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CANADIAN CHILDREN

JOURNAL OF THE CANADIAN ASSOCIATION FOR YOUNG CHILDREN

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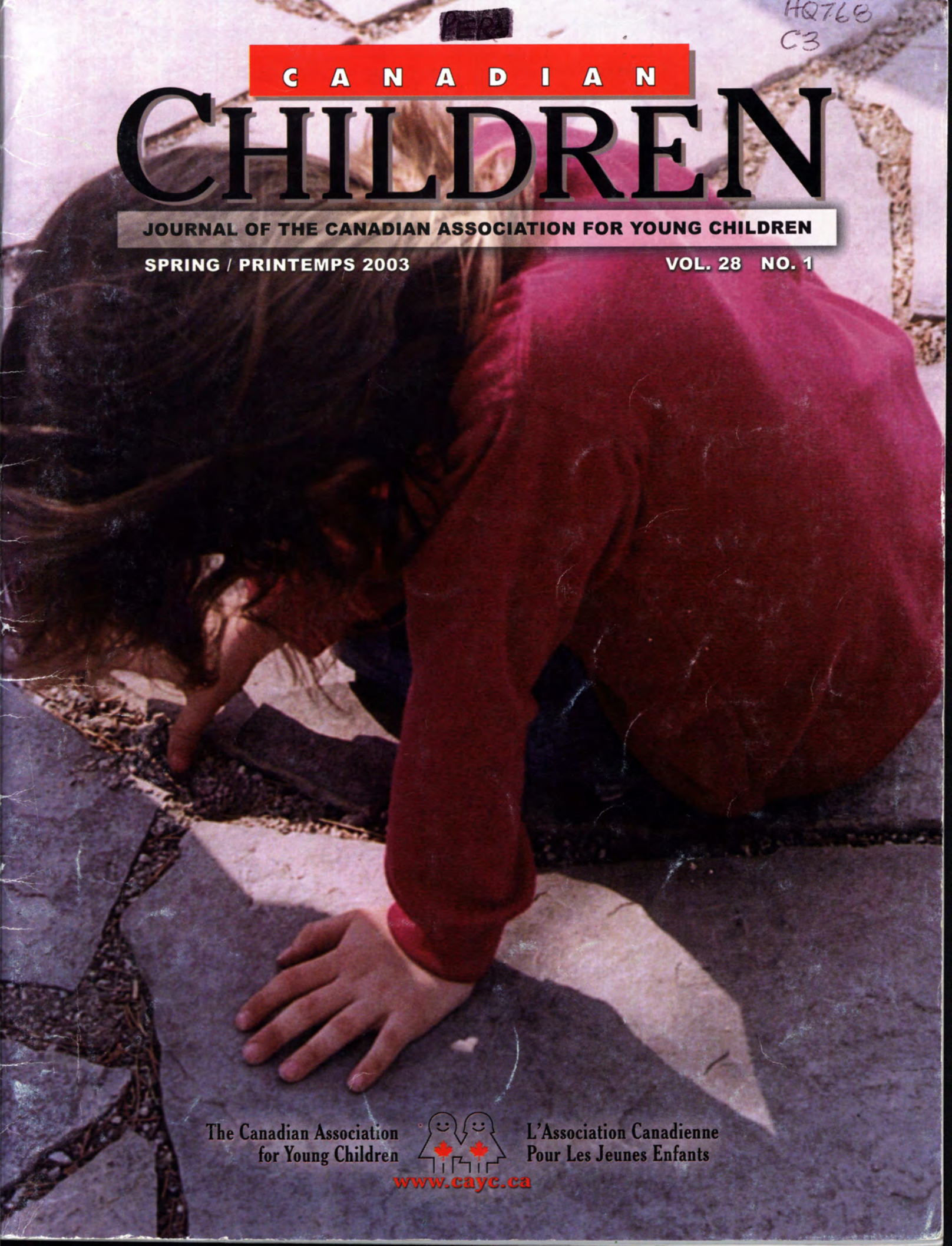

The Canadian Association for Young Children

L'Association Canadienne Pour Les Jeunes Enfants

www.cayc.ca

THE CANADIAN ASSOCIATION FOR YOUNG CHILDREN

WHAT IS THE CAYC

The Canadian Association for Young Children (CAYC) grew out of Council for Childhood Education and was officially recognized in 1974 by the granting of a Federal Charter. It is the only national association specifically concerned with the well-being of children, birth through age nine at home, in preschool settings and at school. Members of the multidisciplinary association include parents, teachers, caregivers ,administrators, students and all those wishing to share ideas and participate in activities related to the education and welfare of young children.

MISSION STATEMENT

CAYC exists to provide a Canadian voice on critical issues related to the quality of life of all young children and their families.

THE AIMS OF THE CAYC

1. To influence the direction and quality of policies and programs that affect the development and well-being of young children in Canada.
2. To provide a forum for the members of Canada's early childhood community to support one another in providing developmentally appropriate programs for young children.
3. To promote and provide opportunities for professional development for those charged with the care and education of young children.
4. To promote opportunities for effective liaison and collaboration with all those responsible for young children.
5. To recognize outstanding contributions to the well-being of young children.

IMPLEMENTING THE AIMS OF THE CAYC

1. **The National Conference:**
   The National Conference is a highlight of the CAYC. The program includes lectures by internationally renowned authorities on children, workshops, discussion groups, displays, demonstrations, school visits and tours.
2. **Provincial and Regional Events:**
   The organization of members at the local and provincial level is encouraged to plan events to deal with the issues and concerns pertaining to young children. These events may take the form of lectures, seminars or a local conference.
3. **The Journal:**
   An outstanding multidisciplinary journal is published twice yearly. Articles by nationally and internationally known experts in early childhood education and child rearing are presented in the Journal of the CAYC. Inside CAYC provides information on Association activities.

SUBSCRIPTIONS AND MEMBERSHIP

Membership fees are payable on application and renewable annually on an evergreen basis. To be considered a voting member, fees must be paid no later than 60 days prior to the Annual General Meeting.

Members of the CAYC receive newsletters and special rates for national and regional conferences

Per annum: $40 General, $25 Student, $75 Associations.

Please direct all subscription and membership correspondance to:

CAYC
612 W, 23rd Street
North Vancouver, BC V7M 2C3
CANADA

ASSOCIATION CANADIENNE POUR LES JEUNES ENFANTS

QU'EST CE QUE L'ACJE

L'Association Canadienne pour les Jeunes Enfants, issue du *Council for Childhood Education*, a reçu sa charte fédérale en 1974. Elle demeure la seule association nationale vouée exclusivement au bien-être des enfants, de la naissance jusqu'à l'âge de neuf ans, dans leur foyer, à la garderie et à l'école primaire. L'ACJE est composée de parents, d'enseignants, de professionnels de la petite enfance, d'administrateurs et d'étudiants, ainsi que de tous ceux et celles qui sont intéressés à partager leurs idées en participant à des activités liées au bien-être et à l'éducation des jeunes enfants.

SA MISSION

L'ACJE s'est donné comme mandat de faire entendre une voix canadienne sur les questions essentielles ayant trait à la qualité de vie de tous les jeunes enfants et de leur famille.

SES OBJECTIFS

1. Jouer un rôle sur le plan des orientations et sur la qualité des politiques et des programmes touchant au développement et au bien-être des jeunes enfants canadiens.
2. Créer un forum pour les membres de la communauté canadienne oeuvrant dans le domaine de la petite enfance afin de susciter une collaboration active dans l'élaboration de programmes appropriés au développement des jeunes enfants.
3. Encourager et offrir des possibilités de perfectionnement professionnel au personnel responsable du bien-être et de l'éducation des jeunes enfants.
4. Promouvoir des occasions pour une meilleure coordination et collaboration entre tous les responsables des jeunes enfants.
5. Récompenser et souligner les contributions exceptionnelles faites en faveur des jeunes enfants.

EXÉCUTION DES OBJECTIFS DE L'ACJE

1. **Le congrès national:**
   Il constitue le grand évènement de l'ACJE. Des sommités de renommée internationale en matière de petite enfance y prononcent des conférences et on y participe à des ateliers, des débats, des expositions, des démonstrations, et à des visites guidées d'écoles.
2. **Les évènements provinciaux et locaux:**
   L'ACJE encourage ses membres à organiser des conférences, des séminaires ou des congrès au niveau local et régional afin de débattre des problèmes relatifs aux jeunes enfants.
3. **La revue :**
   Publication bisannuelle et multidisciplinaire de premier ordre, la revue regroupe des articles traitant de questions d'éducation et de formation des jeunes enfants. On y retrouve également des articles écrits par des experts de renommée nationale et internationale. La rubrique *Inside CAYC* renseigne les lecteurs sur les activités de l'Association.

ABONNEMENT ET COTISATION DES MEMBRES

Les cotisations doivent être réglées au moment de l'adhésion et celle-ci doit être renouvelée chaque année. Pour se prévaloir de son droit de vote, tout membre doit acquitter sa cotisation au moins 60 jours avant l'Assemblée Générale annuelle.

Les membres de l'ACJE reçoivent le bulletin périodique et bénéficient de tarifs spéciaux pour participer au congrès national et aux évènements régionaux:

Tarif des cotisations annuelles: général : 40 $; étudiants: 25 $; associations: 75 $

Veuillez faire parvenir toute demande de souscription ou d'adhésion à l'ACJE à l'adresse suivante :

ACJE
612 W 23e Rue
Vancouver Nord, CB V7M 2C3
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CANADIAN
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Cover Photo: Justice enjoys her discovery at the ECE Centre, courtesy of Mabel Higgins

GUIDELINES FOR AUTHORS

Canadian Children is the journal of the Canadian Association for Young Children (CAYC), the only national association specifically concerned with the well-being of children of preschool and elementary age in Canada. The journal is published twice yearly and contains articles, book reviews and announcements of professional conferences .

Canadian Children is a multidisciplinary journal concerned with child development and early childhood education. Authors from across Canada, and elsewhere, are invited to submit articles and book reviews which reflect the variety and extent of both research and practice in early childhood education and child rearing.

CONTENT:

Submissions should appeal to an audience that includes parents, professionals in the field of childhood education and child services, as well as teachers and researchers. Most issues are multi-theme in nature and the editor will attempt to balance articles that are research-related with articles of a practical nature relating to programming, curriculum, classroom practice or child rearing.

FORM, LENGTH AND STYLE:

ARTICLES may be of varying length, written in a readable style. Style should be consistent with an acceptable professional manual such as the **Publication Manual** (3rd Edition) of the American Psychological Association. Articles should be sent as an email attachment to the email address below or sent to the postal address, on a 3.5" IBM or IBM compatible diskette or a CD in Microsoft Word with three (3) printed copies on 21.5 x 28 cm. (standard 8 _ x 11") paper directly to the editor at the address listed below. Type should be double spaced. If appropriate, authors should send accompanying black and white glossy print photographs, tables, figures or illustrations with complete captions, each on separate pages. Authors are to obtain releases for use of photographs prior to mailing. Please include a brief biographical sketch including the author(s) full name, title, professional affiliation, and other relevant information, such as acknowledgements, grant support or funding agency . It is expected that authors will not submit articles to more than one publisher at a time.

ACCEPTANCE AND PUBLICATION:

The editor will acknowledge receipt of, and review all solicited and unsolicited manuscripts received. The final publication decision rests with the editor, and will be communicated within three months. Manuscripts not accepted for publication will be returned only if a stamped self-addressed envelope is included.

DEADLINES:

Submission Deadlines are as follows:
FALL Issue : August 1
SPRING Issue: February 1

GUIDE A L'INTENTIION DES AUTEURS

Canadian Children est la revue de l'Association pour les Jeunes Enfants (ACJE). Elle demeure la seule association vouée exclusivement au bien-être des enfants de niveau préscolaire et primaire au Canada. Cette revue bisannuelle regroupe des articles, des comptes rendus de livres et des avis de conférences professionnelles.

Canadian Children est une publication multidisciplinaire qui traite du développement de l'enfant et de son éducation durant la petite enfance. Les auteurs du Canada et d'ailleurs sont invités à soumettre des articles et des comptes rendus de livres qui mettent en évidence la variété et l'étendue de la recherche et de la pratique dans le domaine de l'éducation au cours de la petite enfance.

CONTENU:

Les articles doivent s'adresser à un public composé de parents, de professionnels de l'éducation et de services à l'enfance, ainsi que d'enseignants et de chercheurs. Chaque numéro traite de divers thèmes et le rédacteur en chef tentera d'y inclure tant des articles portant sur la recherche que des articles portant sur des aspects pratiques de l'éducation comme la gestion et la mise œuvre de programmes d'études, les méthodes d'enseignement en salle de classe et les techniques utilisées pour élever les enfants.

FORME, LONGUEUR ET STYLE :

LES ARTICLES peuvent être de longueur variée et doivent être rédigés dans un style accessible à tous les lecteurs. La présentation doit être conforme aux normes du ***Publication Manual*** (3e édition) de l'*American Psychological Association*. Les articles devront être en Microsoft Word ou Word Perfect (format IBM PC), attachés à un courrier électronique ou enregistrés sur une disquette 3.5" ou sur un CD et envoyés au rédacteur en chef à l'adresse indiquée ci-dessous. Les trois (3) copies doivent être dactylographiées en double interligne. Les auteurs devront fournir, s'il y a lieu, les photographies accompagnant les articles, tirées en noir et blanc sur papier glacé, ainsi que les tableaux, figures ou illustrations avec leurs légendes, imprimés chacun sur une feuille. Ils devront obtenir le permis de reproduction des photographies avant de les faire parvenir au rédacteur. Il est recommandé d'inclure une brève notice biographique contenant le nom complet de l'auteur, ses titres, affiliations professionnelles et autres informations pertinentes telles que remerciements, supports financiers ou organismes de subvention. Il est entendu que les auteurs ne soumettront leurs articles qu'à une seule revue à la fois.

RÉVISION, ACCEPTATION, ET PUBLICATION :

Le rédacteur en chef accusera réception et tiendra compte de tous les manuscrits reçus, qu'ils aient été sollicités ou non, et soumettra les textes qu'il aura retenus à au moins trois lecteurs externes au comité de rédaction. La décision de publier est sous la responsabilité du rédacteur en chef et sera communiquée à l'auteur dans un délai de trois mois. Les manuscrits non retenus pour publication seront retournés à leurs auteurs seulement s'ils sont accompagnés d'une enveloppe pré-adressée et affranchie.

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MABEL. F. HIGGINS
EDITOR

" There was a child went forth every day, and the first object he looked upon, that object he became . . .and that object became part of him for the day or a certain part of the day, or for many years or stretching cycles of years "

In Leaves of Grass, 1855, Walt Whitman writes, " There was a child went forth every day, and the first object he looked upon, that object he became . . .and that object became part of him for the day or a certain part of the day, or for many years or stretching cycles of years " Our cover photo reveals a child, deeply occupied with her discovery . . . she went forth this day, and the object that she came upon became a part of her. . .the depth and duration of her investigation rested on the responsiveness of her environment and the people she encountered there.

The Spring Issue of Canadian Children conveys various elements of the responsive teacher. *We All Belong*, arrived shortly after the invitation to write went out to our CAYC Board last fall. In this article, the authors acquaint us with designing places for "all children". They want us to ensure that every child and family will readily "see themselves" in the programs we create. The article posits that we can all be *more* culturally sensitive. Another article presents us with current research on the matter of television viewing. As far back as 1964, Canadian born Marshall McLuhan discussed the effect of technology on human beings and their relationships with one another. In the article, *Beginnings and Beyond*, the author makes the argument that TV-time steals from important social and playtime. Add to this an increased depiction of violence and we must seriously consider our response to this information today.

In *A Collaborative Long-Term Project*, one group of professionals employed a multi-discipline approach in the investigation and development of a garden...Together they acted upon some of their observed possibilities. The expertise and the environment existed right in their midst and with some collaboration a learning community blossomed . . . *New Paths in Early Literacy and Learning*, highlights some current research, giving a new perspective for today's classroom. Earlier discussions of phonics, home reading programs, and boys literacy are all part of this current discourse. The Directions and Connections segment of the journal, brings us the reflections of two visitors to Reggio Emilia in Northern Italy. The authors of *Experiencing The Reggio Emilia Way* and *Scene for a Reflection: Neruda School*, paint for us the vision of teachers who seem to embody the meaning of responsiveness in their daily work with children.

In *Demonstrating Understanding in Science*, the author tells us that by encouraging children to demonstrate their knowledge of science concepts, we support their use of different learning styles or intelligences. This enables us to be open to children's individual abilities, and provides us with a variety of documentation possibilities. The outcome, as she illustrates is very rewarding. As the story of *Larvae, Ladies and Learning* unfolds, we see teachers responding to children during their painted lady butterfly investigations. The teachers want to ensure that "quality exploration and investigation don't get left behind" while teachers are busy meeting ministry requirements .These articles consider ministry of education documents in western and eastern Canada.

Special thanks to all of the authors, who through their words continue to support our work with children.... and to the Review Board; the ongoing dedication of this talented and diverse team, makes this publication a reality.

As you leave this page, I send appreciation to *you*, the READERS of our journal. This winter like none I've experienced, has been filled with requests for back issues of journals and articles. I'd like to think that this enthusiasm has more to do with the caliber of articles, than with the mere desire for needed reading during our long winter [of discontent].

. . . A warm welcome to our *new Editorial Review Board Member, Dr. Larry Prochner of Concordia University in Montreal*, an avid author and contributor to Canadian Children and other professional publications.

Consider 'giving' a CAYC membership to a graduate, a beginning professional or a struggling teacher, or as a raffle prize at your next event.

Complete the enclosed membership form OR enroll online at: www.cayc.ca

We All Belong: Making Early Childhood Programs More Culturally Sensitive

Linda Sutherby, Brenda Sauvé

Linda Sutherby is an instructor in the Early Childhood Care and Education program at Mount Royal College in Calgary, Alberta. She recently completed her Master's Degree in Education with a focus in Early Childhood Education at Memorial University of Newfoundland. She is currently the Alberta Director for the Canadian Association for Young Children.

Brenda Sauvé, an instructor at Mount Royal College in the Early Childhood Care and Education program in Calgary has also taught Early Childhood Education at SIAST in Regina, Saskatchewan and at Lambton College in Sarnia, Ontario. Brenda has a Master's Degree in Education with a focus on Adult, Community and Higher Education.

Abstract

In light of today's world situation the importance of understanding and accepting cultural diversity is paramount. Globalization has increased cultural interdependence therefore we must teach compassion and respect for all cultures and human beings through dialogue and interaction. *"We must all learn to recognize that each culture owes a debt to all other cultures."* (Matsuura, 2001 p.1). As Matsuura of UNESCO points out, *"mutually beneficial interaction among civilizations has continued throughout human history despite impediments arising from intolerance, disputes and wars"* (Matsuura, 2001, p.1). Engaging young children in daily dialogue and interaction with people of diverse cultures can effectively increase their understanding and acceptance of similarities and differences. As Louise Derman-Sparks reminds us, *"Early Childhood Professionals must engage young children in the understanding of differences as being positive, and respect for all children as being integral to all aspects of daily life in the classroom."* (Hunt, 1999, p.39). The article hopes to bring this dialogue into the daily work of early childhood professionals by providing a sampling of culturally sensitive practices.

Introduction

One of the ways children learn to be positive about and have respect for the similarities and differences they observe in their community is to learn to accept cultural diversity. Culture can be defined as *"the values, beliefs and traditions of a particular group [from which arise] a set of rules that, to varying degrees, guide the behaviour of individuals who are members of that group, whether that group is defined in terms of national origin, racial experience, linguistic experience, religious background, or socio-economic status"* (Chang, Muckelroy & Pulido-Tobiassen, 1996, p.19).

As we face an intriguing kaleidoscope of cultural backgrounds and traditions in our early childhood programs we encounter the inevitable similarities and differences inherent in those cultures and we may experience challenges in providing culturally sensitive learning experiences. Some early childhood professionals may need to broaden their knowledge and understanding of the diversity of cultures represented in early childhood programs. The children and families served by these programs reflect the ethnic, cultural and linguistic diversity of the community. For young children to learn and develop optimally, the early childhood professional must be prepared to meet children's diverse developmental, cultural, linguistic, and educational needs. Early childhood professionals face the challenges of how to best respond to these needs.

Developmentally appropriate practice (Bredekamp & Copple, 1997) suggests that early childhood professionals base their decisions about the care and education of young children on three important kinds of information: child development and learning; strengths, interests and needs of each individual child; and *"knowledge of the social and cultural contexts in which children live to ensure that learning and experiences are meaningful, relevant, and respectful for the participating children and their families"* (p.9). Knowledge of cultural contexts is the foundation for the understanding, appreciation and acceptance of diversity. Bredekamp & Copple (1997) suggest principles of child development and learning that inform developmentally appropriate practice. One of the principles states, *"development and learning occur in and are influenced by multiple social and cultural contexts"* (p. 12). Bronfenbrenner's (1979) ecological theory emphasizes the importance of the socio-cultural environment; each system: the family, educational setting, community, and broader society, has a direct or indirect impact on the development of the child.

Early childhood professionals should learn about the culture of the children in their care, recognizing the important influence of cultural contexts. This does not, however, mean that early childhood professionals need to understand all the nuances of every culture they may encounter in their practice. It does mean

that early childhood professionals need to be sensitive to other cultures as well as to how their own cultural background influences their current perspective and practice. Consideration of multiple perspectives is imperative in making decisions for providing culturally sensitive early childhood programs.

Through a reflective process early childhood professionals are able to examine how their cultural background has contributed to their values and beliefs about their personal and professional practices. Recognizing and analyzing our beliefs and values is not an easy or effortless task. Early childhood professionals need to examine what it is they are doing and why. As they comprehend that their actions are informed by their past and present knowledge and experiences, they begin to articulate their values and beliefs in the context of their current practice. When early childhood professionals let go of prior assumptions and recognize that others have attained *their* values and beliefs through *their* experiences and knowledge, they are encouraged to contemplate other perspectives and recognize that they are just as valid and important as their own. Learning about and understanding ourselves is a precursor to understanding and accepting others. This can lead to an appreciation and celebration of cultural diversity. With this understanding early childhood professionals can commit to providing a culturally sensitive program that establishes the importance and recognition of cultural diversity in the lives of young children.

This article offers support to early childhood professionals in sparking ideas for providing culturally sensitive environments for young children. Suggestions provided are based on an understanding of child development, the uniqueness of each child, and the influence of social and cultural contexts. Practical ideas and appropriate materials are suggested as a starting point for early childhood professionals to contemplate in establishing the physical environment in their classrooms. The focus will be on some commonly found learning centres in early childhood programs.

Setting the Stage

The physical space in an early childhood program is part of the total learning environment. The environment should reflect the people who participate in the program. Early childhood professionals can take advantage of the rich cultural diversity represented by the children, families and staff. Communication among these people can provide early childhood professionals with information and understanding about various cultures. This can offer knowledge for the design, organization and enhancement of the physical environment. The physical space can then become a learning environment to accommodate a variety of cultural interests, traditions and values.

The following suggestions are ideas that early childhood professionals might reflect on and extract from those elements deemed relevant to their own programs. Early childhood professionals may wish to start slowly and build as their knowledge and competence in providing a culturally sensitive program increases. They should *"first try to provide materials that children recognize from their homes or communities and then move on from there . . .* "(Kilbride, 1997), exposing children to a broader cultural context. The article focuses on the following learning centres:

Dramatic Play and Prop Boxes
Blocks and Construction
Science and Cooking
Creative Art Experiences
Music and Movement
The Library
Room Décor

You will notice much crossover and overlap in the experiences occurring in the varying learning centres as well as in the materials and equipment provided.

Dramatic Play and Prop Boxes

Although a dramatic play area may be established as a specific learning centre, dramatic play itself occurs in all learning centres. The dramatic play area is an ideal and natural area to focus on diversity and the learning centre where diversity is probably most noticeably supported. Remembering to include items that are familiar to children and then expanding is the first step. Household items such as utensils, pots and pans, specialized food preparation tools used by a variety of cultures, dolls representing various cultures with accessories and child sized furniture and appliances, dress up clothes, both everyday and festive, are props that support role play and family life. The dramatic play area *"is a powerful learning environment for reinforcing the similarities that exist across cultures"* (Shipley, 1998, p. 199).

Prop boxes can facilitate the process of learning about diversity. Consider them as organizational tools for materials in dramatic play areas. A prop box is a container (e.g. cardboard, plastic or wooden box, suitcase, backpack, bags, etc.) encapsulating items relating to a play concepts used to enrich or suggest dramatic play situations. Items in the prop boxes could be focused on such play scenarios as a jewellery store, flower shop, or musical instruments. Prop boxes allow for a variety of materials within the environment to meet the needs, interests and abilities of individual children. They can be incorporated into the dramatic play area as the early childhood professional observes the children and follows their lead. Prop boxes can promote sharing and cooperative play as children explore and imagine the roles of others. They can easily provide an exciting, spontaneous and stimulating change in the environment and can offer an authentic way of learning about diversity as they are integrated into everyday learning environments.

Although certain items included in a prop box may be specific to an individual child's culture, they can serve as part of the daily cultural orientation early childhood professionals would be striving for as they provide a culturally sensitive program. Early childhood professionals can

research the items, with the assistance of parents, to determine their authenticity, cultural significance, and appropriate use.

Ideas for initiating prop boxes that embrace a multicultural focus include the following:

Shoe Store: Include a selection of shoes ensuring that both males and females are represented. A selection of shoes, slippers, moccasins, thongs, sandals, and boots should be supplied. Include knee-highs that can represent many skin tones (Boutte, Scoy, & Hendley, 1996).

Hats/Head Coverings: Long lengths of material can be included that could be used as scarves, kerchiefs or wraps. Other ideas include a straw hat, chef hat, baseball cap, sun hat, hood, chullo, firefighter hat, cowboy hat, ten-gallon hat, kaffiyeh, feather ceremonial hat, helmet, basket hat, head scarf, fez, berretta, and turban. (Cautionary note: Early childhood professionals must ensure that the hats/head coverings are washable to avoid the spread of head lice.)

Ways of Carrying Babies: Patterns for different baby carriers can be obtained from members of the community. Other ideas are a snugly, cloth wrap, cradleboard, basket, car seat, stroller, and back pack.

Cooking Utensils: Cooking utensils must be durable, realistic and actually work. Some suggestions are: a tortilla press, chopsticks, wok, teapot, vegetable steamer, wooden spoons, wooden bowls, pasta maker and spaghetti server. This prop box may evolve into a bakery or restaurant prop box.

Remember that the ideas presented are starting points and many other items can be included to meet and enhance the developmental needs, interests and abilities of young children. To augment the prop box and enhance learning and growth in developmental domains, the early childhood professional can consider including literature that reinforces the theme and art that can be displayed to accompany the theme of the prop box. For example, a bakery prop box could include published cookbooks as well as those created by the children and their families. Magazine pictures of food from various cultures could be compiled into a scrapbook or a collage for display on the wall.

Blocks and Construction

Equipment and materials for blocks and construction often include some climbing and riding apparatus, hollow blocks, unit blocks, boards, ramps and various props, such as figures and vehicles. The early childhood professional can create multicultural experiences with a variety of accessories that represent the cultures of the children enrolled in the program.

Figures of people that signify the cultures represented by the children and families in the early childhood program should be available. Animals from around the world, various models of homes, and vehicles used for transportation are supplied. In the event these props are not obtainable, substitutions of pictorial representations may be used. Place the pictures or photographs on cards and laminate them for durability. The children's parents may have additional ideas, photos or pictures particularly of culturally diverse living environments and modes of transportation. If realistic props are not accessible substituting the cards is an economical means of including these props.

Science and Cooking

The science discovery centre and the preparation of food or cooking can be juxtaposed when highlighting multicultural awareness in our early childhood programs. Our natural world of various climates and growing seasons provide many opportunities to learn about science and food year round.

A cultural variety of food can be a daily experience as the children help to prepare and serve these foods. Bread is a basic food in most cultures that can be offered daily in early childhood programs. Some examples of bread varieties are the bagel, croissant, pita, steamed bun, and roti. Making quick breads such as bannock, chapattis, and tortillas allows for the experience of various science concepts as well as cooking and provides valuable learning in early childhood environments. Choosing foods that have relevance for the children provides a connection between home and the early childhood program. This can increase a child's cultural awareness and the role culture plays in his/her life.

Harvest thanksgivings are also part of most cultures around the world. Today, many harvest festivals are celebrated in Canada even though the festivals originated in other countries. Harvest foods such as rice, corn, grain, wheat, and coconut can be used in sensory experiences involving texture, smell, sight, hearing, and taste at the snack or science discovery table. Children can also sort and classify food items or pictures of foods like beans (yellow or green), potatoes (brown or red), and Mango (red or orange). Children can observe the growth of multicoloured corn sprouts with a cob of Indian corn and a tray of warm water or the growth of Chinese cress with seeds and a tray of potting soil (Cech, 1990). There are also snacks from many cultures that use coconut, rice, corn or pumpkin. Harvest soups such as gazpacho, borsch, and fruit soup can be shared in your program with young children. Discovering the origins of food, the connection with culture and to the children and families in the early childhood program is a valuable learning experience. This provides children with a growing awareness of the diversity of culture among the significant people in their lives. (Cautionary note: Early childhood professional must maintain an awareness of allergies when they choose which foods to use.)

A festival of light is a celebration where light is the universal symbol of the human spirit (Cech, 1990). During the various festival of light celebrations many foods can be made and experienced. Some foods are presented in decorative and visually beautiful dishes. Other foods have

simple recipes that can compliment the experiences in the learning centers. Parents may be able to provide ideas and recipes. They may also be willing to demonstrate and include the children in the preparation of these foods during a visit to the program.

Creative Arts Experiences

The creative art learning centre encourages the understanding and appreciation of other cultures through a child's experimentation and discovery. Art can reflect cultural traditions and beliefs. Practical and developmentally appropriate art projects should be a regular part of an early childhood program and can be multipurpose as children's art can be used for room decoration, musical instruments, dress-up costumes, etc. The equipment, materials and particularly the supplies in the creative art centre are numerous and the possibilities endless.

Beads made from clay, play-dough, or spools can be used as jewellery, decoration on costumes and noisemakers in instruments. Making bricks from soil, sand, clay, and cement can be used to build homes when considering different types of dwellings.

Stilts can be made of tin cans or coconut shells with string loops.

Different seasons (spring, harvest) and various celebrations (New Year, birthdays, masquerade, festival of lights) can serve as an impetus for cultural and creative art experiences. Discarded inedible food by-products such as gourds can become music-makers. Collage materials collected at harvest time (cornhusks, seeds, nutshells, dried grasses, flowers and pinecones) or springtime (flowers, broken eggshells and sand) can be used daily and can spark conversations about the origins and other uses of the materials. Cornhusks, corncobs, straw, and grass can be used to make harvest dolls as in many cultures.

Masquerade is a celebration of imaginative play practiced in many countries and cultures. Masks, costumes, banners, kites, musical instruments and other props can be made from a variety of papers, cloths, materials, and supplies. Parents can be a wonderful resource for suggestions, ideas and materials.

Making and flying kites can reflect the freedom of spring and are used in celebrations around the world. Kite making can take various forms and utilize different types of construction and may allow children to express aspects of their own culture through decoration and choice of materials.

The festival of light celebrations provides many opportunities for creative art experiences. Stars, candles, and electric lights are commonly used. The creative arts learning centre can supply the materials to create paper lanterns, pierced tin lanterns, ice lights (fat candles frozen in ice) and candlesticks from paper towel rolls. Other experiences can be making flowers, stars, paper-chains, and birdfeeders. These are all props used in various 'festivals of light' around the world. Again, it cannot be stressed enough, the importance of highlighting the cultural festivities of those families within your own programs and collaborating with the parents as valuable resources.

Music and Movement

Singing and playing simple instruments can contribute to a child's developing sense of cultural awareness. Music from around the world available on tapes and compact discs can be a wonderful resource for the early childhood professional. Instruments from around the world are available in import stores or through educational supply catalogues. However, children can be more actively involved by creating music with their own hand-made variations of these instruments.

Many festivities, celebrations and traditions involve dance and music created from hand-made instruments. Natural materials such as dried shells and inedible seeds can be used to make musical instruments. Bells, cymbals and drums can be made from coconuts shells that have been cut in half and the pulp removed. Inedible seeds and seed husks can be threaded on a needle and then through an avocado seed. When the seeds are twirled against the avocado seed this ensemble becomes a rattle. Rhythm sticks can be created from unpeeled sugarcane. (Cech, 1990). (Cautionary notes: Early childhood professionals must be sensitive to cultural and individual perspectives on the use of food for other purposes than sustenance. The use of small objects by young children must be monitored carefully or avoided.)

Drums, gongs, and shakers are used in carnivals and festivals. Drums can be made from ice cream tubs, pails, metal cans, pots and pans. A gong can be duplicated by striking several hanging pot lids or foil pie plates. Shakers and rattles can be made with stones in pie plates or buttons in cans. Similar noisemakers with handles resemble maracas. Humming through different lengths of paper-towel tubes can resemble the hollow tubes of bamboo often used in many cultures for creating instruments.

Song, music, movement, dance and games are an integral part of many cultural traditions. Verse, rhymes and song are rich resources to incorporate into children's daily musical experiences. Games and dances specific to cultures can easily become part of the early childhood program. Even daily routines such as bedtime or birthdays are embraced with music, movement and games. For example, early childhood professionals can endeavour to learn the Happy Birthday song in lan-

guages relative to the children in their programs. Early childhood professionals in partnership with the families enrolled in their programs can learn much about culturally specific music and movement.

Library

A welcoming, comfortable area with books displayed in a visually appealing manner can entice children into an intellectual, sensory and affective experience. The literacy materials available could include picture books, story books, children's magazines, child-made books, flannel boards, felt stories, puppets, photo albums, etc. that are representative of the children and families in the early childhood program. Take caution to ensure that items selected do not contain negative stereotypes. Illustrations of people of various ethnic groups and countries depicting various cultures should be realistically portrayed and pictured in daily current activities. Encouraging children to make their own books, in cooperation with their parents, can provide an indispensable resource for sharing and learning about themselves and each other.

Room Décor

Creating an atmosphere that recognizes and celebrates diversity is an important element of a culturally sensitive early childhood program. Displaying posters, pictures, children's drawings or other artwork, mobiles and photographs can all enhance the environment and make it more inviting. Include décor for every day and not just special occasions. It is important that all children and families see themselves in the room. Adding a welcome message in several languages to the door of the centre can provide a level of comfort to those entering.

Conclusion

Adapting the physical environment to reflect the children and families in each early childhood program is important. Representing the diverse cultures of children and families is not something to be done now and then, but something that is pervasive throughout the program and the environment and is evident every day. Persistence and commitment to providing multicultural experiences for young children can pay handsome dividends. Through celebrating holidays, sharing stories, and eating foods together, children can learn how families live and how this might be similar or different from their own experience. They can come to acknowledge, accept, and appreciate the diversity of culture that exists in their lives.

This article has offered a preliminary step to providing for diversity in the early childhood classroom. It was not intended to educate readers about various cultures but to offer some initial ideas and suggestions for early childhood professionals to contemplate as they commit to providing a culturally sensitive classroom. Remember to start small, take one step at a time, but continue to strive for that goal. Read and share the literature with your co-workers, reflect on and discuss your values, beliefs and biases, participate in training, seminars and workshops and commit to the value of multicultural education for young children by providing a rich, culturally sensitive early childhood program.

Photos/Art courtesy of Carol Jonas and Laurie Kocher.

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A Collaborative Long -Term Garden Project: Integrating Early Childhood Education, Environmental Education, And Landscape Architecture

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Abstract

This article describes how the three distinct disciplines of environmental education, early childhood education and landscape architecture have common guiding principles. These shared traits include the environment, representation (the use of symbols to communicate ideas), and working collaboratively on long-term projects. It will describe how the commonalties among the disciplines served as the foundation of a school-based garden project. The activities and the integration of the three philosophies are relevant to those educators whose goals are to increase children's individual development, foster a sense of stewardship of the environment and provide a link between the school and community.

Introduction

Boundaries between disciplines are often arbitrary, particularly in education. Recognizing elements shared between disciplines, allows educators to create innovative and effective learning experiences that cross these arbitrary boundaries. For example, the Reggio Emilia approach to early childhood education, environmental education, and landscape architecture share the common elements of the environment as a teacher, representation (the use of symbols to communicate ideas), and working collaboratively on long-term projects. Combining the perspectives of these three disciplines, educators increase the child's individual development, foster a sense of connectedness to a local place which results in stewardship to the environment and provides a link between the school and community. The first part of the article will describe the three disciplines and establish their common ground. The second part will describe specific examples of how the shared perspectives of these three disciplines were integrated into a garden project.

Finding Common Ground Among Three Disciplines

The philosophy and approach to early childhood education found in Reggio Emila, Italy has inspired many programs in the United States including the Child Development Center at University of Michigan-Dearborn (Fu, Stremmel & Hill, 2001; Trepanier-Street, Hong, & Donegan, 2001). The educators of Reggio Emilia guide children based on fundamental principles that are intertwined with both the cultural fabric of the school and the city. Teachers see each child in relation to other children, family, environment of the school, and the community and society, not as a separate entity. The following are brief descriptions of some key concepts of the Reggio Emilia approach that are particularly relevant in establishing a relationship with environmental education and landscape architecture, the other two disciplines. The Reggio Emilia approach emphasizes the social construction of knowledge, utilization of the environment as a teacher, representation of ideas in multiple symbolic modes, and use of long-term projects based on documentation (Edwards, Gandini, & Forman, 1998). The Reggio Emilia approach embraces a social constructivist approach to teaching and learning through in-depth project work. Teaching and learning is a process of continuous negotiation. This emergent process between adults and children involve in-depth revisiting and reflection. Children are encouraged to dialogue, critique, compare, compromise, hypothesize, and problem solve through group work. Documentation is a value central to a social constructivist approach to learning and teaching. Documentation serves as a tool to better understand how children arrive at specific answers. By understanding how children learn, teachers can then plan for how to provoke and encourage the children's learning to higher levels of understanding (Hong & Forman, 2000).

The environment of the Reggio Emilia education system is also carefully prepared as a pedagogical tool; it provides complexity, beauty, and motivates educators to respect the children. Reggio

Emilia teachers organize environments rich in possibilities and provocations that invite the children to extend exploration and problem solving. The layout of the schools is designed to invite encounters, communications and relationships. In fact the school environment is regarded as a "third teacher" (Gandini, 1993; Ceppi & Zini, 1998). The idea of community and collaboration is a valued aspect of the Reggio Emilia approach. Collaboration and mentoring between personnel throughout the system is strongly promoted. The teachers work closely with the rest of the staff to develop the educational program. Not only do the educators model collaboration, but they also expect children to demonstrate the same level of cooperation while working on a project together. Differing perspectives and ideas are considered a valuable tool in the children's co-construction of concepts. Moreover, children are encouraged to think of their class as a small community, even making decisions about what topics to study and what classroom rules should be enforced. Partnering with parents and community is highly valued. Parents are perceived as competent contributors and play vital roles in the education of their child.

In addition to using the environment and community as a powerful partner in collaborative projects, Reggio Emilia educators use a muti-symbolic approach to education. The children are provided with many different types of media and the opportunity to represent their ideas and feelings through any of their "hundreds of languages" – words, movement, drawing, painting, building, sculpting, shadow play, collage, dramatic play, etc. (Edwards, Gandini, & Forman, 1998; Trepanier-Street, 2000). When children represent the same concept using a variety of media, they gain a deeper understanding of the concept and promote new discoveries (Forman, 1994).

These three aspects of the Reggio approach (collaboration on long term projects, environment as teacher, and symbolic representation) are also present in the field of environmental education (EE) and landscape architecture. Like the Reggio schools, environmental education focuses on children using the environment as a learning resource, emphasis is on long-term projects, teachers and children collaborate to socially construct relevant knowledge, and representations are utilized to understand how people perceive, interact with, and are affected by the natural environment (Simmons, 1989; Grese, 1995; Evans, 1999). The environment, whether it is a natural or constructed environment, is the central focus of environmental education projects. It provides the integrative context for learning (Leiberman & Hoody, 1998). EE research studies have concluded that the goals of EE are best achieved if learners engage in long-term projects (Simmons, 1989). Regardless of whether the EE program focuses on student learning or teacher professional development, long-term projects have been demonstrated to be more effective than one-time activities (Simmons, 1989). EE philosophy holds that solving or preventing environmental problems can only be accomplished through sustained effort. Environmental problems are complex; they cannot be effectively solved or prevented through short-term education programs. This emphasis on the project approach is evident in current EE curricula, which often focuses on topics or specific issues, such as water quality, rather than a set of loosely linked activities. A goal is for the learning to progress from an awareness stage to an action-taking stage.

The aspect of collaboration (i.e., learning as a social activity) is represented in EE as well as the Reggio approach. The perspective of learning as a social activity has a long history in EE. John Dewey is heralded as an environmental educator and he certainly advocated that learners must be able to apply what they have learned in social situations (Dennis & Knapp, 1997). More recently, Kurt Lewin's concept of action research has been applied to EE programs (Stapp, Wals & Stankorb, 1996; Mordock & Krasny, 2001). Action research is a type of participatory or emancipatory research method that has been used to involve participants in the research process. Two primary features of action research in EE programs are: the research topic is a current problem and the program involves collaboration of a number of participants (Feldman, 1994). Again both of these features of EE programs are also present in the Reggio Emilia approach.

The philosophies of EE and the Reggio Emilia approach are also similar to those of the field of landscape architecture. Landscape architecture in general relies upon the collaboration of many people working on long-term projects (Grese, 1995). In fact, collaboration is noted as one of the major themes in landscape architecture today (Bennett, 2000). This focus upon collaborative projects is not surprising when one considers that natural landscapes depend upon a shared vision of what the landscape will look like many years after the original project has been completed. Just as environmental problems are not solved in a day, landscapes are not returned to a more natural state in a short period of time. Landscape architects have long known that the environment can be a source of learning. Landscape architects use symbols in their design process to represent the actual vegetation they will be planting as well as to represent abstract concepts like emotions. For instance, a hedge comprised of a bushy, thorny plant says, "keep out," while a walkway lined with flowering plants welcomes visitors. Certain plants traditionally and culturally may have symbolic meaning. In most Western cultures, lilies represent death, while roses symbolize love. For American pioneers, the lilac was used as a plant which greeted visitors to one's home. An entire landscape can also be created in symbolic representation to evoke specific emotions or to tell a particular story (Sprin, 1998).

Context of the Garden Project

Now that the three shared principles of the Reggio Emilia approach, environmental education and landscape architecture have been delineated, we will demonstrate how these three disciplines merged into one project. The project was based upon the common ground among the disciplines and achieved the primary goals of all three disciplines. First we will describe the context of this project.

There were approximately twenty-five children involved in the garden project. All of the children, ranging in age from four to six years, were enrolled at the University of Michigan-Dearborn Child Development Center (CDC) pre/kindergarten program. As part of the University, the CDC is a laboratory school and serves as both a research site for faculty and a supervision facility for preservice teachers.

The CDC is located on part of the Henry Ford Fair Lane Estate in Dearborn, Michigan. The Estate is designated as a National Historical Landmark by the National Park Service and has been a Medallion winner for outstanding landscape architecture by the American Association of Landscape Architects (Landscape Architecture, 1999). The Estate encompasses historical buildings and a landscape design by Jens Jensen, one of the most influential American landscape architects (Little, 1990).

The idea for the garden project arose after the Estate Director, Donn Werling, led several education faculty and teachers on a tour of the grounds. Werling vividly described the history of the grounds and provided details about Jensen's philosophy of natural landscaping, highlighting his use of symbolism to create environments that are meaningful to humans and compatible with the local landscape. It quickly became apparent that there were great similarities between the CDC philosophy, which is influenced by the Reggio Emilia schools, EE goals and Jensen's philosophy of landscape architecture. Upon reflection of this natural parallel between the Reggio approach and the other two fields, the faculty and teachers thought that a project involving the creation of a school garden would be appropriate for the children at the child development center.

The process of learning about gardens (what they represent to us, what types of plants might be in a garden, how to design a garden) necessitated that this be a long-term project. While the teacher initiated the garden project, the children's' interest guided the direction and scope of the project. In the end, the garden project spanned more than one semester because the children continued to talk about plants and gardens during discussion time and brought in plants that they considered interesting.

Exploring the concept of the environment as a teacher

Because of the great potential for unique educational experiences in the grounds surrounding the CDC, this environment was utilized extensively beginning with the initial stages of the project. Before the children even began thinking about creating a schoolyard garden they explored the school environment (University campus and Estate), identified different signs of spring and documented the signs by taking pictures with a digital camera. In this part of the project the children were learning about seasons and the signs of the different seasons.

Next the children visited the Henry Ford Estate and went on a tour of the campus greenhouse. During their visit they noticed and took pictures of flowers along the way, identifying some of the flowers and plants. Children also noticed that some of plants were the same as those they had at home (i.e., lilacs). They were making links between their school and home environments. Later, without the teacher's prompting, a few children brought in lilacs from their homes and looked at them at the light table (See figure 1). This promoted a wonderful conversation about the different parts of a plant. The following conversation initiated by the children illustrates how they used their experience in the outdoor environment to construct or revisit their knowledge about plant parts.

Figure 1. *Children examining the lilacs that they brought from home at the light table, while noticing and discussing the parts of plants.*

Natalie: These are the flowers Charlotte brought in.

Stephanie: Those are lilacs. We have those at my house.

Brittany: We do too. My mom cuts them and brings them in the house.

They make our living room smell good.

Jamie: If you leave them in water long enough, they will grow roots.

Brittany: The purple stuff are the petals. That is what smells good.

Teacher: Do you know the names of the other parts of the flower?

Jamie: These are the leaves. Just like on the trees.

Anne: We know the roots, the petals and the leaves.

These activities fostered an awareness of the outdoor environment that the children had not previously possessed. By being an engaging and inherently fascinating learning environment, the outdoor environment functioned as *the* teacher that taught the children how to become better observers. In addition to gaining observational skills, the children developed map skills as they created a plan for their garden. As they mapped their future garden, the environment provided a real

life context for them to learn that different plants have different requirements for sunlight, space and water. Emily's description highlights how these children considered the particular needs of each plant in their garden.

Emily: I drew the sunflowers first because they will be the tallest.

They need to be in the back of the garden. The pumpkins will grow wide, so they need to be in the middle.

Teacher: What about the other things in your plan?

Emily: I'm getting to those. The cucumbers should be in the middle.

The seeds are so small that they will take a long time to grow. We won't be picking them for a while. I hope the pumpkins won't squish them. . . .

The watermelon needs to be in the front so we can eat it in the summer.

If it is in the middle, you'd step on your other plants. That happened at my house before. I stepped on some radishes and they died.

Collaboration

The garden project involved collaboration between teacher, child and community in three ways. First, a social-constructivist approach was used. Social constructivism, as defined by Vygotsky, emphasizes the social context of learning (Leong & Bodrova, 2001). As children share background knowledge and participate in the give and take of collaborative and cooperative activities they are negotiating meaning and building group knowledge (Chen, 1997). Children and teachers work together to develop the emergent curriculum through project work. Children develop their learning with the guidance of teachers who are considered *learning partners* rather than experts. In order to plan and proceed with this project, teachers listened and observed the children carefully. The curriculum was not expressed in advance, rather it emerged from the process of each activity. The content centered on children's questions and interests, and the teacher was viewed as a researcher in the learning process. When children are allowed to make more decisions regarding their learning, they tend to have a vested interest in activities and take greater motivation in their own learning. While the project was flexible to student needs and interests and allowed children to direct their own learning, the teachers did have an overall goal for the direction of the project: to create a garden.

Second, the children collaborated with each other and learned through discussions after their exploration of the Estate and University grounds. For instance, after our walks with the children, they began to spontaneously bring in flowers they had found on their own. One child brought in a dandelion. This prompted several wonderful discussions and explorations at the light table about weeds and plants (see figure 1). After debating among themselves, the children came to the conclusion that weeds are unwanted flowers.

Stefanie: The dandelion is a weed from out of the ground.

Jamie: No, weeds come from seeds.

Stefanie: It changes into a puff with the white things, then we blow it.

Jamie: The white things have seeds.

Jessica: The seeds blow on the ground. They go into the ground and more grow.

Jamie: The yellow part grows first.

Emily: The white seeds go into the ground, then more dandelions grow. The seeds grow into new dandelions because everyone blows them.

Stefani: They eat the pollen. Weeds don't have pollen.

Stefanie: Flowers have petals and weeds do not.

Emily: Weeds have straight stuff. Flowers have petals.

Jamie: If you let a weed grow for a long time, it will become overgrown.

The project also involved collaboration between the children and the wider community. Parents and University landscapers were asked to donate different kinds of plants or seeds. This solicitation was met by enthusiasm and soon the children had enough annuals and perennials for their garden. When it was time to plant the garden, parents, children, teachers and faculty members began by preparing the garden area and helping each other to plant the seeds and donated plants (see figure 2).

Figure 2. *Planting the garden involved children and adults as equal partners.*

Preparation of the garden soil sparked great conversation among the children and adults. While preparing the soil, one child mentioned that, "*you need to dig at least two inches down or the seeds won't be down far enough.*" While the children and adults were working together they were each contributing their knowledge to the project.

Use of Symbolic Representations

While it might first appear that kindergarten students would not be able to understand and use symbolic representations, this project demonstrated that given a developmentally appropriate context, young children could understand and generate symbolic representations for familiar objects and concepts. Throughout the garden project there were numerous instances where the children represented their ideas symbolically. For instance, the children discussed and then drew their ideas about the signs of spring; symbolically representing an abstract concept, spring, through drawing (see figure 3).

Figure 3. Example of a child's symbolic representation of spring as a time with a lot of rain through drawing.

Later in the project children tackled the idea of symbols more directly. They were asked to name some of the flowers they had observed and what they had learned about them. This introduced the concept that flowers can have special meanings (i.e., can act as symbols). For example, in some cultures a rose means, "love" and a dandelion means, "to attract attention." After the group discussion about flower symbolism the children were asked to pick a flower that told something about themselves and then express what that flower represented. Some of the children did this through drawings (figure 4), while others used facial expressions to express the symbolic meaning of a particular flower (figure 5). Next the children learned that maps are full of symbols. They began planning their garden by looking at a digital picture of the outside of the classroom. Their teacher then asked them to design a map of the garden using the donated plants. This activity allowed children to develop their spatial and symbolic skills

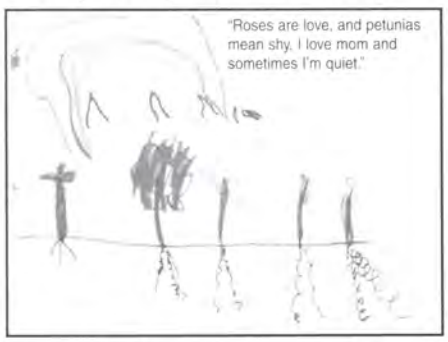

Figure 4. One child's representation of flower symbolism through drawing.

Figure 5. One child's embodiment of how dandelions symbolize happiness through facial expression.

in a way that was relevant to the project. They dictated an explanation of the map to the teacher who recorded the information on a scanned picture of the child's map. One child was able to bring her recently acquired knowledge of flower symbolism to her garden map. Purple flowers on her map represented lilacs, which symbolized love to the child. She wanted lilacs to be near the front door so those entering the building would be greeted with love (figure 6).

Once the individual maps were created, the class discussed each child's map. This discussion resulted in the planning of two group garden maps integrating ideas from each child's individual map. It is interesting to note that they visualized the gardens in a very functional way: gardens with things you eat (i.e., a vegetable garden) and those with non-edible plants (i.e., a flower garden). The children wanted the gardens to be based on their function; one was to be a flower garden and one was to be a vegetable/edible garden. The flower garden was mentioned as being "prettier" than the vegetable garden, so it was placed in front of the classroom building where they could see it. That placement also might have had to do with the children's knowledge of the symbolism; perhaps they wanted visitors to be greeted in a certain way.

During the planting process, the children again applied their understanding of the symbolic value of plants. For example, a child mentioned, *"the roses go in front of our school. That's where we decided to put the flowers. Our moms and dads can see them when they drop us off. We put them there because they tell us about ourselves . We love each other too."*

Figure 6. A garden map that incorporates flower symbolism.

Discussion

The overall goal of the garden project was to positively affect the cognitive growth of each child, and to increase "connectedness" and a sense of respect for the local environment. A sense of place or connectedness to one's environment is essential to both cognitive and social development and to the sustainability of our environment (Nabhan & Trimble, 1994; Orr, 1994; Vickers & Matthews, 2002). These goals were achieved through a wide variety of activities, often initiated by the young children. The cognitive gains were in areas such as observation, communication and representational skills in addition to content knowledge. For instance, the children developed observational skills through exploration at the light table, walks around the school grounds and visits to the campus greenhouse. Communication skills were practiced as they discussed what plants they were seeing, and what they thought about the plants. Representational skills were refined as the children used a variety of modalities to portray what they thought of themselves, plants in their environment, and their garden. Different repre-

sentational forms used by the children included body movement, drawing, and map making. Science knowledge was increased as children learned or revisited what they knew about plant types, parts of plants, and the common names of plants.

The children appeared to be more connected to their environment as they exhibited interest in plants and created a garden that communicated something about themselves. This interest was sustained to the following year when the children again planted a small garden and brought in plants from home to share with their classmates. They were transferring what they had learned at school to their home and community. This demonstrated that the boundaries between school and community were not rigid and artificially defined.

In the future it would be useful to find out how the project affected child behavior away from school. Did the children show more interest in the environment around their home? Did they want to plant a garden at home? Did other behaviors related to recognizing symbols or map making change? It would also be helpful to identify and possibly quantify the impact of the project on the child's cognitive development.

Since this was, in effect, a pilot project that emerged from the children's own interests and discoveries (as much of the curriculum does in a Reggio inspired program), the teachers were not able to implement assessments to determine project impact. Rather, the teachers' focus was on the emerging curriculum. Still we believe that this project was successful and could be adapted with the same positive effects in a variety of settings. This project provided a mulitude of opportunities for the children to converse with each other in both one-on-one and small group situations. Throughout the project, teachers were able to listen, observe, document, offer suggestions, pose new questions, and challenge thinking. The teacher would then wait for the children to make connections from one phenomenon to another.

Conclusion

This article demonstrates common ground between three fields that have not typically been associated with one another. The parallels between the Reggio approach to early childhood education, environmental education and landscape architecture provide a unique opportunity for a learning experience. The second half of the article provides an example of a garden project that successfully integrates these mutual perspectives. Why is it important to look for common ground among fields? As academic fields become narrower and more specific, it is increasingly important that we are aware of commonalities so that we may solve complex environmental problems and effectively educate our children. No one discipline has the solution or the ability to create environmentally responsible citizens. But if we consider different fields and identify their similar goals and principles, then we have a better chance of success.

By engaging in a cross-disciplinary garden project, the children at the Child Development Center benefited in several important ways. As they learned about the environment outside of their classroom, learned how to represent and communicate their ideas and worked together in a long-term project each child's individual development and sense of stewardship to the environment increased. In addition, the children experienced how the school and the community are linked.

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Beginnings And Beyond: The Relationship Between Television Violence and Neurodevelopment of Young Children

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"TV rots the senses in the head?

It kills the imagination dead!

It clots and clutters up the mind!

It makes a child so dull and blind.

He can no longer understand a fantasy,

A fairyland!

His brain becomes as soft as cheese!

His powers of thinking rust and freeze!"

---

an excerpt from Charlie and the Chocolate factory, by Roald Dahl, 1964

The human brain, a three-pound organ, is the pathway to human development. "Most neuroscientists today argue that the biological organ inside our skulls is both source and repository of our elusive identity and of all aspects of cognition and emotion" (Conlan, 1999). Furthermore, "The brain is the master control of our health and well being, competencies and coping skills. It directs all aspects of bodily functions through established biological pathways" (Bertrand, 2001). Research confirms that a person's brain reaches its full maturation at around age 12.

Neuroscientists have shown that the first two years of a child's life is when the most rapid development of the brain occurs (Bertrand, 2001). The first five years of a child's life is the critical period for developing language and cognition. In the context of the preceding statement, it should be noted that the more a brain is stimulated the more it is capable of doing. This growth is often inhibited by the reality that many young children are watching on an average of two or four hours of television per day (Eastman, 2002). This scenario is further compounded by the amount of television violence witnessed by children. It is estimated that by the time an average Canadian or American child leaves elementary school he or she will have seen 8,000 murders and over 100,000 other acts of television violence (Eastman, 2002).

It is obvious that television plays a dominant role in our culture. However, television on its own, is neither bad nor good. It offers children benefits such as education and entertainment but television can impact negatively on children - limiting their participation in physical activity and dramatic play. The effect of television on children's behaviour is further accentuated when one considers that very young children have difficulty separating fact from fantasy.

This article is intended to give an overview of the relationship between television violence and the neurodevelopment of young children as well as outline implications for parents and early childhood educators as they endeavor to take control of television viewing. We, as parents and early childhood educators, deem it important to teach young children rules and life skills, however, with television intruding into their lives, it is now essential that we teach television literacy to children.

Effects of TV on Children

What effect does television have on a child's behaviour? As parents and early childhood educators, we need to be cognizant of the reality that television can have an impact upon children's behaviour, development, and even their health. Watching television in itself is not necessarily a problem. Of concern is what children are not doing when they are watching TV - for instance, not reading or playing creatively or socializing.

Possibly the more television children watch, the greater the negative influence on their lives. What is heavy viewing? Experts often define viewing not in terms of hours but in relationship to exclusion of other activities, such as playing. However, there are researchers that state four hours a day is the maximum viewing time for young children (Canadian Paediatric Society, 1992; Eastman, 2002). Others, recommend preschoolers be exposed to only one to two programs per day, and with a maximum of two hours at a time (Eastman, 1995).

When considering the negative effects of television on young children, most parents and early childhood educators see violence and aggression as the greatest

concern. The most frequent reasons for this are as follows; children tend to imitate behaviour they view on television, frequent exposure to TV violence can make children think that violence is normal, even in real life, children who take in large quantities of televised violence tend to see the world as a frightening place and grow leery of neighbours and strangers, and children who see, over and over again, that violence is an acceptable solution to problems, tend to work out their problems in the same way (Eastman, 2002). The later statement merits attention because young children's aggressive skills are acquired earlier than mental or social skills (Beaty, 1995). Consequently, "Children who admire aggressiveness in their heroes and heroines may see little reason for devoting time and effort to learning other ways of problem solving" (Singer, 1988).

Early childhood educators should consider TV programs in the context of developmental appropriateness. Developmental appropriateness should be the criterion used for evaluating television programs. With respect to TV appropriateness, Levin (1994) conceived a developmental framework for assessing television. Levin (1994) maintains that when assessing developmentally appropriate media it should be assessed in terms of developmentally appropriate practices. Developmentally appropriate practices focus on ways that support and promote young children's development by helping them work on developmental needs.

Levin's (1994) framework included three categories: developmental issues, what children see on TV, and what children should see. The developmental issues included the following: to establish a sense of trust and safety, to develop a sense of autonomy with connectedness, to develop a sense of improvement, to establish gender identity, to develop an appreciation of diversity among people, and to have opportunities for meaningful play. Within this framework, Levin (1994) contends that television negatively impacts on the healthy social, emotional, and intellectual development of young children.

Television Violence and Neurodevelopment of Children

In the report, Starting Points, the Carnegie Corporation of New York talks about the significance of a child's first three years of life as vital to brain development (Kotulak, 1999). The Carnegie report reiterates the concern that the lack of proper stimulation may be damaging the brains of young children (Kotulak, 1999). As a corollary to the preceding statement, too much exposure to the wrong kind of stimulation, such as television violence, may be equally damaging to the developing brains of children. As a possible reaction to the relentless viewing of television violence, the brain may adapt by cells rewiring trillions of connections that establish the chemical pathways of aggression (Kotulak, 1996). Consequently, extended television viewing during the early years of a child's life could create learned helplessness or aggressive behaviors (Starr, 1999). The preceding concept is accentuated by the reality that media violence often models the use of force as the first choice in conflict resolution and that violence is an acceptable mode for solving problems (Eastman, 2002).

An infant is born with approximately 100 billion brain cells. These neurons are designed to store and transmit information (CCCF, 2001). Children's brains are at its most receptive stage in infancy and early childhood, when experiences, positive or negative, will affect how groups of neurons are either strengthened or disregarded (CCCF, 2001). Thus, these early experiences play a crucial role in shaping how children perceive the world. Television violence may deprive children of experiences that help develop neural pathways which are necessary for healthy brain development. Furthermore, "Extensive viewing of violent television shows and video games can lead to an emotional desensitization. Children may seek increasing horrific programming just to feel some emotional response" (De Gaetano, 1999). Such emotional desensitization affects young viewers differently from adults in that children have a stronger tendency than their older counterparts to identify with a particular character (Eastman, 2002). Because young children have difficulties distinguishing between fantasy and reality, they are vulnerable to the negative effects of TV violence. Children who take in large quantities of TV violence tend to see the world as a frightening place as well they may be more fearful of the world around them. Consequently, the preceding factors may cause stress. Research as indicated that "The neural pathways that control how we respond to stress seem to be particularly powerful in shaping how we learn and behave, and our overall health" (CCCF, 2001). Thus, if children are exposed to sustained stress during the time when the brain is going through its major sculpting process, they can be adversely affected in later life (CCCF, 2001). The Canadian Child Care Federation (2001) states that "When a child is under prolonged stress, the child's brain sends a signal for his body to produce greater amounts of a stress hormone called cortisol. The constant release of cortisol means the child is constantly on high alert". Thus, children who view large quantities of television violence may behave more aggressively towards others.

Not only do most young children have difficulty distinguishing between reality and fantasy, they also can't articulate a rationale for the violence they witness in the media culture. Furthermore, they lack the cognitive attributes to put these violent images into meaningful contexts (De Gaetano, 1999). This inability to put fear-inspiring experiences into a cognitive setting implies that children under the age of eight years are extremely vulnerable to the violent imagery portrayed in many television programs (De Gaetano, 1999). Young children often can't distinguish between the pro-social

and anti-social behaviors portrayed on television programs. Consequently, they often imitate violent behaviors witnessed on TV. It has been determined that by the age of three children imitate television characters as readily as they imitate real people (Eastman, 2002).

There are those who state that children's brains are not developing the way they should because of viewing excessive television violence. Heavy TV watching during the early years when the brain is malleable and sensitive prolongs the dominance of the right brain functions (Long and Buglion, 2000). Thus, inhibiting the left brain which is responsible for verbal-logical functions (Long, 2000). Furthermore, numerous studies over the years have demonstrated that there is a correlation between TV violence and aggressive behavior. Recent evidence indicates that "- - - there is a sensitive period that begins before age eight when children are especially susceptible to the effects of violence shown on TV" (Long, 2000). In regards to this sensitive period, Murray (2003) implies that we should have clear concerns about the ways our culture uses video violence given the accumulating evidence of the harmful effects of video violence, especially the suggestion that "— neurological processing of entertainment violence is not different from processing real violence— ".

Ledingham (2001) states that "Young children do not process information in the same way as adults." She further articulates, "Nor do they have the experience to evaluate what they see". Thus, Ledingham (2001) concludes that since many young children watch a considerable amount of TV, this makes them especially susceptible to the adverse impacts of television. Media monitoring agencies estimate that the number of violent acts in children's programs are six times greater than adult shows (Eastman, 2002). Because of the excess amount of violence in television shows for children, many heavy viewers develop a distorted sense of reality (Long, N. D.). Johnson (1999) characterizes watching television "—as multi-level sensory deprivation that may be stunting the growth of our children's brains". Jane Healy's (1990) research indicates that brain size could decrease 20-30% if a child is not talked to, touched, or played with. Thus, in the context of Healy's writings, excessive amounts of television viewing could be potentially harmful because it presents information to the hearing and sight senses only (Johnson, 1999).

What are the mechanisms by which exposure to television violence might affect young children? One explanation is Bandura's model of social learning. This model infers that watching television violence can lead to aggression because "- - children observe novel aggressive behaviours and learn vicariously that aggressive acts are rewarded" (Ledingham, Ledingham, and Richardson, 1993). Furthermore, "They store these new behaviours in memory as part of the repitoire of actions that are available to get them what they want" (Ledingham, et al, 1993). Thus, the more real children perceive the violence they witness on television the more they will endeavor to imitate that violent behavior (Ledingham, et al, 1993). Children are great imitators who often believe what they view on television has being true because many of the characters portray qualities that make them acceptable role models (Eastman, 2002). The imitation factor is further perpetuated by the reality that many children's programs reflect violence in a humorous manner.

Murray's (2001) study on brain-mapping and children's response to video violence puts forth the concern that children were storing entertainment violence as if it were a significant life event.

Violent television images can keep a child's instincts and emotions in a constant state of alertness for flight or fight and at the same time reduce their thinking functions (Eastman, 2002). Known as the 'orienting response', the human brain is wired to fix the eyes on sudden changes in the environment. Unlike adults, young children are more susceptible to rapid changing television images. This vulnerability is accentuated by their choice of television programs, for example cartoons. It has been estimated that images change approximately every 4 to 6 seconds during children cartoon shows. This potential negative affect is further compounded by the reality that children's cartoons often portray many more acts of violence than adult programming (Eastman, 2002).

When children decide to imitate a behavior, morality is not a part of this decision process (De Gaetano, 1999). Centerwall (1992) writes "That young children do not possess an instinct for gauging whether a behaviour ought to be imitated." He further states that "They will imitate anything, including behaviors that most adults would regard as destructive and antisocial - -". This inability to distinguish between safe and potentially dangerous behaviours make children extremely vulnerable to the negative effects of violent TV programming. Kotaluk (1996) adds, "There is increasing concern that the lack of proper stimulation may be damaging brains. The same may be true of too much exposure to the wrong kind of stimulation, such as violence".

As children view television violence the chemical transmitter, noradrenaline, comes into play. As they watch graphic programs the production of noradrenaline increases in children's brains. The brain's alarm network is located at the base of the brain and sends noradrenaline to other brain centers that control such functions as emotions (De Gaetano, 1999). "As the images assault the brain, the noradrenaline level rises, keeping the body in a constant state of readiness -

easy to startle, quick to blow up"(De Gaetano, 1999). The preceding rationale is a contributing factor in explaining why after watching violent television scenes children are more prone to act in aggressive ways like shouting, bullying and play and real fighting. Murray's (2001) study on brain-mapping and children's response to video violence puts forth the concern that children were storing entertainment violence as if it were a significant life event. As Murray (2001) further articulates, this can be a dangerous occurrence because such memories can guide or disrupt current behaviors.

In concluding this section of the paper, it is suffice to state that not only does television violence affect the neurodevelopment of children but television viewing also deprives them of sensory-rich experiences necessary for healthy brain development (De Gaetano, 1999). A growing apprehension among brain researchers is that large amounts of television viewing may affect the development of strong and widespread neural pathways necessary for a 'good' brain (De Gaetano, 1999).

Implications for Parents and Early Childhood Educators

It is obvious that TV viewing reduces a child's play time. Several authors, for example Winn (1985), state that the loss of play time can be devastating because "*... play is clearly a vehicle for many of the child's most important learnings and the means whereby he is able to practice and develop behaviours necessary to his success as a social being.*" Winn (1985) further states that *"Not only does TV viewing lead to a reduction in play time; there is evidence to suggest that it has affected the nature of children's play, particularly indoor play."* As a corollary to Winn's findings, there are early childhood educators who feel that preschoolers' dramatic play have become much more aggressive,less creative and imaginative and dominated by violent TV characters (Beaty, 1995; Carlsson-Paige, 1995).

Parents need to create a setting where their children feel safe. Hence, parents must monitor television viewing so that their young child watches appropriate TV which personifies this feeling of safety. As Symons (1991) states: "*When programs are chosen carefully, when TV time is limited, and when parents watch too, actively, then the 'boob tube' can, indeed, enrich our children's lives.*"

"Not only does TV viewing lead to a reduction in play time; there is evidence to suggest that it has affected the nature of children's play, particularly indoor play."

A report by the Ontario Medical Association indicated that watching television is a major contributor to sleeplessness, depression, and hyperactivity in young children (Rosenkrantz, 1994). If such findings disturb families, then parents must enact strategies to lessen the possible negative effects of the 'Plug-In Drug'. There are a litany of strategies germane to television screening and young children. Listed below are some, and by no means inclusive, positive steps parents can take to facilitate television guidance:

When your child is watching television, watch with him or her. Being proactive affords parents the opportunity to develop television literacy. If parents are sincere in managing the television they must conceptualize their goals; for example one goal may be to have their child watch less violence.

Parent should limit the amount of time their preschoolers watch television. Some parents develop formal rules and are selective in the programs they allow their children to view. For instance, in regards to what to watch, very young children could be given a TV allowance - for example two shows a day, or only television on the weekend.

Television should not be the sole source of recreational time in a household. Thus, for parents this means planning alternative activities such as a family picnic, visiting a library, taking walks, etc.

Parents should be careful about indiscriminate viewing of news programs. Young children who are exposed to a lot of news can become desensitized to acts of violence (Rosenkrantz, 1994).

Parents can plan special viewing times with their children (Rosenkrantz, 1994). Even very young children can plan their weekly television guides or select programs to be videoed and watched at a more convenient time (Rodgers, 1994).

Parents can get preschoolers to think about what they are viewing. One way to accomplish this goal is by turning the TV into a treasure hunt. Children should concentrate on one thing at a time, for example commercials, and then move on to other items (Rodgers, '94).

Conversations are much more effective than lectures with young children. This is because young children have difficulty comprehending abstract ideas like equality and socially acceptable problem solving techniques. Thus, parents can assist their child to understand these concepts by demonstrating how they work in real life (Rodgers, '94).

Parents should be cognizant of the TV being left on just for background noise and turn it off. A corollary to the idea of leaving the TV on for no particular purpose is the avoidance of television as a babysitter. Allowing the TV to be on constantly sets a pattern of TV dependence. For example, if parents are busy why not turn-off the TV and have the children listen to music or do crafts (Rosendrantz, 1994).

"Talk with your child about what is real and not real on television. Talk about the concept of acting - relate acting to a game of make-believe. Also, talk about cartoon characters. You might occasion-

ally want to ask your child if the characters are real and what would happen to real people and animals if they were in similar situations" (Rosenkrantz, 1994).

Possibly the most important suggestion to parents is that they be aware of their child's reaction to what they view and if he or she becomes disturbed by a particular program then turn the TV off and do something else together (Rosenkrantz, 1994).

As professionals working with very young children, early childhood educators can do much to assist preschoolers understand the role of television in our society. More specifically, early childhood educators can plan the curriculum "*...so that it provides opportunities for children to share their views, gain knowledge, go beyond TV visions, develop critical viewing skills, make critical choices, build on resources, work together with parents, and have the freedom to play*" (Stone-Zukowski, 1994).

Stone-Zukowski (1994) outlines the following activities for early childhood educators to incorporate into their centre's curriculum in order to help children cope with the television:

Discussion: assure children that you share their concerns. When dealing with young children ensure that they know trusted adults are there to protect them.

Knowledge: Provide opportunities for children to learn how movies and television shows are made. You can have children visit a TV station, make or draw cartoons about TV shows, make a video, and make a commercial.

Critical Choices: Encourage children to make critical choices about the shows they watch on TV. Help parents recognize the importance of making choices that fit with their family standards. Learn about the rating systems established by the CRTC. Provide resources for parents and children that will help them make choices.

Fantasy: Encourage opportunities for children to express their feelings in ways that feel good, are non-threatening and removed from reality. This can be done by: role playing monsters, creatures from outer space, dinosaurs, and fairytale characters; singing and writing songs about the rain forest animals, etc.; and telling true or make-believe stories and using puppets to share concerns.

Action Groups: Children can work with adults to become aware of various lobby groups and government agencies that can have a positive impact on the issues raised on TV.

Conclusion

For educators and parents, possibly the greatest issue in today's video culture is the effect of television violence

on children's behaviour. Young children have limited cognitive abilities to process and cope with violence. There are pundits who advocate young children have limited exposure to media violence (Eastman, 2002). The American Academy of Pediatrics (2003) goes a step further and recommends no TV viewing for children age two or younger. This may be an unrealistic expectation given the pervasive nature of television in today's world. Since the advent of the television in the 1950's, it has invaded every aspect of society. In the context of the affects television violence has on the neurodevelopment of young children, it is essential that adults promote media literacy skills, thus, empowering children with abilities to deal with the images and issues portrayed on television.

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Demonstrating Understanding in Science: Connections to Learning Styles

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[Science] concerns itself with everything that people do that is socially meaningful, including talking, writing, drawing pictures and diagrams, gesturing, dancing, dressing, sculpturing, building (Boulter,1997).

Introduction

According to the BC Science Integrated Resource Package (IRP) (Ministry of Education, 1995) the principles of learning are: (a) learning requires the active participation of the student; (b) people learn in a variety of ways and at different rates; and (c) learning is both an individual and a group process. While the first and third principles seem fairly straightforward, I used to wonder about the second. What exactly are the ways in which people can learn? The question is neither raised, nor addressed, in the IRP.

After I read Leland and Harste's (1994) article on multiple ways of knowing, I began to make the connection between this principle of learning (that people learn in a variety of ways) and learning styles, including the Multiple Intelligences Theory (Gardner, 1996). I decided to look more closely at how allowing students to demonstrate their understanding of science concepts through a variety of responses would enable them to use different learning styles or intelligences.

Science and the Language Arts

A program that aims to develop science literacy would involve all of the language arts, as students access ideas and information and communicate their understanding of those ideas in a number of ways, using a variety of learning styles or intelligences. The Western Canadian Protocol (2001) lists the language arts as reading and writing, listening and speaking, and viewing and representing. Reading, listening, and viewing may be thought of as ways to access ideas and information, while writing, speaking, and representing may be thought of as ways to communicate them. The term *representing* is used to describe the range of ways in which students can create meaning and demonstrate understanding. Students may use visual representations, drama, music, and multimedia as alternatives to, or in addition to, written and oral work.

Instructional Implications of Learning Styles and Multiple Intelligences

A curriculum that is based on learning styles or multiple intelligences provides more opportunities for representing understanding, and allows a larger number of alternative methods for assessing understanding (Sweet, 1997). The learning style models mentioned in this article and described in more detail in Appendix A – those developed by Dunn and Dunn, Flaherty, Gregorc, and Gardner - are representative of what Guild and Garger (1998) call "*major efforts historically and conceptually*" (User's Guide section, p.2). Although there are many different learning style models, no single model can adequately describe the ways in which a particular individual prefers to learn.

A 'visual' learner who is also 'concrete sequential' seeks visual order and would benefit from a linear diagram of material. A 'visual' learner who is also 'abstract random' responds to design and would be drawn to a mind map format for organizing information (Guild & Garger, 1985).

Effective educators need to be familiar with several learning styles and their concepts, applying those concepts when and where they are appropriate in order to meet the needs of their students.

Eisner (1994) points out that there is a tradition of assuming that math, reading, and writing skills are the measure of intelligence. However, he notes that "*the lessons taught by the arts are much closer to what successful and intelligent corporations do and to what cognitive psychologists are discovering constitute the most sophisticated forms of thinking*" (Eisner, 1992, Section 3). This is a powerful reason for teachers to accommodate a variety of learning styles and intelligences in their classrooms. Indeed, Sweet (1997) states:

The broadening of our definition of intelligence, when combined with an expanded view of literacy that encompasses the visual and communicative arts, has the potential to make schooling relevant to the lives of all children across the diverse spectrum of backgrounds and subcultures (p. 273).

If teachers accommodate a variety of learning styles or intelligences while they present science topics and concepts, they also need to provide a variety of

ways to assess student understanding of those concepts. Therefore, a science program that incorporates multiple learning styles and intelligences requires both a variety of teaching methods and a variety of ways to assess learning. In this article, I provide examples of the kinds of work that might be used to assess student understanding of science concepts.

Multiple Ways of Demonstrating Understanding: Theory in Practice

The following work samples were produced by Grade 3 students from a school located in a middle-class neighborhood. The class had twenty-two students – twelve girls and ten boys. Three students were designated ESL (English as a Second Language), two had serious learning difficulties, and five others received Learning Assistance support with Language Arts. The work samples were generated near the end of the school year, with the exception of the writing-to-learn-sample, which was produced earlier in the spring. I asked my Grade 3 students to represent their knowledge of a science topic in one of a number of ways, and I presented several options that involved writing, drawing, and music. I selected options that they would be familiar with and that would require the use of different learning styles and intelligences.

My students demonstrated their understanding using a variety of methods and I have categorized those methods as written assessment measures - writing-to-learn and the acrostic poem; graphic organizers - the Venn diagram; musical assessment measures - the piggyback song; and artistic assessment measures - the comic strip. Each assessment sample is prefaced with a brief description of the research supporting the use of that particular method of assessment. A list of the learning styles and multiple intelligences that would be involved and my reflections on the use of the method are included with the student sample. Since almost any lesson or activity could be planned to take place at different times, with students working alone or in pairs, or in different locations, the Dunn and Dunn model is not included in the lists of specific learning styles.

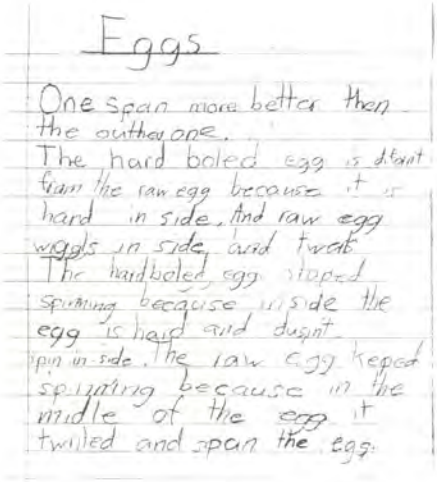
Written Assessment Measures

The writing across the curriculum movement that arose during the 1980s resulted in a focus on written assignments as an effective method for developing understanding in the content areas (Peasley, 1992). Writing can help students to make connections, to remember information, and to master concepts (Brostoff, 1979; as cited in Peasley, 1992). As Rivard (1994) states, "*the process of writing is important, not only for learning about something or acquiring knowledge, but for generating a personal response to something, for clarifying ideas, and for constructing knowledge*" (p. 970). The key is to choose writing tasks that are engaging, and that will allow students to demonstrate their understandings of science concepts and information.

Writing-to-learn

The purpose of writing-to-learn is to allow the writer to develop understanding and to reflect on information. Writing-to-learn provides a permanent observable record of the child's thought processes. It is meant to be judged for the quality of thinking that is demonstrated by the writing, rather than for spelling or grammar. Because students are not required to focus on writing conventions, they are able to concentrate on making connections, using prior knowledge, and thinking on paper (Keys, 1999).

Before beginning this particular writing-to-learn activity, students watched two eggs spinning on a table. The only difference between the two eggs was that one was raw and the other was hard-boiled. When touched lightly, both eggs stopped spinning, but one began spinning again. Students were not told which egg was raw, but were asked to write about what they had seen and to think about what happened to an egg during cooking. Figure 1 shows Tanya's attempt to explain what she had observed. (All student names are pseudonyms.) Figure 2 shows the elements of various learning style models, discussed in more detail in Appendix A, which would be involved in the writing-to-learn activity.


Eggs

One span more better then the outher one.
The hard boled egg is dfaint from the raw egg because it is hard in side. And raw egg wggls in side and twrls
The hardboled egg stoped spinning because inside the egg is hard and dsgnt spin in side. The raw egg keped spinning because in the midle of the egg it twiled and span the egg.

***Figure 1**. Writing-to-Learn*

Model	Learning style/Intelligences
Flaherty	visual, kinesthetic
Gregorc	abstract sequential
Gardner	linguistic, logical-mathematical, naturalist

***Figure 2**. Learning Styles Involved in Writing-to-Learn*

It is clear that Tanya was thinking about the results of the science demonstration rather than concentrating on writing conventions, which allowed her to formulate and describe inertia theory - quite an accomplishment for a Grade 3 student who typically worked at grade level! However, many other students had difficulty with the writing-to-learn technique. This difficulty may have occurred because students were not used to writing in such an unstructured manner. Also, despite the intended lack of emphasis on writing conventions, the activity does stress writing ability. Students who have difficulty with the physical act of writing will still expend most of their effort attempting to put something on paper, rather than thinking

about what they are writing.

Although the writing-to-learn technique was not included in the assessment options I gave my students at the end of the year, I had tried it earlier in the year with some success. I include it here because it is a way in which students can show understanding of information, as well as the steps they go through to gain that understanding. I plan to implement writing-to-learn several times throughout the next year, as I believe that as students become more comfortable with the process, the activity will become increasingly successful.

Acrostic Poetry

Students choose an important concept from the unit of study and write that word (or words) vertically. Each horizontal line of the poem begins with a consecutive letter, and contains vocabulary that reflects the topic. The careful selection of words that is required for this relatively structured poetry exercise leads to an active review of information, and occasionally additional research, as the students search for meaningful words that begin with a particular letter.

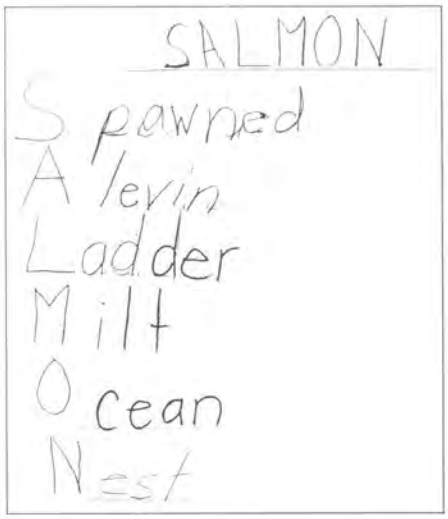


Figure 3. *Acrostic Poem*

While writing the poem shown in Figure 3, Stephanie asked to make a trip to the library to find more information about salmon, as she was unable to locate words that were "*important enough*" in classroom resources. As long as the criteria are clearly laid out – words must be relevant to the topic, each line must begin with the appropriate letter - writing an acrostic poem can be a powerful way for students to learn more about a topic, as well as to demonstrate their understanding of that topic. Figure 4 shows the learning style elements that students would use when writing a science poem.

Model	Learning style/Intelligences
Flaherty	visual, kinesthetic
Gregorc	concrete random
Gardner	linguistic, logical-mathematical, naturalist

Figure 4. *Learning Styles Involved in Writing Poetry*

Graphic Organizers: Venn Diagram

A graphic organizer is a way to visually represent information in a written form. In a graphic organizer, the position of the text helps to make sense of information (Moline, 1995). Sometimes words are connected according to meaning, as in a concept map, and sometimes words are placed in a particular order, as in a flow chart. Graphic organizers can help students to discern complex relationships by externalizing concepts and ideas (Narode, Heiman, Lochhead, & Slomianko, 1987). There are many ways to graphically represent information, and it is important to match the structure of the organizer with that information, as well as with the purpose of the activity. For example, a life cycle should be represented in a cyclical organizer, rather than in a concept map or in a cause and effect structure.

A Venn diagram is a graphic organizer that allows two concepts or ideas to be compared and contrasted. In the Venn diagram shown in Figure 5, Cory was attempting to show his knowledge of two different types of sharks.

As Cory worked on this Venn diagram he remarked, "*I have to put something in the middle, don't I?*" His comment demonstrated the importance of choosing a graphic organizer that suits both the purpose of the exercise and the information available. In this case, a two-column table might have been more appropriate, allowing Cory to simply contrast the two types of sharks. However, the fact that he was required to find common characteristics led him to do more research, which was actually a desirable result. Figure 6 shows the learning styles that would be emphasized when completing a graphic organizer.

Model	Learning style/Intelligences
Flaherty	visual
Gregorc	abstract sequential
Gardner	linguistic, logical-mathematical, naturalist

Figure 6. *Learning Styles Involved in Graphic Organizers*

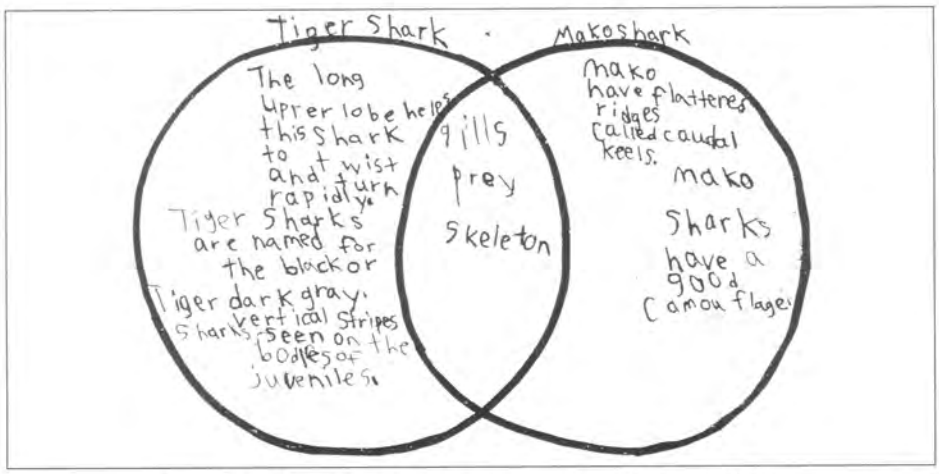


Figure 5. *Venn Diagram Comparing Two Types of Sharks*

Alternative Assessment Measures: Music and Art

Begoray (2000) believes that if students are presented with a variety of activities for making and demonstrating meaning, there is a greater probability of reaching all students and developing student potential in all of the multiple intelligences, using all learning styles. A science program that attempts to accommodate a variety of learning styles and intelligences will necessarily use alternative forms of assessment as well as more traditional written forms. Gallas (1994) and Rief (1999) describe a wide range of activities, including musical and artistic activities, which are designed to demonstrate student understanding of information and concepts. According to Cecil and Lauritzen (1994), some children will "*understand and express concepts better through art than they ever could through the written word*" (p. xiii).

Music: Piggyback Song

Students can demonstrate their understanding of science concepts through music. Older students may be able to write lyrics set to an original tune, while younger students can write piggyback songs, where new lyrics are written for familiar tunes. Writing a science song requires an understanding of the concepts as well as an ability to follow beat and rhythm. The original lyrics shown in Figure 7 are set to the tune of *Mary had a Little Lamb*. I asked our school's music specialist to notate the song so that Elyse would have a permanent copy of her work, and the notation is shown in Figure 8. The learning styles that would be emphasized when writing a science song are shown in Figure 9.

When Elyse created this song about giraffes, she attempted to represent the rhythm of the song while working on the lyrics, thus drawing upon her logical-mathematical intelligence (Cecil & Lauritzen, 1994).

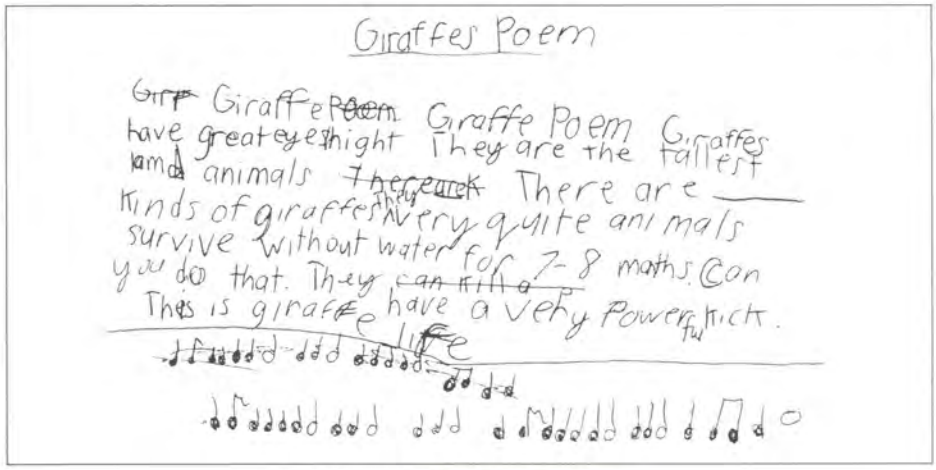


***Figure** 7. The Giraffe's Song*

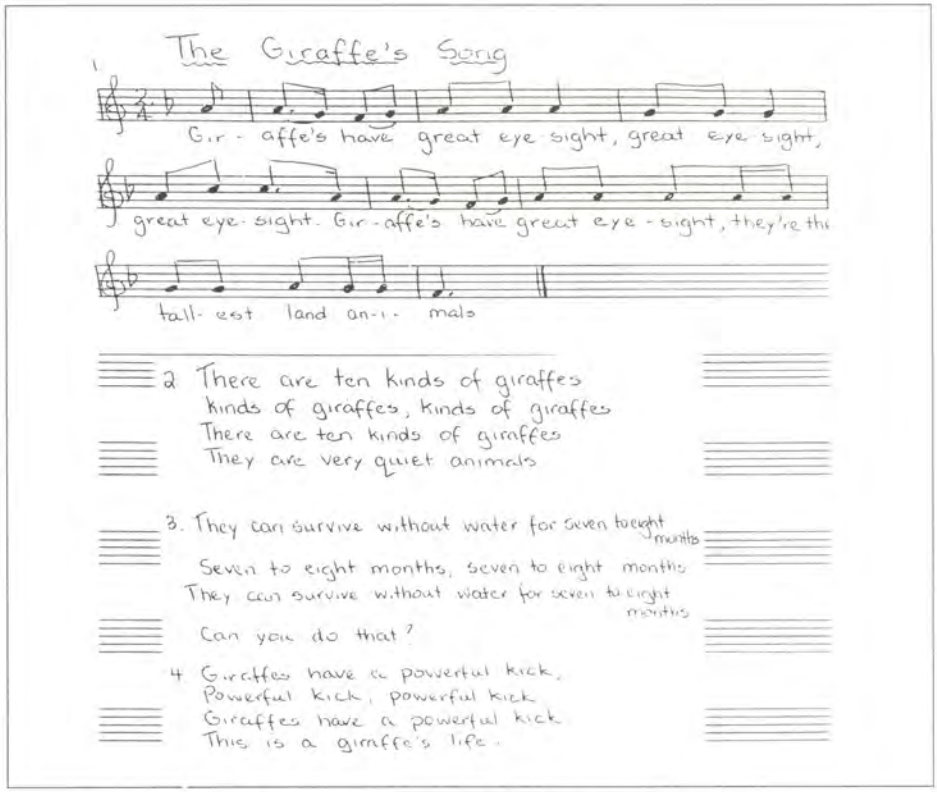


***Figure 8**. Notation of The Giraffe's Song*

Model	Learning style/Intelligences
Flaherty	auditory, visual
Gregorc	abstract random
Gardner	linguistic, musical, logical-mathematical

***Figure 9**. Learning Styles Involved in Writing Song Lyrics*

Art: Drawing Cartoons

Another form of assessment involves drawing. Using drawing as an alternative method of assessment enables some children to communicate their understanding of information more easily and more clearly, especially if drawing is used in conjunction with writing. A more detailed picture of student understanding emerges when students are allowed to demonstrate their understanding of concepts by including drawings with their writing. Sweet (1997) found that students' drawings sometimes revealed additional content knowledge that was not contained in their writings about the same topic. Moline (1995) agrees, noting that some children who are poor writers can communicate very well if they are allowed to show information in a visual form such as a diagram. He also believes that visual texts can be difficult to produce, since they can be quite complex.

A familiar form of drawing in combination with writing is the cartoon. Rief (1999) writes in support of the use of cartoons as an alternative assessment technique, stating that "*students often understand difficult concepts a lot more easily when they can put their understandings into their terms and experiment with a presentation that shows what they have learned*" (p. 56). She explains that students are engaged by the alternative form, and that cartoons, among other products, help students to "*share their learning and teach others in ways that more closely resemble real-life projects*" (Rief, p. 58).

The comic strip shown in Figure 10 contains a great deal of information. Keith demonstrates a grasp of sequencing, at the same time indicating his understanding of what happens when baking soda and vinegar are combined. As well, this comic strip shows the process of presenting science experiments that was used in my classroom. Students showed their materials, described the procedure they would follow, conducted the experiment, discussed the results, and then developed conclusions. All of these steps are shown in Keith's simple five-frame comic strip. Figure 11 shows the learning styles that would be emphasized when drawing a cartoon or comic strip.

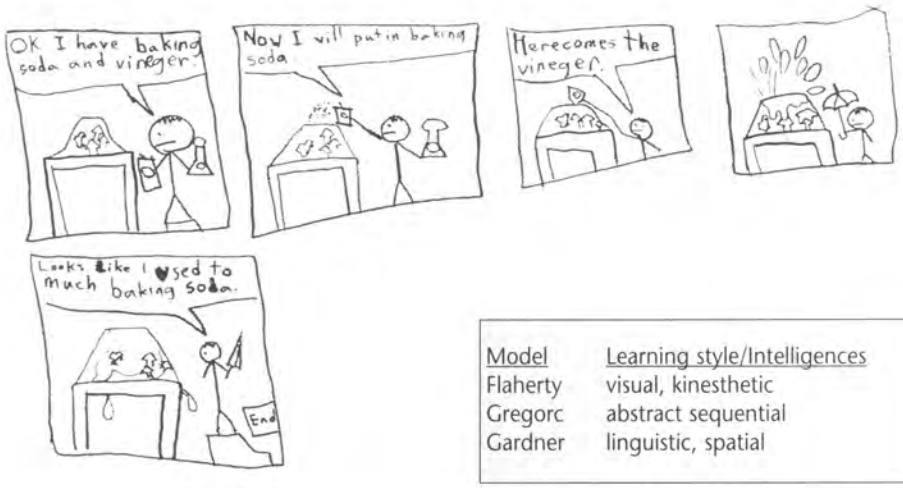


Figure 10.
Comic Strip

Model	Learning style/Intelligences
Flaherty	visual, kinesthetic
Gregorc	abstract sequential
Gardner	linguistic, spatial

Figure 11.
Learning Styles Involved in Drawing

Concluding Remarks

My intent was to use a variety of assessment measures by allowing students to choose how they would demonstrate their understanding of a science topic. However, most students chose a method that involved writing to some degree, thus using the more traditional linguistic intelligence. Perhaps most students were familiar with using writing to show what they knew, or perhaps they felt that writing was the easiest way to explain the particular concepts they were working with. However, students did choose a variety of ways to use their writing, either on its own, in a graphic organizer, or in combination with music or drawing, thus using some of the intelligences that are less often called upon in most school settings. By permitting students to choose how they would demonstrate their understanding, I allowed them to use whichever learning styles or intelligences they preferred. From my own experience, I know that the tendency is to use the strongest skills one possesses, rather than the weakest, and so my assessment of student understanding was more likely to have been based on students' strengths.

If, as Boulter (1997) believes, science involves "*talking, writing, drawing pictures and diagrams, gesturing, dancing, dressing, sculpturing, [and] building*" (p. 243), students must be allowed to learn science and to demonstrate their understanding of science through any or all of these activities. Students would learn in a variety of ways, using preferred learning styles and developing multiple intelligences, and would be assessed in a variety of ways.

However, educators should not attempt to address all learning styles or intelligences during a single lesson. In fact, it may not be necessary or even wise to address all learning styles while teaching a particular concept. Gregorc (1985) believes that teachers should generally attempt to match their teaching styles to their own learning styles as continuously teaching in all styles can quickly lead to exhaustion, if not emotional and physical problems. Gardner (1996) concurs, noting: "*there is no point in assuming that every topic can be effectively approached in at least seven ways, and it is a waste of effort and time to attempt to do this*" (p. 17). Instead, teachers should address different learning styles or intelligences throughout the year, so that all students can develop their potential in all areas without teachers suffering from burnout.

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Appendix A Learning Styles Models

Although students may be using all of the language arts to access and communicate science ideas and concepts, they will be acquiring and processing those concepts in ways that depend upon their learning style preferences. It is accepted that people do learn in different ways, and since the 1970s, a number of models have been developed in an attempt to explain these differences (Wilson, 1998). While the models may describe cognitive styles, learning styles, learning modalities, or multiple intelligences, Guild and Garger (1998) conclude that the most accurate picture of an individual's style can be obtained by drawing upon a combination of models. The four models discussed here - those developed by Dunn and Dunn, Flaherty, Gregorc, and Gardner - are representative of what Guild and Garger (1998) call "*major efforts historically and conceptually*" (User's Guide section, p.2).

Dunn and Dunn Learning Preferences Model

The multidimensional Dunn and Dunn model was originally developed by Rita and Kenneth Dunn in 1969. Their initial model consisted of eighteen elements grouped into four different strands of learning stimuli (Dunn & Dunn, 1978). Their current model is composed of five strands and twenty-one elements (Tendy & Geiser, 1997). Each of the five types of learning stimuli - environmental, emotional, sociological, physiological, and psychological – are shown in Figure A1, along with the elements of each type.

The Learning Style Inventory, based on the Dunn and Dunn model, has been called "*the most widely used learning styles instrument in elementary and secondary schools*" (Keefe, 1982; as cited in Wilson, 1998, p. 7). The Dunn and Dunn Model is comprehensive, and provides information that can be applied to both learning and teaching styles (Wilson, 1998). In fact, the Dunns emphasize adapting teaching style to accommodate student learning style through changes in instruction, room design, and evaluation techniques (Guild & Garger, 1998; Wilson, 1998).

Stimuli	Elements
Environmental	sound, light, temperature, room design
Emotional	motivation, persistence, responsibility, structured planning
Sociological	working with: pairs, adults, peers, groups, self, variety
Physiological	perceptual strengths, time of day, intake, mobility
Psychological	global/analytic, impulsive/reflective, right/left hemisphere brain dominance

Figure A1. Dunn and Dunn Model

Flaherty's Learner Characteristics

Kinesthetic Learners

- learn by doing
- read for meaning rather than for pleasure
- do worse on tests than indicated by their apparent knowledge of material
- study by rewriting notes

Tactile Learners

- possess heightened awareness of the learning environment (temperature, lighting)
- focus on non-verbal communication
- learn best with teachers they respect

Auditory Learners

- read aloud to comprehend written material
- learn best in small group discussions
- study by talking about what they've learned

Visual Learners

- prefer information from print sources
- study by rereading notes
- perform well in written assessments

Table A1

Flaherty's Learning Modalities

Flaherty (1992) believes that students ought to be recognized for their learning strengths rather than for their learning liabilities and that this can be accomplished by acknowledging student learning styles. Flaherty describes four major learning styles, or modalities: kinesthetic, tactile, auditory, and visual. These modalities comprise the perceptual strengths element of the physiological stimuli strand in the Dunn and Dunn model. Characteristics of students who possess preferences for a particular modality are given in Table A1.

The Gregorc Model

Gregorc's model of learning styles is based on the acquisition and processing of information (Wilson, 1998). Gregorc (1985) suggests that the preference for acquiring information is a spatial component which is either concrete or abstract, while the preference for processing information is a temporal component which is either random or sequential. Random and sequential processing can be compared to top-down and bottom-up processing, as top-down learners consider a task as a whole (random processing), while bottom-up learners consider a task as a series of steps (sequential processing) (Algonquin College, 1996). There are four possible combinations of the two components and therefore four learning styles in this model. Learners possessing a preference for a particular learning style are exemplified by the characteristics shown in Figure A2.

Gregorc believes that learners possess elements of all four learning styles, although there is usually a preference for one or two particular styles. Gregorc also believes that although learning styles are innate, and students have a preference for a particular learning style, they can develop other styles (Wilson, 1998). While the Dunn and Dunn model focuses on adapting to the learning styles of students, the Gregorc model emphasizes an understanding of one's own learning and teaching styles (Guild & Garger, 1998).

Spatial Components (Perception)	Temporal Components (Ordering)	
	Random	*Sequential*
Concrete	• like to experiment • use intuition • prefer a trial and error approach • dislike teacher intervention • sense and interpret mood	• prefer hands-on learning • like step-by-step directions • defer to teacher guidance • desire perfection • decode written and verbal symbols
Abstract	• reflect on information before organizing it • dislike routine • prefer group discussions and activities	• prefer rational, well-organized presentations • like symbols and pictures • enjoy reading and listening

Figure A2. The Gregorc Model

Gardner's Multiple Intelligences

In 1983, Gardner introduced his Multiple Intelligences theory in *Frames of Mind*. At that time, he suggested that there were at least seven different intelligences: linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, interpersonal, and intra-personal. More recently Gardner has added the naturalist intelligence, and he is currently examining the possibility of spiritual and existential intelligences (Project SUMIT, 1999). Figure A3 contains a brief description of the eight intelligences and several typical occupations for each (Project SUMIT, 1999).

Intelligence	Definition	Occupation
linguistic	the ability to communicate and make sense of the world using language	poet
musical	the ability to create, communicate, and understand meanings made from sound	composer
logical-mathematical	the ability to use and appreciate abstract relationships	scientist, mathematician, philosopher
spatial	the ability to perceive, transform, and recreate visual and spatial information	architect, engineer, artist
bodily-kinesthetic	the ability to use all or part of the body to create products and solve problems	athlete, surgeon, choreographer
interpersonal	the ability to recognize and make distinctions about others' feelings and intentions	teacher, politician, psychologist
intrapersonal	the ability to distinguish one's feelings, build accurate mental models of one's self, and use theses models to make decisions	no characteristic occupations
naturalist	the ability to distinguish, classify, and use features of the environment	farmer, geologist, archaeologist

Figure A3. *Gardner's Multiple Intelligences*

Larvae, Ladies and Learning: The Project Approach

Laurel Whitham, Isabel Killoran

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Abstract

A class of grade one students used the Project Approach (Katz & Chard, 2000) to explore Painted Lady Butterflies. This article briefly describes the Project Approach, outlines the students' experience, and discusses the Project Approach's compatibility with the Ontario Science and Technology Curriculum document.

Introduction

Educators who have studied and written about teaching Science to young children identify a number of features of effective science programs. These features include an emphasis on deeper understanding, opportunities for children to manipulate their environment, the use of children's current ideas and understandings as a starting point for teaching, an effort to answer children's genuine questions about the world, and a focus on developing important process skills such as observing, hypothesizing, planning, interpreting, and communicating. (Harlen, 1996; Johnson, 1996). Johnson (1996) claims that "*we seem to be on a treadmill of teaching and learning; we keep running in order to ensure content coverage, while understanding, resulting from quality exploration and investigation gets left behind*". " *We need to focus on the reality that quality learning is more important than the amount of content coverage*" (p. 31).

The breadth of the new Ontario Science and Technology Curriculum challenges teachers to provide an effective, quality Science program (Wiggins & McTighe, 1998). One feature of the new curriculum is that "some concepts and skills are introduced earlier and are given more rigorous treatment ... [and] a great number of technology concepts and processes are included" (MOET, 1998). Many classroom teachers feel pressured to race through the long lists of expectations in order to cover them by the end of the year. Consequently, many concepts receive superficial treatment, which is in direct conflict with the characteristics of an effective science program. Johnson (1996) encourages teachers to plan science programs that allow children to develop deeper, more meaningful understandings of important scientific concepts.

Finding a way to present concepts so that students can manipulate, explore and understand them can be difficult in the early grades. While children appear to understand bits and pieces of specific expectations, they often have difficulty comprehending many of the complex concepts or key understandings. Children may successfully learn the facts and skills outlined in the curriculum, but they do not always connect them to the bigger picture. Wiggens and McTighe (1998) compare this type of understanding to a connect-the-dot puzzle. Students are often left with a "*number of mentally unconnected dots – [with] no clear picture of how facts, ideas, and skills come together or create meaning*" (p. 101).

The Project Approach: A Possible Solution

Teachers need to find a way to help students move their understanding of important scientific concepts to a deeper level. There are several characteristics of the Project Approach that make it an effective instructional strategy for today's curricula. Firstly, the Project Approach "*promotes children's intellectual development by engaging their minds in observation and investigation of selected aspects of their experience and environment*" (Katz & Chard, 2000). Secondly, an appealing feature of the Project Approach is the supportive role it plays to a standardized curriculum. Katz and Chard (2000) believe that "*project work should complement and enhance what young children learn from spontaneous play as well as from systematic instruction*" (p. 8). They argue that the learning of young children is strengthened when projects provide opportunities for students to practice the skills and consolidate the knowledge learned through systematic instruction. The flexibility of the Project Approach also appears to be an advantage. It can involve one, a few or many children and can take place over any period of time. Also of significant importance, is the child-centred philosophy underpinning this strategy. The purpose of a project is for children to find answers to questions they have formulated either by themselves or in cooperation with their teacher (Katz & Chard, 2000).

Chard (1998) compares a project to a

good story, with a beginning, middle, and end. When discussing effective science programs, Johnson (1996) states that, "Learning implies there is a gap between children's existing ideas and the ideas that we aim for them to develop. One of the teacher's roles is to gain access to the children's existing ideas and to make professional decisions as to how they can be developed, modified, or changed, and the gap closed" (p. 132). The first phase of the Project Approach meets this objective by beginning with the introduction of a possible topic of study and a determination of what experiences and knowledge the children have relevant to the topic. Webbing with, and without the children, is done to help formulate questions for investigation. The children are invited to represent their experiences in different ways so that they can be displayed.

Documentation is an important component of the second phase of the Project Approach. Children tend to become more engaged and confident learners when given frequent opportunities to reexamine and reflect upon work. Documentation also helps teachers determine children's current understandings and misunderstandings around a particular topic. Finally, documentation provides teachers with valuable information on children's progress that cannot typically be demonstrated by more formal methods of assessment (Edwards, Gandini, & Forman, 1998). Also in the second phase, field work and interviews with experts take place. Family and community members are invited to participate. Katz and Chard (2000) suggest that one of the key responsibilities of the teacher during this phase is to coordinate classroom activities. Throughout the project the teacher must continually monitor and assess the children's level of interest. Once interest has waned, the project must wrap up.

In the third and final phase of the project, the teacher helps plan a culminating event with the children to tell the story of their project. Essentially the children will present what they have learned, how they have learned it, and the procedures used in their investigations.

Getting started

The first author, a primary Science teacher, decided to implement the Project Approach in her first grade Science class. Several questions emerged. She was particularly concerned with whether the expectations of the Ontario Science and Technology Curriculum were compatible with the general goals of the Project Approach and how the Project Approach would impact the quality of the children's work?

Using the Project Approach was a divergence from the more traditional strategies used in her classroom. Due to the size of the class (32 students) a significant amount of the curriculum was covered through direct teaching with most of the new concepts being taught to the class as a whole group. Students usually consolidated and reviewed their learning in small groups or individually with the teacher.

Prior to working directly with the children, Helm and Katz (2000) recommend that the classroom teacher brainstorm and create a web around the desired topic. This helps the teacher anticipate possible directions the topic may take and whether or not the topic has sufficient depth for a project. For this study, the Ontario Curriculum documents were referenced for logical links to specific expectations for first grade children. There were a number of specific expectations from the Science and Technology, Arts, Language Arts, and Mathematics Curriculum documents that appeared relevant to a study of insects.

The initiating activity of a project can take a variety of forms, including reading a story, watching a video, or introducing an unusual artefact. In this project, the children were encouraged to recount a personal experience involving bugs. When all the children were seated in a circle on the carpet, the student teacher started the session by sharing her own humorous 'bug story' as a model for the children. When invited to share their stories, almost every hand went up. It took about twenty minutes to listen to half the class share their anecdotes. The remainder of the class shared the following day. During the first session, most of the students spoke to the teacher not to their peers. Other than the connections and links made by the teacher, there was very little building upon one another's ideas. The storytellers were asked to invite a few comments and questions after their story. This helped prompt more interactions among the children. Afterwards, the children were invited to either paint or draw a picture, or write a story as a visual representation of their story telling. Some children chose a combination of the options. To help stimulate interest a variety of 'new' materials, including watercolour paints, fine brushes and thin markers were provided. Some of the finished products were used to begin decorating the room while other pictures and stories were put into the children's unit portfolios.

After the two sharing sessions, the children were asked to summarize what the class knew about bugs based on the bug stories. As the children shared their ideas, the student teacher recorded their key phrases and words on pre-cut strips of construction paper. She then placed the word cards on the floor in the centre of the circle. Occasionally a prompt or a reminder about a particular bug story would help generate additional information. By the end of the discussion, she had helped the class create a visual web that consolidated what the children knew about bugs (see Figure 1). The completed web was put up on the bulletin board for the remainder of the unit.

To complete the first phase of the project, the children needed to identify a list of questions they were genuinely interested in investigating. The student teacher recorded the children's ideas on chart paper. These questions included:

- What do bugs like to eat?
- Why are some butterflies pretty and some butterflies just plain?
- What is the biggest insect in the world?
- How do spiders make webs?
- Where do bugs go in the winter?

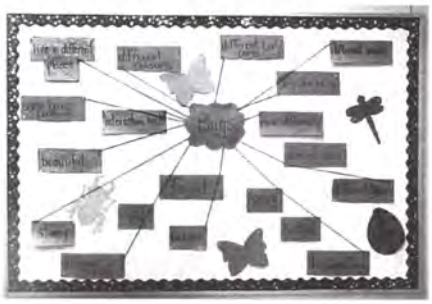

Figure 1. Children's topic web

A blank piece of chart paper was left up to give the children an opportunity to add to the initial list. Over the next few days, many students added their own questions after having time to think about the topic.

Over the first few days, direct teaching on skills and strategies for using non-fiction texts effectively took place. The children had very little experience reading a table of contents, using an index, or obtaining information from a scientific diagram. Many of the children's questions about insects were answered through these structured lessons designed to help develop early research skills.

After the direct instruction on non-fiction texts the children returned to the original list of questions and highlighted the ones that remained unanswered. Jake's question: *"How do caterpillars turn into butterflies?"* was one of them . The children were particularly interested in the topic because the classroom caterpillars would soon be forming their cocoons. Jake confirmed that he was still interested in answering his question. Many children volunteered to help him. Khalid, Meg and Svetlana were chosen to join Jake because they contributed a variety of strengths.

Investigating and documenting

During the second phase of the project, the children were actively involved in investigating the answers to their questions and representing their learning in one form or another. With a very limited budget, the fieldwork, an important component of this phase, had to take place close to school. The importance of fieldwork is to provide the children with the opportunity to study some aspect of their environment more closely (Chard, 1998). A 'trip' to our school playground and the adjacent field was planned. The children were encouraged to think about what they might see and what questions they might be able to answer during the excursion. A small amount of preparation was required. The students needed tools for recording observations. They anticipated finding different insects, so they requested containers to hold their bugs and bring them back to the classroom. They also recognized a need for magnifying glasses to help with their investigation.

In small groups, the entire class arrived at the playground. The children were instructed to place their group's hula-hoop anywhere on the ground and to list everything they found within the circle. One group member was the secretary. Another group member carried the 'bug jar' and held on to any living creatures that the group wanted to show the rest of the class. To help with the observations, one group member looked after the magnifying glass, ensuring everyone had a chance to use it. Upon returning to the classroom, the children had the opportunity to discuss, write, and draw what they saw. The children sorted their discoveries into living and non-living things and discussed the attributes of both groups.

The indoor butterfly habitat also provided additional fieldwork for the small group (Svetlana, Jake, Khalid and Meg) so that they could carefully observe the caterpillars and the process of metamorphosis. They watched these living creatures every day and occasionally they were able to gently touch the caterpillars, cocoons and butterflies. They discussed their observations with one another and posed questions about what they saw. While they focused on their project the rest of the class worked in small groups at centre-based activities about insects. These activities were teacher designed and directed.

The teacher asked Svetlana, Jake, Khalid and Meg what might help them remember what they saw and discovered so that they could share their observations and learning with the rest of the class. Khalid commented that the group would need to watch the caterpillars closely every day. Svetlana added that they might forget things and should write down what they saw. The teacher gave the children notebooks to use as 'Science' journals. Each day, the children drew detailed drawings and wrote short entries, describing what they observed. The journal entries became more detailed and complex as the project continued (see Figure 2).

Several times during the project, the children made models of what they saw. For example, Svetlana noticed a web-type thread coming from the end of her caterpillar as it wiggled its way towards the top of the container. Using plastic cups, fine wool and pipe cleaners, the children created delightful models of the day's 'discovery'.

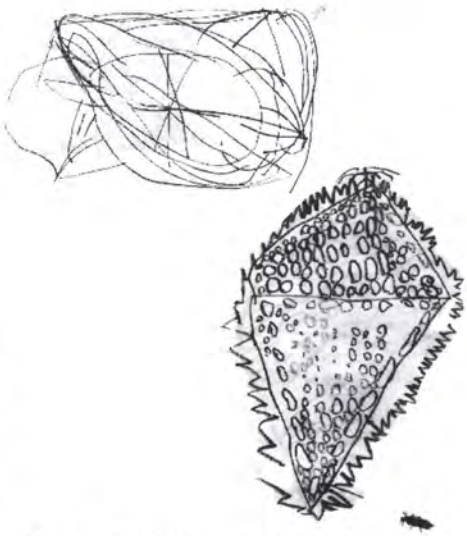

Figure 2. Jake's cocoon illustrations from May 11 (left) and May 16 (right).

The children also constructed detailed plasticine models of the adult Painted Lady butterflies after they began emerging from their cocoons (see Figure 3).

Secondary sources were added throughout the project. The children frequently selected books from the classroom library to confirm an idea or seek answers to current questions. More formal information books like *The Kids Canadian Bug Book* (1996) allowed the children to explore some of the features of non-fiction texts such as tables of contents and indexes. Books from the Rookie Read-About Science series, such as *It's A Good Thing There Are Insects* (1990) and *Spiders Are Not Insects* (1996), were great resources as these books provided information at a mid-to-late grade one reading level. Bright, accurately illustrated books like *Monarch Butterfly* by Gail Gibbons (1989) were very helpful to the children. Videos also provided valuable information, including a few from the Magic School Bus series such as "Butterflies! A Flurry of Exciting Winged Activity" and "Spins A Web - The Special Ways of Spiders".

***Figure 3**. Plasticine models of adult butterfly created by Meg (left) and Khalid (right).*

The puppet show

There are two key events in the third phase of a project (Chard, 1998). First, it is important for students to share their learning with others. This could include the rest of the class, other children in the school, or possibly the parents. The work from the project is reviewed and the most meaningful items are selected for presentation. This sharing can take a wide range of forms, including a piece of artwork, a dramatic activity, a personal story, or poetry. As well, the students need time and opportunities to assimilate the new information and make it their own.

It was not necessary to convince the children of the importance of sharing their learning with their classmates. Svetlana, Jake, Khalid and Meg were all extremely eager to present what they had discovered during their studies to the rest of the class. They began sharing some of their most memorable discoveries. Since most of their memories were recent, the teacher asked them to begin reading through their journals to refresh their memories. As they spoke with each other about their experiences, they compiled a list of ten highlights or key observations. The highlights were:

1. the very small size of the caterpillars when they first arrived at school
2. the increase in size in just a week
3. noticing the web
4. the formation of the cocoon
5. observing the gold spots on the cocoon
6. seeing the fur ball attached to the cocoon by a small thread
7. observing the spikes around the cocoon
8. using the magnifying glass to observe the small spots
9. the swinging cocoon, just before it became a butterfly
10. the hatching of the butterfly

Their discussion then focussed on the format of the presentation that would be the culminating event for their project. Svetlana wanted to put all the journal pages together and tell the rest of the class what they did in a lecture-style format. Meg suggested that they read from their own journals or do a puppet show. Jake proposed that each person share the parts that they actually discovered, like when he noticed the little black dots on the cocoon. Svetlana suggested that they could make a rap about the cocoon and a rap about butterflies. She wanted to have the group sing a song. Jake quickly vetoed that idea and Meg seconded it as she confessed she was not a very good singer. Khalid was in agreement. Svetlana felt very strongly about the raps and had expanded the possible number to three by adding a rap about the caterpillar. The teacher suggested making copies of the best pictures from the journals for the overhead projector and the group could talk about their drawings. She also put forth the idea of making a class book.

Eventually, the possible formats the group discussed were written down and the children were asked to vote for their choice. Clearly, they all wanted some type of oral presentation. Jake, Khalid and Meg quickly voted against the rap since they felt uncomfortable with a musical format. After some discussion around the pros and cons of the puppet show and journal reading the teacher suggested combining the two ideas. This part of the planning took approximately 30 minutes. Some of the discoveries were similar so a few were combined to make a total of eight. This way, each child would share two concepts. The script was based on their journal entries. A few grammatical changes had to be made since the story was told through the eyes of the cocoon, caterpillar and butterfly. When the children read through the script, they recognized their words or their observations within the text. The children were encouraged to add or take away anything they wished. It was surprising how easily they divided the parts. Everyone appeared happy and excited with her or his role. The revisions and delegation process took about 25 minutes.

The children compiled a list of materials they thought they needed for their puppets. Once the children had their materials and a plan, they worked on their puppets independently. After approximately 45 minutes, the puppets were complete.

As the children practised the play, they read through the script a couple of times without using the puppets. It became apparent that it was too difficult for the children to handle both the puppets and

the scripts. The children agreed to tape the script. The children enjoyed listening to themselves and were happy to use the tape in their presentations. The total rehearsal time was about 30 minutes.

Personalizing New Knowledge

It has been suggested (Katz & Chard, 2000) that children need time to reflect on new learning so that they can understand it more completely. Katz and Chard (2000) also argue that imaginative activities such as creating stories and drama really help children personalize new information (see Figure 4). The Painted Ladies project lasted several weeks and the children personalized new knowledge in a number of ways. For example, Svetlana named her caterpillar Junior because he was little but renamed him Senior when he emerged as an adult butterfly. Jake named his caterpillar Movey because he moved all the time. The puppet presentation itself was a form of imaginative drama. The children shared their new knowledge in first person, with the narrator being the caterpillar, cocoon and butterfly. The process of preparing and practising the puppet play helped the children reflect on what they had done during the project.

Children's literature also helps children personalize new knowledge (Katz & Chard, 2000). Every day fiction and non-fiction texts about insects and specifically butterflies were shared aloud and available for independent reading. The literature included an author study about Eric Carle in Language Arts, which complimented and supported the learning in the project.

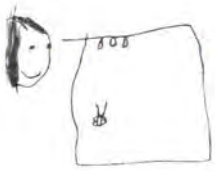

***Figure 4**. Meg's drawing of herself closely watching the cocoons.*

The Ontario Curriculum and The Project Approach

Throughout the project, the children had daily extended opportunities to explore, manipulate and observe the Painted Ladies at various stages of life. Svetlana, Jake, Khalid and Meg patiently watched the caterpillars double in size. Excitedly, they noticed the appearance of a thread-like web and saw the transformation from caterpillar to cocoon. The group observed subtle changes in the cocoon over time including the appearance of gold spots and tiny spikes. The cocoon darkened and began to swing until the adult eventually emerged. Because of their experiences during the project, this group had a solid understanding of metamorphosis. With confidence and detail, they were each able to draw, describe, make models and answer questions about three of the four stages of the butterfly's life cycle.

An important goal of the Ontario Science and Technology Curriculum (1998) is for students to understand deeply the basic concepts within each strand. After observing Svetlana, Jake, Khalid and Meg during the project, it was evident that the Project Approach helped meet this goal. This instructional strategy provided the children with vital opportunities to interact with their surrounding environments, to help build essential behavioural knowledge, and to support the understanding of more abstract concepts.

However as Katz (1994) points out, the Project Approach is designed to complement the formal, systematic teaching of a standardized curriculum. Systematic instruction helps children acquire skills and allows teachers, using their professional expertise, to direct the children's work. During projects, children are given opportunities to apply these newly learned skills and to determine the questions and issues they consider worth investigating. In these situations, the children, not the Ministry of Education, are the experts regarding their learning needs.

Katz and Chard (2000) are the first to admit that both systematic instruction and project work have a place in the curriculum. So while Svetlana, Jake, Khalid and Meg had the opportunity to investigate some things in great depth not all the basic concepts in the Life Systems strand were covered during the course of the project. Directed instruction was required to provide a more thorough coverage of the curriculum.

The provincial curriculum and the Project Approach complement each other in a number of ways with regard to the methods of building knowledge in young children. One similarity is the emphasis on first-hand experiences. The Science and Technology Curriculum (1998) states that children should "discover and learn fundamental concepts through investigations, exploration, observation, and experimentation" (p.6). Teachers are encouraged to provide as many hands-on activities as possible. Similarly, the Project Approach is based on the belief that knowledge is learned more effectively in this way.As well, both the provincial curriculum and the Project Approach believe in a unified approach. The Science and Technology Curriculum (1998) states that concepts should be learned through integrated units of study. This policy document suggests that teachers coordinate the teaching of related content and provide opportunities for students to work towards expectations in two or more subjects within one lesson. Katz and Chard (2000) argue that one of the advantages of the Project Approach is the way it uses and connects concepts from many subject areas, as children investigate meaningful questions. For instance, in the Painted Ladies project expectations in Language Arts, Math, Visual Arts and Dramatic Arts were met in addition to some of the specific expectations in the Life Systems Science strand (see Table 1).

Table 1 Cross-curricular expectations addressed during the project

By the end of Grade One, Students will:

- investigate the characteristics and needs of animals.
- classify characteristics of animals by using the senses.
- describe different ways in which animals move to meet their needs.
- describe some basic changes in living things.
- describe patterns that they have observed in living things.
- select and use appropriate tools to increase their capacity to observe.
- ask questions about and identify some needs of living things, and explore possible answers to these questions and ways of meeting these needs.
- plan investigations to answer some of these questions or find ways of meeting these needs.
- use appropriate vocabulary in describing their investigations, explorations and observations.
- record relevant observations, findings, and measurements, using written language
- communicate the procedures and results of investigations for specific purposes, using demonstrations, drawings, and oral and written descriptions.
- use some basic conventions of formal texts to locate information.
- write simple but complete sentences.
- present ideas in speech in a coherent sequence.
- allow others to speak, and wait their turn in conversations.
- listen to and comment positively on the contributions of others in group discussions.
- produce two- and three-dimensional works of art that communicate thoughts and feelings.
- communicate their responses to a variety of stimuli by using elements of drama.
- represent the results of measurement activities using concrete materials and drawings
- use mathematical language to describe dimensions (e.g., height, length).
- estimate, measure, and record the linear dimensions of objects using non-standard units.
- order sequences of events orally and with pictures.
- demonstrate understanding that an event may or may not occur.

Note. *From The Ontario Curriculum, Grades 1-8: Science and Technology (p.15, p.16), by Ministry of Education and Training, 1998, Toronto: Publications Ontario. The Ontario Curriculum, Grades 1-8: Language Arts (p.12, p.30, p.40), by Ministry of Education and Training, 1998, Toronto: Publications Ontario. The Ontario Curriculum, Grades 1-8: The Arts (p.30, p.48, p.12), by Ministry of Education and Training, 1998, Toronto: Publications Ontario. The Ontario Curriculum, Grades 1-8: Mathematics (p.29, p.62), by Ministry of Education and Training, 1998, Toronto: Publications Ontario.*

In Summary

Clearly, the goals of the Ontario Science and Technology curriculum and the Katz-Chard's Project Approach are compatible in many ways. With respect to gaining knowledge, a project may or may not address specific concepts listed in the Science and Technology Curriculum. It depends upon the question or topic the students choose to investigate. However, the teacher has the freedom to initially select the general topic from the five strands outlined in the Science and Technology Curriculum with the hope that the questions children choose to explore will address some of the specific expectations in a unit. The teacher can supplement the learning with direct instruction mini-lessons (as was done in this project on the mouths of insects).

The greater potential of the Project Approach is that it can provide a meaningful context for children to apply the skills and dispositions they have developed during the more formal teaching of the science program. Skills and dispositions are like muscles; they are strengthened and developed the more they are used. Katz and Chard (2000) *"...advocate incorporating the Project Approach into the curriculum as a way of increasing children's opportunities to actively construct and deepen their understandings of significant phenomena around them"* (p.28). Indeed, there are many effective instructional strategies that teachers can use to implement the Ontario Science and Technology Curriculum (1998). Methods that support and complement the goals of our standardized curriculum such as Katz and Chard's Project Approach need to be selected more frequently.

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New Paths in Early Literacy Teaching and Learning

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Abstract

This article offers ideas for opening up new paths in early literacy teaching. Some of these paths involve taking a new perspective on topics that have been popular for decades; such as the role of phonics and home reading programs in children's literacy learning. Other paths involve social and cultural issues that are becoming increasingly important as teachers deal with the realities of today's classrooms.

Introduction

In this article I present my perspectives on the ways in which the findings of some current research in early literacy learning and teaching might be used by teachers to address the realities of today's classrooms. These studies address questions and issues that my pre-service and graduate teacher education students identify as relevant to their work with young children. I selected some research studies - those on the role of phonics in everyday classroom instruction and in working with dyslexic children, and of home reading programs - that present new twists on familiar early literacy research topics. The other research studies provided, address ways in which students' social and cultural identities impact on early literacy teaching and learning. These issues are becoming increasingly important in early literacy research.

Teaching Phonics

The question of the role of phonics in early literacy learning and instruction comes up in every pre-service and graduate course that I teach. I draw on the work of Clay (1998), a researcher who has had an impact on early literacy for a number of decades, and on relatively recent researchers such as Dahl, Scharer, Lawson, and Grogan (2000), and Moustafa (1998) when responding to this question. All of these researchers advise that children should have a variety of experiences with reading and writing before and while they are learning about letters and sounds. They claim that phonics should be taught formally because phonics information is useful in reading. However, they say that phonics instruction should always include some connection to actual reading and writing because phonics provides only one source of information for readers and writers.

The notion of teaching phonics by starting with whole texts and moving to parts of words has been with us for a number of decades. Moustafa's research (1998) provides new information about the ways in which letter-sound relationships should be taught within the context of reading actual text. She explains that sounding out words using onsets and rimes is more productive and easier for children than sounding out words sound by sound. Onsets are the consonants, consonant blends or consonant digraphs preceding the vowel in any syllable. Rimes are the vowel(s) and any consonants that follow the vowel(s) in a syllable. For example, in the word, *stream*, *str* is the onset and *eam* is the rime. Sounding out the word as *str* and *eam* is much more likely to help the reader arrive at the word *stream*, than sounding out the word *s/t/r/e/a/m*. Using this research, I recommend to my students that they might read a predictable story, nursery rhyme, chant, song, or poem with children in a shared book setting. The children then might choose their favorite words from the text. The teacher would demonstrate how children could chunk a one-syllable word like *stream* into the onset and rime by writing the word and saying something like: "These letters say *str* and these letters say *eam*." The words could be grouped with other words that have similar onsets and similar rimes and displayed in charts in the room. Children could then use their knowledge of the sounds of these onsets and rimes when sounding out unfamiliar words in their reading and writing.

Another issue that arises from discussions of teaching phonics is that of best practice for teaching children who have been diagnosed as dyslexic. My students sometimes ask about particular strategies that might be effective when working with these children. I draw on a research study by Fink (1998) when responding to these questions. She examined the literacy history of 12 successful dyslexic adults, who had problems with word and letter identification, fluency, spelling, but were able to carry out the literacy demands of lawyers, biochemists, graphic artists, theatre set designers, doctors, teachers and business people, in spite of

their difficulties. Fink found that these adults had learned to read through lots of self-initiated reading. They developed and pursued a passionate interest through reading whatever print they could get their hands on. They used the cueing systems that worked well for them; the meaning cues and their growing background knowledge and sight word vocabulary. Having a purpose for the reading was critical in their learning to read.

Using Fink's findings, I suggest that teachers think about motivation and having a purpose for reading when teaching children with dyslexia. An emphasis on phonics only highlights the problems that these children have in processing the visual information on the page. Interest surveys and interviews are useful for tapping into students' passions, prior knowledge and skills. Teachers could provide captivating reading materials based on the results of the surveys and interviews, and also help the children to develop skills for searching out more information about topics of interest. Children could be taught to use the internet, magazines, videos and other sources of information available to them, in addition to books.

Home Reading Programs

Like the teaching of phonics from whole to part, the idea that daily reading at home contributes to children's literacy learning is one that is widely accepted. Some researchers, like David Bloome (1997), however, are asking us to take a new perspective on taken-for-granted assumptions. He says that "what was once family time becomes school time . . . what was once an activity that had no definition of success or failure—parents and children either enjoyed the book they were reading or got another, either finished the book or went to sleep—now becomes an instructional activity involving success and failure" (p. 21). He says that bedtime story reading is no longer about families enjoying themselves around a book, but rather an extension of school time. He concludes that by making home reading look like something done at school with lesson plans and assessments, teachers may be taking away some of the qualities that made home reading so successful. Drawing from Bloome's provocative perspective on home reading programs, I encourage teachers to examine their procedures and expectations for establishing home reading programs to see if the enjoyment of a book with family and friends is an important element of the reading that children do at home. A procedure used by one of my graduate students might be a good starting point. She surveyed her students' parents and guardians to find out what they did and what they would like to be able to do with the books that her kindergarten children brought from school. She used the survey information to modify her home reading program.

The research (Epstein, 1998; Gilbert & Gilbert, 1998) on boys' literacy struggles shows that working class boys, in particular, seem to have too many female models of readers and writers in their lives and not enough male role models. As a result, the boys perceive reading and writing as feminine activities.

Social and Cultural Issues

In addition to taking a new look at practices that have been with us for decades, I urge teachers to break new ground by examining issues in early literacy teaching and learning that may not be so familiar. These issues arise from social and cultural factors that impact on children's learning. Helping *all* children to become literate, minimizing the influence of social and cultural factors on their learning, is particularly important when we consider that literacy contributes to overall school success and to living fulfilling lives. Hofstetter, Sticht, & Hofstetter (1999), for example, found that people who achieve and exercise power over their lives spend more time reading than those who feel they don't have power over their lives. If teachers are to make it possible for no child to fall between the cracks, what can be done to minimize the impact of gender, socioeconomic status, race, language, ethnicity, and social status within the classroom on children's literacy learning?

To respond to this question, it is important to identify which groups of children are succeeding and which groups are struggling with reading and writing. One such group is boys. The National Center for Education Statistics (2000) shows that boys are three to five times more likely than girls to have learning and/or reading disabilities placement in schools. Time and time again, the results of literacy achievement tests show that boys do not do as well as girls.

Boys' Literacy

The research (Epstein, 1998; Gilbert & Gilbert, 1998) on boys' literacy struggles shows that working class boys, in particular, seem to have too many female models of readers and writers in their lives and not enough male role models. As a result, the boys perceive reading and writing as feminine activities. The boys feel that in order to present themselves to the world as masculine, they need to put energy into and be successful at things that are considered masculine. This means avoiding feminine-type activities. These researchers also say that cultural norms of masculinity and boys' natural tendencies lean toward a lot of physical activity. Reading and writing tend not to be physically active processes.

Accepting these explanations as reasonable in understanding boys' struggles with literacy, my students ask how they might use these ideas to support boys' literacy learning in their classes. I draw on a number of educators and researchers when presenting possible

teaching approaches. Pollack (2000) proposes bringing more male teachers into primary classrooms, bringing male volunteers into classrooms to read with children, and bringing literature, including comics and non-fiction, that appeals to boys into the classroom. Booth (2002) suggests that teachers need to support the book selections that boys make. He goes on to say that the ways in which teachers ask students to respond to books in class should consider the impact on boys' and girls' future literacy lives. Other proposed solutions include working toward an understanding of being masculine as one that does not have to fit one stereotypical model—to make it possible for boys to perceive themselves as masculine while succeeding as readers and writers (Epstein, 1998; Gilbert & Gilbert, 1998).

My research with grades three and six teachers in Alberta and Ohio (1998; 2000) provides another approach to the issue of why many boys are not doing well as literacy learners. In my research, both teachers and students who were asked to determine the gender of writers of narrative papers generally looked at student writing differently if they thought a girl wrote it, than they did if they thought a boy had written it. The teachers in my research studies expected the boys' writing to be of lower quality than the girls' writing. In a second study of grades four and eight students' perceptions of girls' and boys' writing, the students perceived girls' writing to be more detailed, descriptive, creative, and felt that girls' writing had better grammar, punctuation and spelling than boys' writing. Boys felt that their strengths lay in writing more creative and exciting stories, and in writing stories that appealed to their peers, as they were able to make peers laugh or "gross them out."

These findings are of great interest when I read Johnson's research (1973) of Nigerian teachers' expectations. In Nigeria, where teachers expected better reading and writing performance from boys, the results of large-scale tests showed that boys did better than girls. It is difficult to say what comes first—the expectations or the performance—but the contrasting co-relations do beg some questions about teachers' expectations for boys' and girls' writing and how they might influence both students' expectations for themselves and their writing.

Drawing from my research, I recommend that teachers consider analyzing the scoring criteria within the assessment tools they use, thinking about what the rubrics identify as important about student writing. Criteria that describes what boys say they do well could be incorporated into the rubrics and other assessment tools. In addition, teachers might talk with colleagues about their expectations for girls' and boys' writing. These conversations might center on questions such as: (1) What gender patterns have teachers observed in their own and in students' writing? (2) How do girls and boys talk about their own writing in student-teacher conferences and among themselves? (3) What kinds of feedback do girls and boys give to each other? (4) Are there gender patterns in the comments that teachers write when evaluating students' writing and in conferences? (5) What aspects of writing do teachers emphasize when evaluating student writing and are there gender patterns in terms of who experiences the greatest success within each of these areas? These could be the topics of informal conversations or in professional development sessions. They help to bring to the forefront some of the taken-for-granted ideas that teachers have about good writing and about the influence of gender.

Impact of Socioeconomic Status, Mother Tongue, Dialect, and Race on Early Literacy

Gender issues have opened up new paths in literacy instruction, but they are not the only issues. Achievement test results and my students' experience show that socioeconomic status, mother tongue and dialect, and race often have an even greater impact on children's success in reading and writing. Lisa Delpit (1988), an African American scholar, talks about the need for minority children to learn the "culture of power." She says the kinds of reading, writing and talk that go on in classrooms reflect what those who have power think is important. Those who have the power (usually from the white, middle class) are often not aware of the existence of the power relationships and how they use oral and written language to maintain the power. Those who do not have power (usually the non-white children working class children

who may or may not speak English as a second language or speak a non-standard dialect of English) are generally well aware of the power relationships. They do not have access to the powerful ways of using language because the adults in their homes do not use language in these ways. What these children need, according to Delpit, is teachers who will explain that the children's own way of talking and writing is important. The children's dialect gives them status when they are with their friends, neighbours and family. But in many situations, if the children write or talk using non-standard English, people who will make important decisions affecting their lives—people like potential employers, like teachers or university instructors, like bankers considering giving them a loan for a new business or a mortgage—will not see them as being as capable and worthy of the job/good grade/loan as if they spoke and wrote standard English. This means that teachers do need to correct children's grammar and spelling and punctuation in their writing and their pronunciation in their reading and speaking. They also need to provide explicit instruction in what is expected and how to go about being a successful reader and writer.

Yet, Delpit says that along with being explicit, teachers also need to respect the language and perspectives on the world that children bring to school. Lewison, Flint, and Van Sluys (2002) give suggestions about what teachers can do to create classrooms that operate on an understanding that all children have the right to achieve high literacy levels and that open up opportunities to disrupt inequities among various groups of children. They suggest that teachers can begin by looking at everyday ways of using reading, writing and oral language, thinking about who has power and who is entitled to do well. This includes using not only books, but the texts of popular culture such as comics, videos, the internet, video games, etc. When selecting books teachers need to think about whether all their students see themselves represented in the texts that are used in read alouds, shared reading, and guided reading, and those that are in classroom libraries. Teachers can ask questions like: (1) How are girls and boys of diverse races, languages and dialects, and socioeconomic status represented in the texts? (2) Are the representations perpetuating stereotypes or portraying children in realistic ways that children can connect with? (3) What are the assumptions about what boys and girls think, feel and do? about what children of various races, social classes, and languages think, feel and do? about how they interact with each other? In the selection of texts as a whole, teachers might consider whether diverse races, social classes and languages are represented or whether there is a predominance of one particular group and its ways of thinking, talking and acting.

Teachers who want to create classroom writing environments that encourage children to take responsibility for the social consequences of their writing might begin by trying to develop empathy through discussions in student-teacher conferences.

Other researchers and educators write about specific ways to support children's literacy learning when their mother tongue is other than English. O'Malley and Pierce (1996) suggest that teachers might provide support for English Language Learners (ELL) by asking children to dictate to their teacher or a peer, a few phrases and words that could later be illustrated or dramatized by the children. The ELL students could also write to their teacher in a dialogue journal. The teacher would provide a model of conventional English grammar and might ask the child to illustrate what is written to reinforce the meaning. McCauley and McCauley (1992) propose that choral speech is an excellent vehicle for enhancing ELL students' literacy learning. They say that choral speech provides ELL students with opportunities for building vocabulary, for practicing reading through repeated readings of a poem, song, rhyme or chant with more fluent peers in a non-threatening environment, and to reinforce the meanings of unfamiliar words by dramatizing using gestures and actions.

Impact of Social Status in the Classroom

Inequities of social status within the classroom affect children's opportunities to grow as readers and writers, as well. Researchers such as Lensmire (1994), provide classroom examples showing why it is important to consider social status inequities when opening up new pathways for literacy instruction. Lensmire (1994) provides a scenario of three students in his grade three classroom. He observed the emotional damage inflicted on one socially unpopular girl, Jill, by a socially popular girl, Maya, through Maya's writing. He proposed that teachers cannot take the easy way out and give feedback on students' writing that just addresses vocabulary, organization, conventions, and other criteria on scoring guides. He asks teachers to consider if those are the only things that they want students like Maya to learn from these writing experiences. He questions how to balance individual children's rights for self-expression by using writing for their own social purposes with the responsibility to write stories that will not reinforce unequal power relationships within the classroom. Teachers who want to create classroom writing environments that encourage children to take responsibility for the social consequences of their writing might begin by trying to develop empathy through discussions in student-teacher conferences. Teachers might ask children to consider what their writing

says about how people should treat each other. They might also invite children to put themselves in the shoes of characters in their stories, thinking about how particular characters might feel when treated the way they are in the writing.

We cannot expect that literacy learning and teaching today are going to proceed by the same principles and understandings that worked in the mid to late 20th century.

Conclusion: Creating New Paths in Early Literacy

The questions and issues raised by educators and researchers presented in this article make it clear that reading and writing are complex processes. They also make it clear that opening up new paths in literacy instruction is going to take hard work and commitment to students. It is important that teachers and researchers continue to observe children's learning and to listen and talk to each other, asking difficult questions about the challenges and successes in the children's literacy learning that we observe in classrooms today. We cannot expect that literacy learning and teaching today are going to proceed by the same principles and understandings that worked in the mid to late 20th century. Teachers and researchers need to ask questions about the things we observe in classrooms that trouble us and excite us. When something becomes really commonplace, we need to step back to see if there is another way to talk and think about it. The opening up of new paths in response to new issues and challenges that arise, requires that we never stop questioning our practice. Each new class of students gives us the opportunity to take the first step down those new paths. Who knows where our next class of students may lead us? The possibilities are exciting!

Photo courtesy Carol Jonas

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Experiencing The Reggio Emilia Way: Reflection from Japan

Emiko Hannah Ishigaki

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Emiko would like to express her gratitude to the Canadian delegation for welcoming her into the Canadian Reggio Study Tour. The following was adapted from the English translation of the Study Tour Report, Reggio Emilia, February 10-15, 2002, published in her seminar's newsletter.

The Arrival: I was very happy to have been allowed to participate in the six-day study tour of Reggio Emilia for Canadians. Ever since I became interested in the early childhood education of Reggio Emilia about ten years ago, I always wanted this kind of opportunity, which was not realized until this time. Now the time has come. The trajectory that brought me this far is too hard to explain here, but things were not as difficult as I had thought before. After a series of e-mail exchanges, which finalized everything, I only had to go through very easy steps; I registered myself at the office of Reggio Children with the 1000 (euro) registration fee and reserved a room at the designated Astoria Hotel by using my VISA. It would only remain to get together with others in the hotel lobby by February 10th. By the way, you are advised to have a credit card and e-mail address.

On February 8th, I took a direct flight from the Kansai International Airport to Milan. After one night's stay there, I took a two-hour train ride at the central station to get to Reggio Emilia. There were several Canadians at the hotel, already introducing themselves. You only had to come to the hotel by yourself or in a group. The hotel had reserved 60 rooms for the Reggio group. After finishing my check-in, they gave me a large bag that contained materials and information. In addition, thirty people had to reserve their rooms at different hotels.

The First Day (2/10): the day for sightseeing: There was a sightseeing tour around the city for those who arrived early. Some volunteers divided us into two groups and took us around. The city of Reggio Emilia, which looked so small two years ago, gave me a splendid impression with its cultural heritage this time. A literary resource, which we translated into Japanese, says that "Reggio" comes from "Resistance," which means the town started as a resistance movement against the Catholic Church, and that their child-care system of today resulted from a movement by female laborers. But the city's atmosphere is a remnant of the traditional Europe, as evidenced by numerous old architectures, among them, church buildings. There were beautiful Catholic Churches that looked like the Vatican Cathedral, where many people visit, light up a candle and pray. One of us asked a volunteer: "I've heard the town of Reggio started as a resistance against the Catholic Church, but there are so many churches. Why is that?" He says: "We are proud of our resistance. But we also would like to make friends with those from other places. So we allow churches."

After spending some time walking around, we got a little tired. But when we are told: "let's go see the Lions," nobody was! All the participants must have seen that introductory video of Reggio. In fact, I first saw it in 1992 when Margaret Weiser, Professor of Seiwa Graduate School, brought us a copy.

The statues of Lions and the plaza in front were smaller than I had previously thought. Children were climbing up those five lions, large and small, and parents were taking their pictures.

The Second Day (2/11): We got together in the lobby at 8:30 a.m. Emmanuella, whom I met for the first time even though we had been communicating with each other via e-mail exchanges, gave us a brief orientation, after which we went down to the conference room. Paola Rico, whom I had met in the previous tour, appeared. The person in charge of this International Study Tour, is Amelia Gambetti, whom I met for the first time, though we already knew each other through e-mail; I sent out 15 questions, to each, of which she returned a detailed response. Everybody was nice and accepted me as the only participant from Japan. All of us then found ourselves in the conference room. They told us that there were 90 people from Canada; 2 from India; 1 from Israel; 1 from Norway; and 1 from Japan.

After the opening speech by the chairperson, they asked us several questions. How many of us saw the video of the Portrait of a Lion? : Everybody. How about the video, A Message from Loris Malaguzzi? : Everybody. How many of us have read more than 2 books on Reggio? : Everybody. How many of us have observed the Reggio preschools? : About 90%. Those who had previously participated in a study tour? : About 50%. Those who are actually practising Reggio-way's education? : About 50%. Those who can understand Italian? : About 50%.

We introduced ourselves. The Canadians were from so many different parts of Canada, that I had to realize the vastness of their land. Then, my turn came. I said: "I am the only participant from Japan. I thank the Reggio people who accepted me and the Canadian people

who invited me to their tour. There indeed is some growing interest in Reggio in Japan. I have brought a Japanese translation on Reggio, which I would like to present now." Then I presented the chairperson Giordana Rabicci, the translation of Hendrick's, "First Steps Toward Teaching the Reggio Way." The thunder of applause that followed pleased me quite a bit.

In the afternoon, we attended a lecture entitled "the encounter between public preschools of Reggio Emilia" and, a talk mainly on Malaguzzi, after which we watched a new video "*Not Just Any Place*." Toward the end, I saw the cover of the book "The Hundred Languages of Children" published by Gakken and sold at the Watari Exhibition, Tokyo, and also a brief scene where someone who looked like Professor Yuko Hashimoto, who is our colleague, with smile on her face, working as an interpreter. All of us thought of buying this video, but before anyone could say anything, Amelia said: "This is the very first time we showed the video. There is no extra copy. We will be selling it in the future. Those who want it, please write down your name and e-mail address on this sheet of paper." Of course, I wrote down mine right away.

At 4:00 p.m., we were divided into four groups for a visit of the Infant-Toddler Center's facilities. I had a difficult time deciding which group to join, but finally chose an Infant-Toddler Center named "Picasso." The name decided it. We went there by bus. After a visiting tour, we had discussions with teachers until 7:00 p.m. As was expected, we found the environment quite artistic with shadows and light. In the rooms, there were a lot of green trees, potted plants and ivy, and mirrors everywhere. At the babies' eye-level, they have set up distorting and normal mirrors, which contribute to the development of the babies' self-consciousness and the creation of variations and images. Although the Western custom of not taking off shoes at the entrance is good for visitors, I could not help but wonder if it was good for the babies who toddle around and fall down on the floor. However, there were several spots with a sign: "Don't walk around with your shoes on." Several playing spots for adults and babies; adults hiding and then making themselves visible to babies, with devised curtains, wooden doors and screens, were interesting to me.

Back in our hotel, a group discussion was scheduled at 9:00 p.m. Only one third of the participants were there. Since I was very tired, I excused myself.

The Third Day (2/12): From 9:00 a.m. to 1:00 p.m., we had two sessions with one intermission. Entitled "Observation, Interpretation, Documentation: Conversation by Images and Words," the workshop had two main lectures: the first one by the Pedagogista and the second by the Atelierista. We also had buzz discussions in small groups. The lecturers said: "When we say images, there are psychological ones, graphical ones and linguistic ones. Observing children, adults must ask "good questions" which will prompt children to observe better, grasp deep images and learn to express better, leading to better results and records." Activities for individual expressions will lead to those for group-oriented expressions. Conversations and exchange of words with adults and peers, affordability of time and space, are emphasized. We learned one of Malaguzzi's principles: "Education should be based on optimism."

Moreover, the Atelierista's specialty was not just art education, but something more scientific that would remind us of elementary school science classes. The work requires a high-level mastery of methodology for scientific observation, use of informational appliances and microscopes, and scientific laboratory techniques.

Canadians are eager to ask questions. Although there were many middle-aged participants and relatively few young ones, those were the people who grew up in the culture that allow you to interrupt the speakers. I could see their devouring eagerness without limit to learn; they just showered the speakers with questions.

In the afternoon, an administrator of Reggio Emilia talked about their social situations by using charts and power point presentations. The aging population and the budgetary reduction on education were just as problematic as in Japan. There were few questions.

From 6:00 to 7:00 p.m., they talked about how parents cooperate with them and participate in their children's education. There are also people who immigrated from developing countries, with a problem to educate children who don't know Italian. The discussion was scheduled at 9:00 p.m., I left shortly after, seeing that they would continue to discuss this until morning.

The Fourth Day (2/13): A visit to a recycle center from 8:30 to 10:30 a.m. Why? I was not really willing, thinking of a factory where they classify hard-to-burn trash. Once there, however, I was taken aback. It was "an educational-material center that recycles used materials." Operating under the municipal guidance, they make available all sorts of things for educational materials: bottles that are all washed and put together according to their sizes in cardboard boxes, metals, iron wires, pipes and wire nets coming out of factories, fax-machine paper, clothes, felt, leather, strings, wooden pieces, wooden skins, various stones and shells, car parts and tires, wheels, and so on. Teachers only have to come here to find materials they want. Furthermore, near the entrance, there were products for sale, which were made out of these materials. Innovation can make teaching material out of any of these. Facing the fact that the city authority is taking initiative in this recycling project, I could realize how willingly the administration can contribute to education. At the same time, I thought that each family must spend time to classify their garbage as part of their cooperation.

From 3:40 to 7:00 p.m., we were divided into four groups for a visit to preschools. After some wondering, I decided to join the group that would visit a preschool named "Michelangelo." I liked the name. There were about 20 people in the group riding in the same bus. I asked a Canadian sitting next me why she chose this group, and found out that she was just like me: "I have no particular reason. I just liked the name," she said.

At 4:00 p.m. there were about 10 children

left; their parents had not come to pick them up. Then, I was impressed by the shadow pictures reflected from various objects placed behind a screen, spotted by light. By arranging desks, chairs, trumpets, tree-branches and light-chains (we don't have anything like this in Japan. They were like chains of light bulbs in Christmas tree), shadow pictures put on various forms. Paper tapes and water-filled balloons hung by rubber strings are swayed by the wind from a fan, creating exciting moving shadow pictures seen from the other side of the screen.

Every room was equipped with PCs, scanner, printer, slide projector, light-table, and overhead projectors. Obviously they were making use of them to create works. Besides keyboards and mice, some PCs were also equipped with tablets, on which you can draw a picture by using a special pen. Then, your picture shows up on the display simultaneously, then can be printed out on a transparency to be projected on the wall for a story telling. You can also work out your creation by sprinkling colored sands on a glue-drawn picture, coloring clay works, using iron nets and pebbles with clay, and making a cardboard box miniature of garden with various kinds of pasta, beans, shells, powders, nuts, and empty boxes. There was also some apparatus that uses a slide projector to illustrate on the wall some natural landscape that automatically changes every 2 seconds. Those are probably scenes children are used to watching, but seeing them everyday would make you feel you are playing in the open nature.

There were also many dynamic clay works. For example, I remember a cardboard box miniature that featured houses and a park by using iron wires, beads and pebbles. The teachers had recorded children's monologues and conversations during their work, either on tape or in their notes, and made poetic documentations out of them to be displayed along with art products, on walls and ceilings, manifesting their good art sense.

At 6:00 p.m., we talked with the teachers over snacks and tea. Canadians were asking good questions, which, by listening, were beneficial to me. Since half of them could speak Italian and the teachers can also speak English, we could have a pleasant time exchanging opinions. Finally they gave us a bookmarker, on which a poem (translated in to English) composed by a five-year old is printed. Below is the last strophe:

All the roads have
Names of already dead
People, because it is
Logic, because they did
Write or create
Something important,
Like Michelangelo who
Was an elderly person
Being in the old times.

We could also purchase "Story of Roses," a book filled with pictures and poems by 25 four-year olds, which is 12 folded sheets of paper put together. Below are the last lines:

These roses stay good because nobody
Touches them: they are hard to find,
they Live far away in the woods.

I will never forget the beautiful building of the Michelangelo Preschool surrounded by a beautiful environment, and this poetry.

At 9:00 p.m., we had "An experience of participation." Those who visited different schools seem still excited, and Pedagogista who took the lead of the program said: "We are proud to call them the *schools* for children, not the kindergartens."

The Fifth Day (2/14): Finally the time has come for a school visit, scheduled from 8:30 to 12:30 p.m. We had four groups, of which I had previously chosen and registered myself for the historically famous Diana Preschool on the first time. The scenes after the entrance were the familiar ones we had already seen in a video. That video of Lions was in the dining hall, and there were also play things like triangle mirrors in the hall.

On that day they were going to do a project on arithmetic. It looks like the Atelierista also deals with arithmetic other than art and science. But since children choose their favorite place to do their own favorite activity, the number games are done individually or in a small group. When I entered the adjacent music room, I was surprised to find a boy and a girl composing music, without teacher. On the PC screen was a score sheet with G clef. Right next to the PC is a four-octave keyboard, on which children play their own tunes that show up on the score sheet of the screen. Beating a drum, playing flute, banging a cymbal and singing into a microphone like Karaoke, will all be recorded and codified on the music score. From time to time, a teacher comes in with some other children; enjoys listening to the recorded music together and making comments. Play sites for children's traditionally favorite games like playing house and building blocks were just as good as they could be.

In other room, a group of six children were drawing their own pictures on a large sheet of paper. Some were using pastels; others drawing tiny details by using thin pencils or watercolors, and all of their activities were converging into one art form. Perhaps they had a thorough discussion beforehand. In addition to PCs in every corner, there were light tables, easels and overhead projectors, which children could use at their discretion. They also conduct scientific experiments of sand and water in the room. When they use nails to create patterns and shapes by punching tiny dots on black sheets of paper with felts underneath, and place them on light tables, beautiful silhouettes float up. Through all these various activities, poetic whistling burgeons. Let me cite a piece from the collection (by children from 3 to 6 years old):

The sea is born from the
Mother wave.
The weather is born from the storm.
The wind is born from the air and
Has the shape to bang things.
Time is born from the years.

Everything is put away at 11:30 a.m., and they have lunch in the dinning hall. Then, they go outside to play. We had discussions with teachers in another room, after which we went back to our hotel.

From 3:45 to 7:00 p.m., there was anoth-

er set of tours to visit preschools in four groups. It was an open house this time, and I chose La Villetta. This is the place that I remember from two years ago. The preschool is historically famous. There is an anecdote of the early-days: *wandering butterflies encouraged the mothers who rented a warehouse to do a bazaar for collecting funds.* I could clearly see that half the building was a remodeling of the old warehouse and another half a new addition. There was a large yard, and the watermill and windmill shown in the video "Amusement Park" were there as they were in the video. In most of the introductory books on Reggio, there are pictures of the objects in this yard. The inside of the rooms was three-dimensional; by making good use of stairways, numbers and letters are arranged for learning. A neat use of corners and space was created for an environmental arrangement.

At 8:00 p.m., at the community center, we had a farewell party in the conference room called Quoirressimo. In addition to a full-course dinner, there were speeches and songs. It was after midnight when I got back to my hotel room.

The Sixth Day (2/15): I don't know if it was because we came back late the previous night that we had times of reflection and then of discussion from 10:30 a.m. to 1:00 p.m. Once again, Amelia made a speech by citing words of Malaguzzi. Many people made their comments and raised opinions. Even among those who were familiar with the Reggio way, there were some concerns about the cultural viability in their own countries: how can you get anything out of this tour?

There were also booths where they sold books and art works. Many of them are expensive, but understandable in that it costs a lot to buy such equipment and hire staff for schools.

At 2:30 p.m., Amelia found time to have a talk with me; an opportunity for which I had been asking. I talked about: "Multidimensional Expressions and Activities in Early Childhood Education using Multi-Media with a focus on 'The Hundred Languages of Children': Comparing the Project AI at Seiwa Graduate School and the other Research Projects". Amelia seemed very interested. From 3:30 to 4:30 p.m., Paola Cagliali, a Pedagogista made a speech on the experiential concept in relation to parental participation. Then, the closing ceremony was held from 4:30 to 5:00 p.m. in an amicable atmosphere.

At around the hour of the closing ceremony, husbands with babies and children came to the hotel. I still remember the scene in the lobby where young husbands were with their babies. In the elevator, I was with gentlemen who came to pick up their wives; they were going to enjoy their holidays together in family.

On Feb. 16, I could join the Canadian group in a bus that took us directly to the Malpensa airport in Milan. It was lucky that I could have a direct trip to the airport. **On Feb. 17,** I safely arrived in Kansai International Airport.

Reflections: I was really happy to have been able to spend a fruitful six days in this study program. I could exchange opinions with various individuals, among whom I was quite impressed by Canadians and an Israeli who raised good questions. I could not have enough time to talk with Kokil, the only Israeli in this tour, but we promise to connect again. I felt an urgent need to have a genuine mastery of Malaguzzi theory. I am also strongly determined to write up my very original work before I die. Of course, I have written many books and published numerous translations, but in my mind I am yet to write my masterpiece.

Since I raised my own opinions in the Internet Reggio discussion group, some Canadians said they would remember the name "Emiko."

CALL for ARTICLES

Canadian Children invites those authors from Canada and elsewhere, who are dedicated to research and practice in early childhood education and development.

Detailed author information, along with permission to publish forms, can be found at our website www.cayc.ca under the journal link.

Forward your manuscripts to Mabel Higgins at ece@mdirect.net before the next due date, February 1st.

Scene for a Reflection: Neruda School, Reggio Emilia Feb. 14th, 2002

Carol Anne Wien

Dr. Carol Anne Wien, Associate Professor in the Faculty of Education at York University, Toronto is the author of Developmentally Appropriate Practice in 'Real Life', and numerous articles on early childhood education in Canadian and International journals. Her research and writing interests include emergent curriculum and interpreting Reggio ideas in Canadian settings; elementary teachers and tensions between early childhood curriculum and standardized curricula; and integrating the arts in education.

At the Scuola Neruda during the Canadian study tour, where 25 of us have moved freely from room to room observing the morning activities, three of us sit (like the points of a triangle) in the atelier upstairs watching a Reggio atelierista and several children around a big work table. A fourth Canadian takes notes on the painting materials and creative work in the area behind us. Quiet music fills the air, the guitar concerto "Fantasy for a Gentleman" by the Spanish composer Rodrigo. The work table has a project on each side. A little girl has been working all morning stitching threads of gold, amber, rose, aubergine on a ground of stiff blue net, skipping over to the 20 choices of coloured wool each time she finishes one thread to choose yet another beautiful colour. On the other side of the table a girl who arrived 15 minutes ago winds silvery coils of wire enclosing a tiny acrylic mirror into a shape. Before her on the table sits an open wire structure (about the size of a large roasting pan). Its tortuous shape is full of curves and valleys with bits of sparkling wire hanging here and there. We have heard that the five-year-olds are creating a play area for the four-year-olds under the hall stairs: they are making the sky and the clouds as a backdrop for it.

The beauty of the idea strikes me on several counts. First is the notion of supporting young children in learning early to give back, to make something for others. Second is the notion that this gift of a play area will remain in the school as the contribution of this class: it will keep this class' place in the historical memory of the school. Thirdly, each child who wishes can make themselves a part of this gift by threading a choice of coloured wool through the "sky" net or winding some soft malleable wires together and fastening them to the "cloud" sculpture – both developmentally appropriate, do-able activities. In doing so, they contribute to something bigger than themselves. They can both see their own contribution and also everyone else's, each one different. Thus they see themselves simultaneously both as particular individuals each with a unique identity and as members of a collective with a larger purpose: the whole is greater than the sum of its parts. Their work thus becomes transformed by being a part of everyone else's, and by being gathered up for a larger purpose – a gift for other children.

Whenever we make a gift for someone, our feeling towards the recipient becomes encapsulated in the gift, in our memory. The gift becomes a symbol of that feeling: whenever we look at the gift, the relationship of giver and receiver is summoned to awareness. For each child who contributes a little wire coil "cloud" or a bright thread for the "sky", we can imagine the following. It may only be a few stitches, a few twists of wire, but it may take on the feeling the child has about the sky or the clouds, the feeling the child has about a child in the recipient group, or a feeling towards someone in their own group: they might wish to put their work next that of someone they cherish. In this coded way, the work embodies the spirit of the group, its feeling. What looks like a nice representation of "clouds" and "sky" to visitors, actually becomes a carrier for the group's feelings. Their feelings become embodied in the work, although such feeling may not be apprehended by viewers.

But it is the fact the work is a gift for others that fills the construction with the gesture of reciprocity, making it truly creative. The spirit of creativity is always reciprocal, part of a gift economy rather than a market economy of production and consumption (Hyde, 1983). Reciprocity always involves feeling, not mere thinking in itself. This education of feeling becomes palpable in the room, as we sit and watch, held in the spell of the gentle guitar music (now playing in my head even as I write, passionate and lovely music) as the little girl making an enclosed silver wire form finishes it and the atelierista tells her she can choose any place she likes to put it on the framework for the clouds; where would she like to put it? There follows a suspended pause so quietly powerful, shared by all the visiting adults, that it was as if the world turned for a moment around us. How to describe it?

Two children and a teacher sit working quietly, and three Canadians around them watch intently suspended in the music of the scene. A woman from Finland (also on the tour) walks in the door. I see her face soften immediately into an expression like a Madonna's, as she takes in the atelierista holding up the wire cloud sculpture in the air, inviting the child to choose, all of us waiting. The Canadian in the painting area catches the spirit of waiting for something to happen, looks up and over to us, sees the scene, her face radiant in the light of the moment. We are all absolutely stilled, focused, six adults, one child stitching unawares, the other thinking about where to place her little construction. We wait in the music, in the calm, in a depth of feeling we now share in our own small collective as the child is given space to choose her place in the sculptural field.

To choose a place is to know where one belongs. Her place is first of all literal – in the wire cloud sculpture that will hang in the school hallway for years (and she can return when she is ten and see that she still belongs). Her place is also

metaphorical – she is "in the clouds". She is held in place by her group, her "circle of we"[1] in her school. Yet that cloud sculpture sits in the circle of her school community. That school community of Reggio Emilia sits in the circle of early childhood education world-wide, as it entertains visitors from over 60 countries, arriving 100-200 at a time every two to three weeks. There is a sense in which she reaches around the world, acknowledged by her presence in the group artifact.

Elena Giacopini said in her presentation earlier that week of the study tour that "We [Reggio educators] think of development as keeping all the child's experiences in connection."[2] Such an emphasis is the opposite of systems that fragment knowledge by analysis, that focus on knowledge production (such as shapes, numbers, letters of the alphabet). Many of us have been trying to grasp the Reggio Emilia Approach for a long time, something Gardner (2001) thinks probably requires 10 years of daily practice. For me, this scene of a little girl choosing the place for her wire work became the still point of an entire system. She was held in the stillness of five foreign visitors watching intently, as a perfect moment was created. What was perfect? The quality of the energy of feeling in the room was perfect. The feeling was of exquisite, quintessential care for another, for a child, for the atelierista supporting her, helping her to find her place. It was a feeling of assuring the child she has a definite, necessary place in this group that is the culture of her childhood. And it was also our feeling of recognition that this acknowledgment of the child was what each of us would wish for every child in our care. Yet we know this caring acknowledgment is not easy to construct. Rinaldi said (1997), "it is the fear of every child in the world to be invisible." And it is the fear of every adult too, not to be acknowledged as part of the group.

Vermeer, the masterful 17th century Dutch artist, painted his wife standing before a table spilling with pearl necklaces: she holds a tiny scale aloft in one hand. She is wearing a jacket with ermine trim and she is very, very pregnant (Blankert, 1978; Wheelock, 1997). Given the period that social historians think this painting was completed (Montias, 1989), it seems likely that Vermeer and his wife lost a child born a year or so previous to this pregnancy. The painting is called "Woman Holding a Balance", and to me, it is life that hangs in the balance. Will this child live to be acknowledged? Will his wife survive yet another birth? How easy it is for the scale to tip too far on either side. His wife stands so quietly luminous, and all the painter's hope and love for his wife and unborn child is poured into the quiet, calm, golden light that only Vermeer can create. To stand before a Vermeer painting is to have a feeling one has never had before: it is to be stilled. That calm serenity and faith in love fans outward to embrace the viewer in its quiet pool, calling up a trace of that feeling in one's body. To love greatly creates a still point in the world.

I have been on tours to Reggio Emilia twice now (1997 and 2002). Both times I have experienced feelings entirely new to my body, feelings never experienced in North America, or other travels. If feelings are, as neurosurgeon Damasio so eloquently argues (1994, 1999), the basis of consciousness (and not rational thought, as Descartes decided so long ago), and interact with thoughts to *direct* everyday decision-making, then attention to the development of the feeling systems in children should matter to us. I am beginning to suspect that *attending to keeping children's experiences in connection*, and *keeping children embedded in circles of care and belonging*, contributes to the development of different feeling systems than we acknowledge or much attend to in North America: I suspect we don't know these experiences. We are predominantly focused on the intellectual and its products, in spite of all the care that early childhood educators try to give to social and emotional development in the young. I hypothesize that the Reggio Emilia collective has created something radically different than we know. We five observers, sitting in that Neruda atelier under the rain of Rodrigo's guitar strings, together caught some new feeling for a moment. Like the still point of Vermeer's painting – a woman waiting to come to the other side of childbirth in safety (and she did) – the moment of waiting for a child to choose her place on the group sculpture, to show where she fits, caught and held us in the intricate forms of possibility, love, and hope that we all carry. This love and care and grave hope for children and their future gets so muddied, ravaged, and destroyed by conditions of living that to construct a moment of great care, beauty, and possibility becomes a charged gift. The atelier held a strange shimmer in those seconds of suspension, of breathless waiting, the glowing skin of every face full of love, shining out to the child, and Rodrigo's guitar enfolding us, so that I felt I was living for a moment in the light of a Vermeer painting.[3]

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[1] Sue Fraser cites Carolyn Edwards as the source of this phrase, during the Capilano College Conference on Reggio Emilia, 1997.

[2] Reggio Children has granted permission to use this quote and the later one from Rinaldi, with the understanding that this is my interpretation of what I heard.

[3] Dedicated with gratitude to Mara Davoli and the atelierista and teachers of Neruda school. Thanks also to Sue Fraser, Sara Furnival, and Barb Bigelow for comments on earlier drafts.

Going The Moose Way Home

Jim Latimer / Illustrated by Donald Carrick

Reviewed by Carol Jonas

Not a brand new book, this one seemed to leap off the shelf when looking for books to read to my granddaughter, Sarah. The two of us had just been talking about having friends and being 'nice' to them.

Moose gets stuck in snow up to his antlers and Crow comes by to encourage him with positive thoughts. *"Don't worry tomorrow is Monday and the school bus comes....the plow will come back and clear you out of the way." "You must be hungry."* Crow brought Moose some bark to eat and together, they waited for Monday morning. The plow came, then the children's bus and they shared part of their peanut butter sandwiches with the Crow and Moose.

In another incident, Moose helps three small animals cross the Troll Bridge. When the troll sees the size of Moose he decides to let them cross without a problem.

"On Christmas morning Moose ate tender, green lily pads with twelve black and white cows" because he thought they looked sad and hungry without grass to eat.

One Valentine's Day, Moose was feeling quite sad after he had felt rejection by a moose cow, which in reality was a train. On his way home he was comforted his friend Skunk, who had never been asked to be anyone's Valentine. Moose asked her and Skunk said yes.

The Easter Rabbit had forgotten to deliver his eggs. Moose came to the rescue by telling the sad animals to look in different places for the eggs which had not actually been delivered. While they were doing this he placed them in other places in which they eventually found their Easter Eggs and thus Rabbit "did not get into trouble."

Never having had one, Moose decided to make himself a birthday cake. On his way home with the ingredients, he gave them all away to those creatures that "needed" them. Later his friends treated him to a surprise birthday party that included a birthday cake!

This book teaches many valuable lessons in caring, sharing, encouragement, friendship, empathy, cooperation and altruism.

Publisher: Scribner, New York, 1988
ISBN 0684188902

Sosus's Call

Meshack Asare

Reviewed by Shelly McEwan

Shelly McEwan, E.C.E. dip., B.A., is approaching fifteen years as an Early Childhood Educator at the Lambton College ECE Centre. Mother of three, she is an avid story-teller. One of her short stories was recently published in Canadian Chicken Soup for the Soul.

When I first read Sosu's Call I wondered if the story would hold the interest of the preschool children that I work with. Our group of 4 and 5 year olds are an active bunch who love and have become accustom to stories of bright bold colour, rhyming fun and funny story lines. As an adult I thought that Sosu's Call was a beautiful and heartwarming story. The pictures were beautiful, realistic and full of natural colour. Sosu is a young boy who wants more than anything else, to be accepted, to be involved, to be "just another boy". This is something that many children wish for, including some of the 4 and 5 year olds that I would read this to. I decided to share this story with the children on a cold January morning. Though the story is set in a part of the world that is very different to where these children are growing up (a southern Ontario city in Canada) the message of . . . wanting to fit in, having dreams, and never giving up are relevant here too.

Sosu lives in a small village on a sandbar. The men fish, the women work in the fields, the children go to school, and the elderly look after the young. Sosu doesn't fit into any of these categories....Sosu is unable to walk. He is considered bad luck. While his family go about their daily lives Sosu stays home alone with his only friend, his dog Fusa. Sosu finds himself envious of Fusas' ability to run and jump. Sosu l-o-n-g-s to be included.

At this point in the story the children in my group were genuinely concerned with: " Why can't the boy go to school? Why can't the doctor just fix him? How can he stay home alone? Why are those men so mean?"

As the story continued the children became mesmerized with the details of how Sosu struggles to find the courage and the strength to save the young and elderly of the village from a ferocious storm that threatens them. You could see the look of concern on the our children's faces and their desire for Sosu to succeed. Sosu does save the village and becomes a hero. A reporter asks Sosu what he would like more than anything else. He replies that he would like to walk and go to school. As the village is rebuilt a smooth roadway is built from Sosu's house to the school. Sosu is presented with a wheelchair. A small voice from the back of our group pipes up, *"Why didn't they do that in the first place?"*

As I looked at our group of children I still saw the active bunch who love a good funny nonsense story but I was again reminded how much the children learn from the world and we from them. The children were listening to the story, not only with their ears but also with their hearts.

Sosu's Call was a story that intrigued the minds of a small group of children and opened the eyes of an adult to the depth of understanding of these children in her care. A definite recommended reading.

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Book Publishers 2002
ISBN 1-929132-21-2

Theater Curtain: The Ring of Transformations

Editor: Vea Vecchi

Reviewed by Laurie Kocher

Laurie Kocher, a teacher of kindergarten as well as college ECE students in Abbotsford BC., has a B.A. (U.B.C.) an MEd (U.Vic.) and is currently a PhD. candidate with the University of S. Queensland, Australia. She is a voracious reader and consummate consumer of coffee and foreign films, enjoying photography, collecting antique inkwells, and engaging in robust dialogue with friends. She fantasizes about someday having a villa in Tuscany.

Theater Curtain: The Ring of Transformations, is a delightful telling of the experience of children in Reggio Emilia, Italy, designing and creating a new house curtain for the **Ariosto Theater**.

Vea Vecchi, long time *atelierista* (art studio teacher) at the Diana school, explains that this project grew out of many years of collaboration among community members, institutions of the city, and the schools. One of the hallmarks of the early childhood programmes of Reggio Emilia is this sense of community involvement and celebration of young children's learning experiences, which is beautifully portrayed in this book. This is a community which "*demonstrates its own civility and maturity by knowing how to listen to, be responsive to, and share in the culture of childhood respectfully and joyfully*" (p. 20). Included are writings by the city's mayor, the commissioner for culture and education, and the president of the theatre consortium.

The children's recent interest in attending local performances in nearby theatres merged with an idea that perhaps a group of children from the Diana School might be able to design a curtain for one of these theatres. Visitors to Reggio Emilia will recall that that the school is located in a large park area, a short walk from the city's two main historic theaters. Local artists had designed other curtains – perhaps the children could also make a contribution. The birthday of Loris Malaguzzi, known as the founder of the Reggio approach, is celebrated every year with a special event. This could be a marvelous gift presented at the celebration from the schools and the children.

Recognizing the need for the children to be in tune with the context that will eventually house the theatre curtain, small groups of children explored both the outside and inside of the theatre. The teachers observed their exuberant movement – running in between the great columns, "feeling the rhythm and the architecture with their bodies, the empty spaces and the full spaces, the light and the shadow." Vecchi writes, "*if we are capable of listening to their autonomous strategies, we can make use of them, formulating proposals that are closer and more attuned to the children's ideas and behaviors*" (p. 28).

After taking plenty of time exploring and becoming intimate with the theatre space, the idea of designing a curtain was offered to the children. Giovanni, one of the protagonists in this story, responded, "*Look, something that big can hold the ideas of all the kids. Not just one idea but lots of ideas!*" (p. 39). While generating ideas for the curtain's design, the children suggested that they should "*make some beautiful shapes...shapes that are beautiful like heaven...lots of plants and flowers... a dragonfly with beautiful wings...some grasshoppers that are really pretty...the sun is even more beautiful, because it's really important...happiness is a really beautiful thing that would be fun to draw and peace, too... the Earth is very interesting for us human beings, the moon and the stars...*" (p. 54-55).

The children were supported in envisioning these beautiful and important things that they had suggested as suitable subjects for the curtain, in relationship with one another. As they drew their first renderings, the children could consult books and photographs and, when possible, observe the actual objects they had listed. Vecchi stresses that it is important to her that children have enough time and concentration to understand the relationships and connections among the various parts that come together in one subject as well as to establish their own relationship with what they are investigating to - feel the "pulsing of life" (p. 56) and the vital connections with everything that surrounds them.

As they were drawing, one boy exclaimed as he drew an eye appearing in the middle of the leaf, "My plant is transforming, it's in a phase of transformation" (p. 64). Vecchi has said, "From time to time, certain comments made by the children influence the course of a project and orient it, this was one of them."

As a group of four boys arranged the various subjects in a circle, laying out a possible design for the curtain, they began to tell a story, improvising like jazz musicians on a central theme: "Once upon a time there was a dragonfly who went to the sun for the whole winter. Then when spring and summer came and it was really hot, he changed into a smaller dragonfly and went to cool off in the energy house of the moon...the sun has so much energy that it transformed one dragonfly into another one...the energy chamber of the galaxy is so powerful that it transforms him into a grasshopper...the ring of transformations...the sun is transformed into a rose, and the rose is transformed into a sun...the whole chain is transforming!" (p. 86).

The children worked together to manipulate their initial hand-drawn sketches on the computer, interweaving traditional and digital strategies. After much negotiation and consideration, an agreement is reached as to the ultimate design. The teachers observe and document the "*processes whereby children's competencies evolve in order to understand their individual and group strategies*" (p. 75). The children collaborate to transfer the design from their initial sketches to paint and to a large format that would be used to create a screen print for the actual curtain. They were able to work in the painter's loft, a large room on the top floor of the theatre itself that was used historically for the production of these massive theatre curtains. When it came time for the celebration of Malaguzzi's birthday, the teachers and children and community members planned a great unveiling with all the children, the artists of the other curtains, town officials, families, and members of the community.

This book offers us another glimpse into the evolvement of an in-depth project, thoughtfully documented in the way the educators in Reggio Emilia have become so well known. Through the photographs, sketches, transcriptions of children's conversations, and the teachers' reflective commentary, we are afforded the opportunity to participate vicariously in the whole experience. As readers, we are invited into the "*darkness*" that Vecchi describes, as teachers face the difficulty in choosing which way to go with this project, the necessity of waiting for the children, and the implicit sense of trust in the children to find a way to bring it all together.

The final result – the children's ring of transformation – is an extraordinary example of children's intuitions about the interconnectedness of all the things, and of the primacy of relationships. I couldn't help but think of Fritzj in Capra's "Web of Life" (1996), in which physicists describe how all matter and energy are linked in a cosmic dance throughout time.

In this book, the educators in Reggio Emilia have told a real story about a group of children who have formulated a universe theory, a scientific theory, a fantastic theory that satisfies their emotional, intellectual, and aesthetic needs as vital young explorers of the world. In Carlina Rinaldi's description, it is "*a never-ending story that seems to draw its origins from the imaginative archetypes of the children and of humankind: the story of life, of transformational communication, of the vital energy that creates all and transforms all*" (p. 16). Their story, portrayed publicly and hanging in one of the oldest and most beautiful theatres in their city, surely conveys the message that the citizens of Reggio Emilia honour children's answers to life's questions.

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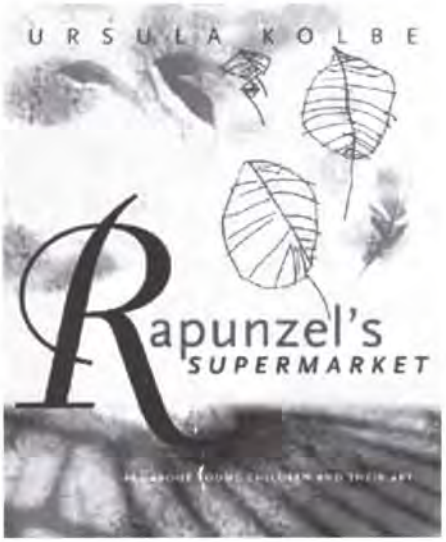
ISBN 88-87960-29-1



Rapunzel's Supermarket:
All About Young Children and Their Art by Ursula Kolbe
Publisher: Peppinot Press, July 2001
Distributed by: Olive Press
ISBN 0-646-41655-3

Yellow Umbrella

Jae Sooliu Music CD by Dong ll Sheen

Reviewed by Mary Ann Gordon

Mary Ann Gordon, B.A., B.Ed., E.C.E. and I/T, has been an ECE Faculty member at Lambton College in Sarnia, Ontario since 1987, and is presently the Coordinator for this program.. Mary Ann previously worked as a preschool teacher at a Parent Co-Op Nursery School and as a teacher in an Ontario College Lab School.

What a great children's book to welcome spring and say goodbye to winter; a wonderfully illustrated multi-cultural book from South Korea.

This is a beautiful wordless book taken from a "bird's eye view" vantage point. It begins with a single vibrant yellow umbrella, and the reader is left to imagine who or what is carrying that umbrella. On the next page, a blue umbrella joins the yellow one and they move down the street together. Then, throughout each page, red, green, pink, orange, purple and brown umbrellas join the others on a wonderful adventure through the town.

They visit a fountain, a children's playground, roam down stairs and through streets. The last page, however, is painted from a side view, and the colorful umbrellas now show *little people* underneath them heading towards their school. What a lovely sight to see!

Also included with this book is a music CD. The book recommends using track-one to be played while reading the book. There are brief periods of silence on the track to let the reader *know* when to turn the page. Track-two of the CD is the main theme of the Yellow Umbrella entitled " *Underneath the Sky* ". The English lyrics for this song can be found at the back of the book. The remaining tracks 3-15 are more expanded music from track one. I would first present the book to children without using the CD, and then I would introduce the CD. Tracks 3-15 music is light , airy, and happy. The piano music reminds me of *rain drops bouncing up and down on a new spring day*. This is great music to include with movement and music activity with scarves, or just playing it in the background during creative art, such as painting or drawing."

Publisher: Kane/Miller, American version 2002
ISBN: 1-929132-36-0

CAYC MEMBERSHIP PROFILE

Louise Ledoux-Hanlon

Early Childhood Education has been a major influence in Louise's life; first as a social worker and family therapist, later as an educator, administrator and finally as a consultant. She has met the challenges with passion, commitment and determination always keeping in mind and acting on her values of respect, fairness, promoting children's development and exploration of the world around them.

Upon completion of a Masters Degree in Social Work, at the Universite de Montreal, she was employed by the Jewish General Hospital in Montreal to work with children and families providing counseling at a time of a serious medical crisis, learning disability or behaviour problem. Louise acted as a resource person providing information about services directed at preschoolers and facilitating the referrals. She soon realized that professionals and parents needed to become proactive if they wanted to access quality care and decided to involve herself in the community.

Later in a career move, Louise increased her childcare experience as a family therapist at the Nursery School of the Chedoke-McMaster Hospital, one of the teaching hospitals of the McMaster University in Hamilton, Ontario. During her twelve years living in southern Ontario, Louise, a mother of two young children at the time, became aware of the lack of services for families of young children within the French-Canadian society and brought her concerns to the local French-speaking associations, as a mother and as a French-Canadian. She solicited the help of a few friends and along with them, founded the first cooperative nursery school for French-speaking children and their families. She was soon asked to consult and organize two more cooperatives for French-speaking communities and was asked by the Childrens' Aid Society to write a grant proposal to the Ministry of Community Services for a cooperative nursery school. The grant was approved and services offered in an inter-city neighbourhood.

As she became increasingly interested and involved in early childhood education, Louise decided to further her studies at the practical level, obtaining her E.C.E. in 1975 and then began a new career as an educator. When she returned to Montreal with her family in 1980, she remained very involved in the community and along with a group of young parents founded a cooperative nursery school and became its first educator.

Two years later, when she was appointed Headmistress of St. Andrew's School in Westmount, Louise welcomed the opportunity to work closely with educators pursuing excellence in programming and care giving. She has had the privilege and the responsibility of doing so for the last twenty-two years. During that period of time, St. Andrew's School grew from a private organization to a daycare and finally to a subsidized early childhood center, known as St. Andrew's Early Childhood Center. At the same time the center was moving from a teacher-directed to a child-centered approach where emergent curriculum leads to a project approach and active participation of the children. The leadership required has called upon the full use of her skills as clinician, educator and administrator. She worked through several boards, mediating between them and educating them on issues concerning child care while, at the same time, learning from the board about fund-raising, labour laws, finances and maintenance of the building. The process of change within the center required the ability to provide support to the staff, initiative consulting with the experts and determination at reaching the goals. All was achieved through discussions, consultant presentations in early childhood education and more recently by an on site pedagogical consultant.

In order to meet the demands of her administrative responsibilities, she attended courses at Concordia University and took advantage of the different workshops offered by the professional associations. Her appreciation includes support from the pedagogical consultant, Carol Jonas, whom she recently traveled with to Italy to attend a weeklong introduction to the philosophy of the Reggio Emilia schools in Italy. With the assistance of the pedagogical consultant, Louise worked at creating a physical milieu at St. Andrew's conducive to exploration, creativity and autonomy. Louise also acknowledges the support of Bev Engel who has consulted with St. Andrew's for the last 12 years and Paul Scrodt, who gave consultation in administration.

Although Louise devoted most of her time to St. Andrew's, she found the energy and interest to co-teach seminars in administration at the Masters level at Concordia University and to supervise students from Vanier College. She kept in touch with the wider education community through a variety of responsibilities on the C.A.Y.C. provincial committee. Looking back on this fulfilling and rewarding professional life, Louise admits that she could not have met the challenges without the collaboration and support of her staff, the members of the Board of Directors, her colleagues and her family. She maintains that it is has always been "the children's enthusiasm and eagerness to learn that has been her inspiration and raison d'etre" in the field of early childhood education.

FRIENDS OF CHILDREN AWARD

The CAYC "Friends of Children Award" was established to give CAYC a way of recognizing outstanding contributions, by individuals or groups, to the well-being of young children. If you know someone you would like to nominate for this award, please use the procedure and criteria below:

PROCEDURE

- The submission for nomination(s) must come through a member of the board and be seconded by a member of the board. Board members can receive recommendations for nominations from other persons or groups.
- The nominator will be responsible to obtain approval from the nominee before submitting the name of the nominee with relative background or biographical information.
- The nomination(s) will come forward at a board or executive meeting from the board member assigned responsibility for the award.
- This board member or an executive member will present the nomination and speak to it.
- The nomination will be passed by the board and/or executive with a consensus decision.
- The award will be presented promptly and in person when possible.
- Publicity of the award and the recipient(s) will appear in the journal, Canadian Children, and other publications where possible.
- Number of awards per year will vary.

CRITERIA

This may be:

- An individual or group, regardless of age.
- Has a history of commitment to the CAYC mission statement and/or aims.
- Has shown an outstanding scholarly, advocate innovative and/or practical contribution to the well-being of young children.
- CAYC membership not mandatory but encouraged.
- Canadian citizenship not mandatory.

Parent-Child
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Our illustrated parent guidebook, *You Make The Difference in Helping Your Child Learn* (Manolson, Ward & Dodington, 1995) is also available for sale.

Visit www.hanen.org to order a copy.

CAROL JONAS, V.P.
PUBLICATION CHAIR

"Learn to understand first and be understood second."

Listening is a skill we must help develop in young children as some find it difficult to attend. Listening is also very difficult for some adults as well. The cardinal rule of conversation is "one person speaks and the other listens." During a seminar with educators, the definition of listening was given as: To hear with focus, to hear with the objective of understanding, to hear with attention. Webster's dictionary offers "to hear something with thoughtful attention: give consideration."

This reminded me of a plaque in my office which says "Learn to understand first and be understood second." Be considerate, listen first, just as an infant does when he first encounters language and then seeks to be understood by beginning to speak. A lesson we can learn from the very, very young.

Listen to children; give them that respect and learn from them and about them. Be patient, hesitate and wait not only to hear their voices but also listen to their ideas. Carlina Rinaldi of Reggio Children speaks of the Pedagogy of Listening…the art of teaching by listening. When one listens carefully, riches can be discovered by child and teacher.

She was listening to music, colouring on the living room floor. The CD, Appalachian Journey, including Yo-Yo Ma, Edgar Meyer and Mark O'Connor was playing. "I think I like that better than the Dixie Chicks" and then: "Sing that one again NaNa, you know "Hard Times"…. I smiled both at her first statement and then her request. "It's hard for me, Sarah, can't find the range" "that's ok you'll get it soon." I genuinely listen and hear the empathy, the understanding and encouragement given to me by this young child at the age of five. My wish is that she be surrounded by others who have the same attributes; especially her teachers and friends…a circle of respectful listeners.

Listening and interpreting is paramount to understanding the behaviours of young children. "I can't go to that school next year because I don't know anything"……then one realizes the child thought he had "to know" before he attended and not "go to know." From that moment on, the child blossomed in his present preschool class, realizing it was just fine not to know and that was why he was in school in the first place…to experience, to explore, to take risks, to learn and finally to know.

During a conversation about buttercups, dandelions, mushrooms and fairies I listen intently and learn that logic is part of a young child's thought processes. Went something like this:

Child: "Oh, poison mushrooms!" (picture of fairies perched on them)

C: "Hmmm is my chair poison?"

"No."

"How do you know?"

"You are not dead."

"So……"

"Oh, the mushrooms are not poison"

"How do you know?"

"The fairies are alive."

We strive to be sterling role models in order to help the child develop good listening skills. We continue to listen, learn from the child, go from where he is to where he is able to go and document the whole process. "We learn to understand first and be understood second."

The Canadian Association for Young Children

2003 ~ CAYC Patrons ~ 2003

L'Association Canadienne Pour Les Jeunes Enfants

Individual gifts play a role in the ability for CAYC to maintain the highest quality *Canadian Children Journal* and *Inside CAYC Newsletter*. This initiative will allow the assurance of future success of this multidisciplinary association. Currently CAYC is only funded through membership resources and advertising in our National Journal. "The Canadian Association for Young Children, L' Association Canadienne Pour Les Jeunes Enfants, would like you to consider contributing to the on-going success of this association".

Only recently put into action, we have already heard from the following contributors . . .

May we add your name to the roster?

Send donations by cheque, visa, master card or any questions to:
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