commitment to curriculum development was two fold: personal and financial.

The school administrator's commitment was shown through efforts made to overlap timetabled preparation periods for team members, and by her willingness to meet regularly with Heather and I. E.Y.E.S. Project updates appeared regularly on the agendas for Teacher Action Committee and Principal's Meetings. School board consultants and the school's administrator rerouted research and related articles from educational leadership sources that the team did not usually have access to. By permitting off campus/on duty days, the administrator encouraged team members to be involved in global education professional development as participants and as facilitators.

The B.C. Teachers' Federation Global Education Project provided guidance from the earliest stages of the E.Y.E.S. Project. They provided access to inservice, resource persons and opportunities for the team to develop as global education facilitators, locally and provincially. Their co-ordinator helped the team throughout the development of the curriculum as an off-site professional who was knowledgeable about global education curriculum development. It is only because of the co-ordinator's interest and enthusiasm, that the team has had any financial assistance.

As a result of the advocacy of the BCTF Global Education Co-ordinator, the E.Y.E.S. Project was awarded "Lighthouse" status. Inherent in the award was BCTF's commitment to provide funding for opportunities for team members to host educators interested in global education curriculum development, to provide clerical assistance necessary to process the curriculum work and products produced, and to provide substitute pay and travelling expenses for inservice related to global education for team members as participants and/or facilitators. The school's administrator and the B.C.T.F. would not have given these special considerations had the E.Y.E.S. Project not been a curriculum priority.

Indicator #5: Broad Involvement

Many people were involved with the global project. Those persons affected by the global education curriculum development were invited to give their input during every phase of the curriculum development.

Whether parents, teachers, administrators, or students, three different roles were possible. They might have been consulted prior to decision making, they might have been actual participants in the decision making process, or they might have received and communicated decisions to those concerned. All the roles were appropriate during various stages of the curriculum development.

Part of the planning process was regular requests for other educators' input. There was no formal structure in place to provide adequate time to gather quantitative or qualitative input. While the team had access to agendas for both teachers' and principal's meetings, input reception and correlation usually took place out of school time.

Time limitations did not allow the luxury of negotiation of roles with other persons involved with the global education curriculum development. It was most expedient to have all concerned cognizant of their roles. It was the practice of the team to clearly state their objectives for formal meetings, to quickly explain why the participants had been invited and to express thoughts about their possible roles in the curriculum development.

Indicator #6: Long Range Planning

The development of the grid system organizing the curriculum strands through monthly themes proved useful as a yearly preview organizer. The grid system provided an ongoing plan for development and/ or revision that included all courses found within the grades 6 and 7 curricula. Records of the grid, frame-works and lesson plans provided the vehicles for long-range curriculum planning by providing documentation that was present and verified. The yearly preview grid also provided a method of assessing the adequacy and availability of resources before they were needed, allowing time to search for, secure, adapt and design required items.

The presence of the grades 6 and 7 global education project has contributed to the school's other intermediate courses of study, and has had some influence in some primary classrooms. Schoolwide themes collegially chosen by Wolfe's staff were derived from the global education project. Team members have recently begun to co-plan and team teach with other intermediate classroom teachers in informal mentorship arrangements promoting global education. Some primary teachers consulted with the team on specific themes/resources. Sponsorship of special events, cross-classroom sharing and public displays helped keep the

project visible in the larger community and served as awareness vehicles for the philosophy and theoretical base of the E.Y.E.S. Project.

Indicator #7: Decision-Making Clarity

For the E.Y.E.S. Project, integrating curriculum and instruction meant connecting the content, skills and delivery systems. The team believed that curriculum went beyond the printed documents: that it was a living process involving people. People accepting responsibility for the E.Y.E.S. Project thought of themselves as facilitating personnel. By working as a team of facilitators, individual egos could be separated from the problem-solving processes of curriculum development. This was important to the team as curriculum decisions involved personnel and personnel decisions involved the curriculum.

Decision-making clarity was assessed through the identification of significant curriculum decisions, the identification of primary and secondary decision makers and the resolution of how to communicate the decisions. Throughout the curriculum development process, the team members performed different decision-making roles. Team members regularly clarified their roles to each other, students, the administrator, the on-site staff, and off-site community during the curriculum process so that all involved were clear as to who accepted responsibility for what.

Indicator # 8: Positive Human Relationships

The teams' collegial approach to the development of the global perspective curriculum was the most significant educational indicator of a positive human relationship environment. Their ability to co-plan, team-teach and interrelate content across subject areas demonstrated their willingness to risk disagreements with each other with some faith that they would be resolved. Recognizing the worth of other points of view was shown by the initiation of ideas on curriculum that came from varied sources.

The number of years the team had voluntarily worked together, their professional support of each other, and their ability to use humour as a problem-solving vehicle, strengthened their professional relationships.

Indicator #9: Theory Into Practice Approach

The team made every effort to work from models recognized as part of the day-to-day- curriculum at Wolfe. The team added an additional model to allow an emphasis on the attainment of a global perspec-

tive. The team monitored and adjusted the existing prescribed curriculum as suggested by the new Intermediate Foundations Documents.

The process for the development of the global perspectives curriculum remained constant. The practices of interrelating the content areas, the teaching of thinking skills, the emphasis on global choice, action and social responsibility, and extensions into the wider public community were recognizable and consistent.

Indicator #10: Planned Change

The staff and community continues to support Wolfe's team in developing a grade 7 curriculum with a global perspective, as the team prepares for the fourth year of its five year implementation plan. Recent changes in staffing assignments at Wolfe may affect the number of facilitators, and the expertise support. At the time of this writing, Peter will stay at Wolfe. It is likely that Heather will also remain at Wolfe, but her partner Sandy and I may be declared "surplus" and be assigned to another school. We have found the last few months difficult as we prepare ourselves for the possible dissolution of our team, but it has helped us to consolidate our theme work, and treasure our friendships. We are confident that we will continue as global educators wherever our teaching assignments take us.

Summary

This chapter has presented a description of curriculum leadership and development within the global education project in terms of the indicators described in Bradley's (1985) model. His model provided specific indicators used to determine if effective curriculum leadership and development were present.

Team members agreed to review their first year's work in the global project, and select data representing their work in curriculum development and leadership. From items submitted by the team, this investigator was able to match elements of the global curriculum development and roles of the practitioners to all specific indicators of Bradley's model.

CHAPTER SEVEN

CONCLUSIONS, LIMITATIONS, AND IMPLICATIONS

Introduction

Chapter seven begins with a review of the theoretical perspectives which underpin the study. This is followed by a review of the development of the curriculum and curriculum leadership which the study documents. Then the results of the descriptive analysis are given. The chapter closes with the conclusions and limitations of the study.

Review of the Theoretical Perspectives

The study began with considerations of the nature of curriculum leadership and development in global education. Taking the view that global issues are interconnected, exploration of those issues could be enhanced by interdisciplinary studies. This is done by reworking the existing curriculum to include elements that could help participants gain a global perspective. Through collaboration, content specialists could help classroom teachers to facilitate interdisciplinary studies. Alternatively, a team of experienced teachers could provide leadership in global curriculum development.

The purpose of this study was to describe the intended, implemented and attained global curriculum facilitated by a team of grade six and seven teachers. It was suggested that review of the team's first year of work in generating a global curriculum model would show elements indicating effective curriculum development and leadership. It is the description of the global curriculum development and leadership of the practitioners which served as the basis for this study.

The investigator reviewed relevant literature which dealt with the philosophy of global education, curriculum design and implementation, design of interdisciplinary studies, collegial collaboration and educational leadership. Most of the literature dealing with global education does so in the context of what global curriculum might be developed despite the fact that presently, practitioners identify themselves as practising global educators. Curriculum design and educational leadership models helped the investigator to conceptualize the connections between curriculum leadership and development of interdisciplinary studies in global education.

The approach adopted in this study was twofold. First, the curriculum development and the leadership roles of the developers were described in a contextually rich fashion including examples agreed upon by the participants as representative of their first year of work in the project. The result is a description which helps the reader "make connections" with the global curriculum and its participants, and which provides insight into the attainment of a global perspective.

In the second component, the global education project was examined for value as an educational model. This was done by comparing data to criteria of specific indicators of effective "curriculum development" and "curriculum leadership". Elements within the project were matched to lists of specific indicators. The reader was shown how the identified elements verified the presence of the given indicators.

Conclusions of the Study

The documentation in chapters 5 and 6 has led to a number of conclusions. These conclusions were drawn from the examination of the work of the team in an attempt to answer the research questions.

Research Question 1. What does the infrastructure of this global curriculum look like?

The E.Y.E.S. Project follow the direction set out by the Sullivan Report (1988), and predates many of the recommendations made in the evolving Intermediate Program: Foundations (Ministry of Education, 1990). The prescribed grades 6 and 7 curricula have been reworked into interdisciplinary thematic units examining global issues that provide students opportunities to connect with the school's off-site community. Graphic organizers were used to generate the global model, present the content and skills scope and sequence, document the steps of the curriculum design process, note explicit connections of ideas within and between interdisciplinary theme studies and to provide visible knowledge structures underlying the global content. Consequently, it is concluded that **curriculum infrastructures can be designed that promote thematic, interdisciplinary curricula with a global perspective.**

Research Question 2. What are the roles of the teachers in the context of developing this global curriculum?

The second conclusion arises from the examination of the roles performed by team members involved in the design and implementation of the global curriculum. After field-tests of global problem-solving activities, the team initiated the E.Y.E.S. Project. They assumed responsibility for the generation of a global

education model that other teachers could use. The generation of the model required team members to perform various roles to facilitate the curriculum development process. Consequently, it is concluded that **teachers are able to identify and develop curriculum models with a global perspective.**

Another conclusion arises from changes in school-wide theme studies that occurred during the first year of the E.Y.E.S. Project. Other teaching colleagues of the team members collectively agreed to develop themes complimentary to two monthly themes of the global project. The team collaborated with these classroom teachers to develop activities concerning global issues for grades 1 through 5 students. Consequently, it is concluded that **experienced teachers can collegially plan and develop Primary and Intermediate curriculum with a global perspective.**

A final conclusion arises from the fact that this global project was site-developed. The commitment to the global curriculum development came from within the group of teachers who shared teaching responsibilities for students who were expressing needs concerning global issues. The study shows that the team assumed responsibilities beyond their regular assignments to facilitate the development of the global curriculum. Consequently, it is concluded that **commitment to curriculum design may induce leadership in global curriculum development.**

Limitations of the Study

Any description which involves the participant-observer presents an insider's perspective. A trusting relationship must be built that allows the participants comfort in disclosing concepts, values and feelings. If participants are too uncomfortable, their recall may be selective and reflection diminished, compromising the value of the curriculum project and the study. The possibility of limiting information in order for the participants to "look good" must also be considered. Fortunately, in this study, participants had already developed a collegial relationship and helped this investigator collect examples of their work in curriculum design and development. Furthermore, they submitted personal items such as daybooks and journals completed before the study began, to assist the reflective process of the recall of past events and the clarification of their significance at that time.

Another limitation of this study is that it is highly contextually bound and may be limiting to other educators. In this study, every attempt was made to document representative examples of the partici-

pants' insights, ways of thinking, and communicating.

The descriptions of the data identified elements and issues which seem important to the participants. The items they chose as representative of their work determined the data base for the discussion, the image they projected about their practice, their perceived roles in the development of the global curriculum, and the scope of the global interdisciplinary studies. The non-directive nature of this study precluded the investigator from requesting specific data from the participants directly. However, the post-selection discussions held by the team provided some corroboration for the inferences made by the investigator.

Implications for Further Research

In the judgement of this investigator, the global curriculum model which is described in this study has merit as an infrastructure to promote thematic, interdisciplinary studies of global issues. However, a number of questions arise from this study which have implications for further study.

In the area of global curriculum development:

* What do other intended, implemented and attained global curricula look like?
* Are studies in global education necessary for practitioners to facilitate dimensions of a global perspective in their classrooms?
* What is the nature of interdisciplinary studies available in teacher preparation, and continuing education?
* Is collegial collaboration training the most appropriate preparation for leadership in development and implementation of interdisciplinary global studies?

In the area of leadership in global education:

* What is the meaning of the term "global educator"?
* Which practitioners fit the definition of "global educators"?
* What are the roles of identified "global educators"?
* In what ways are "global educators" similar to and different from other practitioners?
* In teacher preparation programs, which content disciplines promote participation in interdisciplinary studies, development of curriculum with a global perspective, and development of leadership potential?

* To what degree have "global educators" assumed leadership roles in curriculum development?

* Is there a correlation between the number of "global educators" and the development of curricula with a global perspective?

These questions, as well as the results of this study, have led the investigator to envisage a professional leadership program designed to promote and to study the development of interdisciplinary curriculum with a global perspective. This program might involve three aspects. First, it might nurture leadership potential through emphasis on interpersonal skills and leadership styles. This might generate a "pool" of teachers interested in providing global curriculum leadership, who have developed supportive, collegial relationships. Second, the program could provide opportunities similar to this study, for practitioners to further develop their collegiality, to develop shared understanding of the language used to discuss leadership and curriculum development in global education, to lead in the design and evaluation of exemplary interdisciplinary global studies, and to promote collective reflective activities of practitioners facilitating global studies environments. Finally, the program might include a range of problem-solving strategies, in which teachers participate in various structured, interactive processes by which they discover and clarify underlying problems, summarize problems, generate solutions, evaluate options, and plan personal actions. By giving problems global and social contexts, attitudes about the world and the nature of knowledge may change. Individuals may feel they belong within a caring community and are in a secure position to explore ideas and accept new challenges.

The vision is to assist students to recognize that they are members of a global community, and to reach their individual potential as lifelong learners, educators, and "real-world" problem-solvers. Our quality of life, perhaps even our existence, may depend on how well we meet challenges in the world tomorrow. This is the challenge today.

"Never doubt that a small group of thoughtful, committed people can change the world. Indeed, it is the only thing that ever has."

—Margaret Mead

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