Promising Practices and Core Learnings in Arts Education

Literature Review of K–12 Fine Arts Programs

Shelley Robinson

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In spite of all the successful examples of learning achievement through the arts, in spite of all the personal transcendent arts experiences that have transformed countless individuals, nothing will happen in these days of restraint and in-the-trenches mentality unless there is an alliance of artist, education, parent, and the community of caring individuals who seek a better future for all children (Pitman, 1998).

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Part One: Practical Implications

Abstract

This is a practical summary report with recommendations for the future fine arts programs in Alberta in light of a literature review of other K–12 fine arts programs. *Part One* of this report is written in the context of the 21st century learner and determines the following as they pertain to all of the fine arts education disciplines—music, visual art, drama and dance—in K–12: 1) trends in teaching; 2) effective practices; 3) recommendations for core learnings; and 4) provincial indicators of success as well as indicators of success through the core learnings.

The implications of these new directions in the fine arts are examined in conjunction with a theoretical research project that has become *Part Two* of this report. *Part Two* examines various theories of learning in relation to and developed through fine arts education K–12 in the following areas: 1) early childhood development; 2) personal and social development; 3) critical thinking; 4) creative thinking; 5) students at risk and high school completion; 6) multiple intelligences; and 7) brain research.

Introduction

Research Problem and Methodology

This research summary was commissioned to investigate existing and current fine arts programs. Although there are international fine arts references, the research focus compares the language, organization and research of the neighbouring Canadian provinces. By adapting the best aspects of curriculum and other elements from other Canadian jurisdictions, it is possible to optimize teacher networking and support, i.e., resources/personnel, during the implementation of any new curricula (McWhir, 2005, p. 15). The *Western Canadian Protocol* (1993) and the *Western and Northern Canadian Protocol* (2000) in their implementation of some recent curricula and support documents for English, mathematics and social studies are good examples of some of the merits of collaborating with other Canadian provinces.

The context for this research is the 21st century learner. This research orientation provides a basis for some recommendations for future curriculum development in this current Canadian context. This research will look at the following: 1) current trends in teaching fine arts education; 2) effective practices based on progressive educational theory; and 3) current/existing curricula with attention to its discourse and organization. This report summarizes emerging themes from the fine arts literature. Core learnings evolve from some of the constant-comparison qualitative methodology (Corbin & Strauss, 1990; Glaser & Strauss, 1967). The language of the past and current fine art disciplines are explored, compared, classified and interpreted. Practical recommendations are made in the form of core learnings and indicators of success. The research concludes with interpretations and implications.

> *[W]e don't just "take" an arts course but, instead, the course becomes part of us for all time (Booth, 2002, p. 56) [.]*

Guiding Questions

1. What are the trends in teaching K–12 fine arts?
2. What are the effective practices in teaching K–12 fine arts?
3. What are the recommendations for core learnings that are common to all fine arts education disciplines—music, visual art, drama and dance—in K–12?
4. What are the indicators of success in teaching K–12 fine arts?

Terminology of Key Research Constructs

1. **Trends:** The term "trends" refers to the general tendencies in today's teaching practices. Patterns of teaching that have evolved over time are examined. These patterns are used to interpret or anticipate some general conditions and status of current fine arts programs.
2. **Effective practices:** The terms "lessons learned, " "good practices" and "promising practices" are all common terms used interchangeably to describe very good practice. These terms are often used to define practices or approaches that have not been evaluated as rigorously as "best practices" (*Info Project*, 2007). All of these terms of excellent practice make an effort to demonstrate lessons learned about what to do or not to do in achieving optimal performance in the fine arts.
3. **Core learnings:** An effectively written core learning informs and guides both teachers and students. The set of learning outcomes provides a solid framework to guide the learning and assessment strategies in the program. These outcomes could form the basis of an "independent model of study" (independent disciplines), or an "integrated model of study" (individual arts taught in combination with each other and/or other curricula). However, the outcomes in this study are written to think about core learnings as they might appear across the various fine arts disciplines in K–12.
4. **Indicators of success:** Key indicators of success, in the context of this study, are qualitative benchmarks of learning that reflect the critical success factors of the fine arts programs of study provincially, e.g., academic, post-secondary/professional and personal, as well as in the context of the core learnings.
5. **Technology:** Technology can be viewed by using a broad definition such as the following: "'technology' can refer to material objects of use to humanity, such as machines, hardware or utensils, but can also encompass broader themes, including systems, methods of organization, and techniques" (*Wikipedia*, 2006). However, the technology that is being written about, and referenced, in relation to the arts in this study, focuses on the use of "digital or computer technology," although it could be argued that there are many types of technology beyond digital technology that fine arts teachers could implement into their programs to enhance them.

Significance

With the advent of new research in educational theory/practice and brain-based research included in *Part Two* and the evidence in Alberta Education's *2006/07 Satisfaction with Education in Alberta Survey* of the personal and professional success and satisfaction of the growing population of graduating students of the arts in Alberta (p. 12), it is becoming apparent that the fine arts play an integral role in developing the successful 21st century learner. "Arts education builds on personal, home, and community experiences and provides structured learning experiences throughout the elementary and secondary school years" (*National Symposium on Arts Education*, 2004, p. 1). As well,

> [s]ociety is rapidly changing. The realities of the modern age demand a new breed of individual, one who is able to balance imagination and reason to meet enormous challenges … challenges that we ourselves have created in our relentless race for economic growth and technical prowess. This is the kind of citizen who takes advantage of the full range of artistic expression to access the imagination and to creatively tackle the big issues of a global society, as well as the smaller day to day puzzles of life (Wymann in an interview with Willingham, 2005).

By developing a high competence in the fine arts, students develop a sense of efficacy in their ability to solve problems and view life through multidimensional perspectives. High self-efficacy, in turn, activates an artist's self-satisfaction and may stimulate more creative and purposeful personal and professional activity (*Part Two*).

Students are often put in the position of choosing between academics and the fine arts in their school programs, but recent research suggests a strong link between art experience and other academic abilities (Reeves, 2007). For example, "the literature contains many examples of schools serving substantial portions of economically disadvantaged students and ethnic minorities that have raised student achievement in reading and math while delivering a well-rounded curriculum that includes the arts" (Petersen, 2007; as cited by Reeves, 2007, p. 80). Arts advocates often point out the importance of the arts in terms of other quantifiable, academic benchmarks; however, it is also important to value some nonacademic benefits that are not easily measurable. "Why be sheepish about the possibility that the arts may promote self-discipline and motivation, … aesthetic awareness, cultural exposure, social harmony, creativity, improved emotional expression, and appreciation of diversity? Aren't these the underpinnings of a healthy culture?" (Jensen, 2001, p. 3).

Most importantly, the fine arts encourage students to makes "choices" (Schlechty, 2002) and, in turn, explore freedom of the mind, heart, body and spirit. The arts encourage people to become well-rounded in all facets of their educational, personal and social development: "The imaginative, exploratory, active learning inherent in the arts enhances cognition, engages attention, motivates learners, and connects them to content emotionally, physically, and personally. Learning in and through the arts produces excitement, joy, and surprise" (Manitoba Education, Citizenship and Youth, 2003, p. 6).

> *Engage students in a direct, safe and personal way … Give students the opportunity to use their imagination and knowledge, to speak and be respected for their experience (Lundy, 2002, p. 33).*

However, how the arts programs are taught by the fine arts instructors of this province, through promising practices focused on clearly targeted curriculum outcomes, is what will be particularly important in the fine arts programs of the future. The student-oriented and collaborative methods with which teachers choose to teach will help determine the extent to which doors are opened for exciting and memorable educational experiences for the students. It will be increasingly important for the 21st century teacher to be aware of some of the new teaching research and methodology that influence effective practice such as the following: constructivism; inquiry-based learning; differentiated instruction; process and post-process; learner engagement; learning domains; metacognition and meta-processing; subject and technology integration; and contextualization.

Formative and performance-based assessment practices where assessment is *for*/*as* learning will be the major means of gaining evidence of student success in the fine arts classrooms. Brain researchers believe that "we can assess some obvious elements of arts in the short-term … ; [however], [a]n essential theme of art is creativity, and the assessment of creativity is problematic. [Some] [r]esearch shows that the focus on grades tends to devaluate learning and creative expression" (Jensen, 2001, pp. 111–112). Therefore, the ever-important "connoisseurship" model of teaching (Eisner, 2002) still needs to be in place as the fine arts expert teachers mentor students one-on-one and give ongoing, ever-evolving, purposeful and immediate feedback. Having clear curriculum outcomes that state what a learner is expected to know, be able to do and value, will help guide teaching philosophy, practice and assessment in the province.

> *It is ironic, but the enlargement of life through the arts is a powerful way to see what is lifelike. By making things larger than life or by recontextualizing them, reality, whatever it is, seems to be made more vivid (Eisner, 2002, p. 83).*

Research Orientation

Trends in Teaching K–12 Fine Arts

The following section reports and interprets the *existing and emerging* trends in Alberta and the surrounding national and international fine arts cultures. The subsequent literature review regarding effective practices will research the findings of educators and researchers in light of these trends and other related research (see *Part One*, p. 10).

Alberta is well-known for many of its successful curricular and extra-curricular fine arts programs. Various fine arts stakeholders, such as: 1) Alberta Education and its Alberta Initiative for School Improvement (AISI); 2) universities and colleges; and 3) other special programs in support of arts in education (Alberta Foundation for the Arts; Calgary Arts Partners in Education; DARE Arts; Alberta Teachers' Association Fine Arts Council; Arts Education Action Committee) have helped to promote high quality fine arts opportunities for participants and audiences across the province. A provincial initiative is now in place to research current fine arts theory and pedagogy in order to consider how to best approach updating new fine arts curricula and support these educational programs in the future; e.g., oldest, junior high art, 1984; most recent, senior high general music, 1994. In future fine arts initiatives, it is important to consider some of the trends in education in the following areas: fine arts programs; subject expertise; curriculum organization; curriculum organization; subject integration; technology integration; assessment; employability; and parent involvement.

> *We are what we envision ourselves to be and art is simply the possibility of who we are and who we are capable of being (Jane Alexander as interviewed by Slotkin, 2002, p. 51).*

FINE ARTS PROGRAMS

In many Canadian contexts, the term "fine arts" has been used interchangeably with the titles "arts education" or "creative arts" (Bajard, 2005; McWhir, 2005, p. 13). Most fine arts programs in Canada have been taught as separate disciplines with independent programs of study. In Canadian jurisdictions, the arts include three or, in some cases, four major disciplines: 1) drama/theatre arts; 2) music; 3) visual arts; and, sometimes, 4) dance. In Alberta, dance is a program that is taught as a locally developed course in many jurisdictions.

There has been a substantial increase in the number of art, drama and music course completions in Alberta since 1994. There has also been a dramatic increase in the number of locally developed courses, with an emphasis on dance, in the same time period (McWhir, 2005, p. 3). Often, in the advanced fine arts programs in Grade 11 and Grade 12, there are strong prerequisite course incentives that are considered necessary to encourage a rigorous fine arts graduation outcome. In these particular programs, only those students who have participated in the previous prerequisite programs can advance and graduate. As a result,

> [i]n [some] secondary schools, students are often asked to choose between an arts sequence of study and another 'more academic' sequence such as a three-year foreign language study or an advanced sequence in mathematics or science. The standard high school program does not [always] have enough time set aside for art *and* advanced academics" (Fineberg, 2004, p. 115).

As well, accessibility to programming is inevitably more difficult in certain subject areas where there are small school populations, reduced budgets or few fine arts generalists/specialists available (Alberta Education, *2006/07 Satisfaction with Education in Alberta Survey*). This becomes more evident in rural populations (Alberta Education, *Accountability Pillar Summaries for Alberta School Jurisdictions*, 2007).

Many of the fine arts programs are compulsory in the elementary programs, and in some intermediate programs in Canadian schools (Bajard, 2005); however, as the grades increase, the disciplines are often taught by teachers or subject specialists as optional programs where students opt into the program where programs and space in the programs permit (*National Symposium on Arts Education*, 2004, Appendix H). Data collected by the province in Alberta Education's *2006/07 Satisfaction with Education in Alberta Survey* has indicated a desire for growth, development and accessibility in the fine arts programs (urban and most notably rural), especially in the areas of drama and art (primarily board members, and secondarily, teachers, p. 12). Although many schools make great efforts to incorporate fine arts opportunities into their programs, high schools, in particular, fight against the limits imposed on them by time and budget (Fineberg, 2004, p. 165). Many special fine arts school programs, e.g., in charter schools, are attempting to experiment with different scheduling opportunities and longer school days (Fineberg, 2004, p. 168).

SUBJECT EXPERTISE

There has also been an ongoing argument about whether the fine arts should be taught by generalists or specialists in K–12 schools (McWhir, 2005). It appears that "[a]n essential condition for successful arts programming is expertise … [However], [b]ecause of the opportunities educators have to partner with arts organizations to create arts-integrated instruction, no one person has to be expert in both the arts and education" (Fineberg, 2004, p. 150). However, it is an ideal situation, should it be possible, to have both the expert and teacher in the same role. It does appear that the need for specialization (individual/collaborative) or "connoisseurship" (Eisner, 2002, p. 57) increases with the sophistication of the program and its increasing levels of understanding as the grades increase.

CURRICULUM ORGANIZATION

Most recent arts programs are structured around common organizing concepts across the arts disciplines in these three areas: 1) creative expression; 2) context; and 3) critical response. Fine arts programs of study use slightly different language in each discipline to reflect their subject content. However, many of the core and complementary programs of study have some commonalities in terms of their curriculum organization and outcomes. Therefore, the arts fit in

nicely to support various aspects of these programs. For example, in the English Language Arts K–12 programs of study, the learning strand "Representation" (*re*-presenting ideas in a new form to show connections of conceptual understanding) could encompass any number of the fine arts. New arts programs in many jurisdictions are attempting to organize common learning concepts so that these ideas can extend across the art disciplines as well as across other subject areas. In almost all of the recent arts programs and instructional materials, there are links to daily life, other subject areas and technology (McWhir, 2005).

SUBJECT INTEGRATION

Subject integration is encouraged in the educational field of fine arts (complementary, core, and technology) within existing programs of study frameworks with subject-specific outcomes (Wyman as interviewed by Willingham, 2005). However, "Bresler (1995, as cited by Mishook & Kornhaber, 2006) looked at qualitative studies that examined arts integration in action. She found that most examples of art integration were 'subservient,' where the 'arts served to spice [up] other subjects" (pp. 4–5). There is a concern expressed in the fine arts communities that the arts disciplines' content and knowledge and skills pedagogical delivery is sometimes compromised or "watered down" in these integrated situations if they are not planned well (Mishook & Kornhaber, 2006; Appel, 2006).

TECHNOLOGY INTEGRATION

In Alberta, like other provinces, technology integration is encouraged and supported. Alberta began implementing its K–12 Information and Communication Technology (ICT) Program of Studies from 2000 to 2003. This technology curriculum "provides a broad perspective on the nature of technology, how to use and apply a variety of technologies, and the impact of ICT on self and society. Students in Kindergarten through Grade 12 [are] encouraged" to integrate the general and specific technology outcomes as they pertain to core curriculum (Alberta Education, 2000–2003, p. 1). Teachers of complementary subjects are also incorporating some of these ICT outcomes/opportunities into their fine arts programs. However, it could be speculated that not all fine arts programs in Alberta have adequate accessibility, resources and knowledge to infuse technology into these growing noncore programs. Regardless of some of these obvious challenges, technology integration is being explicitly encouraged within some Canadian contexts. For example, in British Columbia (BC), "the BC information technology curriculum is being integrated into *all* new curricula" (McWhir, 2005, p. 37). Technology integration is being recognized by those who use it in the fine arts: 1) to afford students the ability to extend opportunities for research and expression; 2) as a greater means for school, community and global communication; and 3) to prepare students to be productive members of the arts-oriented information technology world (Schwall, 2005, p. 26).

> *Technology has a significant presence in the atelier workshop (Schwall, 2005, p. 26).*

ASSESSMENT

The "two core aims of arts subjects—the consumption and production of artefacts—we can see that much of the work in which students engage [is] of an open-ended nature (Black, et al., 2003, p. 70). As a result, unlike the core subject areas, there are no provincial assessment or achievement standards in the fine arts complementary disciplines in Alberta. However, "[m]any dedicated educators have developed clear guidelines for assessing the arts (Armstrong, 1994; Burz & Marshall, 1999; Wisconsin Department of Public Instruction, 1997; all cited by Jensen, 2001, p. 106). The Alberta Assessment Consortia (2008) provides multiple assessment tools for fine arts teachers.

Although some educational stakeholders seek to standardize some of the fine arts learning outcomes (Burnaford, 2007), there is another school of thought regarding assessment in the fine arts. New brain research suggests that "art-making develops many essential neurobiological systems. The difficulty with this is that you cannot directly measure any complex system … Arts are not "efficient"—and what they are effective for, we normally don't measure … " (Jensen, 2001, pp. 106–107). "The route by which any child arrives at the finished product will vary and, to an extent, what is important is the reflection or moment of inspiration that has taken place along the route" (Black, et al., 2003, p. 70). In many cases, the arts are designed to prepare students for the participation in, and a celebration of, their culture, and these types of outcomes are difficult to measure and are often unique to each program.

> *The aim of the educational process inside schools is not to finish something, but to start something. It is not to cover the curriculum, but to uncover it (Eisner, 2002, p. 90).*

EMPLOYABILITY

With regard to employability, the Conference Board of Canada's *Employability Skills 2000+* has made recommendations in three necessary skills categories: 1) fundamental skills; 2) personal management skills; and 3) teamwork skills. Essentially, "[w]hat employers are telling all of us in education is this: 'We want thinkers, we want people skills, we want problem solvers, we want creativity, and we want teamwork'" (Jensen, 2001, p. 9). Canadian employers are noticing a need for employees who are well-equipped to communicate and problem-solve (R. A. Malatest & Associates, Ltd., 2005, p. 12). "[E]mployers were least satisfied with graduates' [all graduates from Alberta high schools, not fine arts specifically] ability to think and solve problems (60%)" (p. 11). Fine arts programs do and can address these types of employability skills in a variety of innovative ways, although these opportunities are not always fully understood or optimized in some fine arts programs (Fineberg, 2004; Jensen, 2001).

The rationale proposed by some is that experience in the arts develops initiative and creativity, stimulates the imagination, fosters pride in craft, develops planning skills, and in some arts fields helps the young learn how to work together. All these personal attributes are vocationally relevant. Thus, even though the projects students work on in an art class might not look as if they have much to do with the workplace, they are very much a part of the "skill set" students need to become productive workers. (Eisner, 2002, p. 34).

PARENT INVOLVEMENT

The fine arts are found to be a valuable link between the school and community by providing a vehicle for which the educational community, e.g., parents, community members, school and other educational stakeholders, can enter into the lives of the students through their fine arts school experiences. "The arts make student learning visible. And the visibility attracts parents. Moreover, the effect seems remarkably consistent across regions, cultures, and peoples" (Sikes, 2007, p. 3). There appears to be a strong correlation between parent engagement and school quality (Sikes, 2007, p. 5). When the parents are directly or indirectly involved, they help make connections because they have familial frames of reference with which to guide their children.

The arts programs involve parents in many school-community interactions such as public exhibitions/performances, communication of achievement through project-based learning and folklore and local history. In the *2006/2007 Satisfaction with Education in Alberta Survey*, Alberta parents seem generally positive about the fine arts programs being offered to their children. "Students, parents (K–12), teachers and board members indicated that they are satisfied with the variety of courses available to students (71% to 87%)" (Alberta Education, 2007, p. 5). The arts have been found to help forge strong relationships among students, educators, parents and the community.

Effective Practices in K–12 Fine Arts

It seems important at the outset of this section on effective practices, to reference the national policy review in the National Symposium on Arts Education (NSAE) *Policy guidelines for arts education in Canadian schools* (2004) constructed by various Canadian fine arts stakeholders. This document, although more current, has some similarities to the American *National Standards for Arts Education* (Consortium of National Arts Education Association, 1994). It seems prudent to consider the section within the Canadian guidelines entitled "Learning in, through, and about the arts" in its entirety. This reference can serve as a starting point in the review of current effective practices in the fine arts as they pertain to Alberta in this Canadian context in the 21st century.

> Arts education includes learning in, through, and about the arts and is a vital part of the core curriculum in schools. NSAE recommends that

1. Students engage in the processes of creating, presenting, and responding, giving them a firm foundation in the practices and principles of the individual art disciplines
2. Students engage in structured arts learning experiences that value intuition and imagination while developing technical and personal skills and a commitment to high standards (learning in the arts)
3. Students learn to respond with critical awareness and sensitivity to their own work and the work of others through cumulative experiences in the arts (learning in the arts)
4. Students demonstrate, through cumulative experiences in the arts, an understanding of the value of the arts throughout history, as their heritage, in their daily lives, and in the shaping of cultural identities within local and global contexts (learning about the arts)
5. The arts be infused throughout the curriculum, building upon a strong curriculum within each art discipline (learning through the arts)
6. Arts education includes meaningful interaction among artists, students, and teachers as well as collaborations with arts organizations in the community (p. 2).

It is important to consider these recommendations (NSAE, 2004) and other current theoretical and practical research that will help to build on these fine arts foundations of effective practice for the benefit of student learning in the following areas: constructivism; inquiry-based learning; differentiated instruction; process and post-process; learner engagement; learning domains; metacognition and meta-processing; subject and technology integration; contextualization; assessment *for/as* learning; and connoisseurship.

CONSTRUCTIVISM

> *I believe that we need to provide opportunities for students to engage in language learning opportunities in which they have a certain amount of power and control (Lundy, 2002, p. 31).*

Educational theory and practice in the arts have moved away from teachers being the sage on stage whose perceived traditional role was to transmit knowledge and skills to their students. Three seminal thinkers have helped to develop a constructivist ideology: John Dewey, Jean Piaget and Lev Vygotsky (Abdal-Haqq, 1998; Freedman, 2003; Fogarty, 1999; Kozma, 2003; Prater, 2001; as cited by Black, 2003). In this mode of instruction, teachers have become facilitators and mentors in the classroom helping students to be responsible for their own learning. Teachers and students collaborate together to construct knowledge in an active/interactive learning format. "A lesson can contain activities and involve resources that require students to engage actively in the discovery process", and this is particularly evident in fine arts learning environments (Lang & Evans, 2006, p. 220).

The belief that reality is not found outside us, but rather created or constructed within us is central to this approach … The constructivist model of learning has instructional implications such as the following:

- … Constructivist teachers assume the roles of facilitator, co-learner, guide, and mentor …
- … Students actively participate in their own learning through play, interaction, and experimentation rather than passively absorbing information …
- … Inquiry-based teaching employs carefully designed broad questions that challenge learners to use critical thinking, problem solving, self-directed learning, and collaboration, as well as both discipline-specific and interdisciplinary knowledge …
- … Learning is a social activity…Interaction, conversation, and the application of knowledge about culture are central to developing a constructivist environment in the classroom … (Manitoba Education, Citizenship and Youth, 2003, pp. 8–9).

> *What is the modus vivendi in the classroom? What is its sense as a community of practice, and how does it relate to what students experience and learn? (Eisner, 2002, p. 71)*

Generally, " … [s]tructures and frameworks for learning are negotiated with each individual class. The starting place is the same perhaps, but the journey is always different" (Nyman, 2002, p. 26).

Constructivism has become more popular in education because the cognitivist approach to learning has replaced the more traditional behaviourist pedagogy. The latter requires that students rehearse their learned skills to mastery through direct instruction. Whereas, with the cognitivist view of education, fine arts students "build personal representations of knowledge through active individual experiences within the social context of the classroom" (Lang & Evans, 2006, p. 342).

INQUIRY-BASED LEARNING

> *One might say that arts education should foster the ability to carry on those fine-grained discriminations that constitute qualitative forms of inquiry (Eisner, 2002, p. 91).*

Inquiry is defined as "to ask about," "to search into," or "to make investigation" (Websters II, 1984, p. 169). Fine arts students in this model of learning that directly supports the tenants of constructivism should be developing questions as actively as they are finding answers. Teachers in the various disciplines can guide students toward a specific discovery or understanding, or the students can be free agents, with supervision, setting up problems in response to the fine arts programs of study expectations. In either case, students are encouraged to search for convergent (single answer) and divergent (multiple answer) possibilities.

> Even in traditional teaching, questions are an integral part of any classroom. Within the parameters of constructivism however, questions may or may not be asked in traditional ways. The answers to these questions almost invariably lead to a deeper exploration into the student's work. … In the constructivist art room, [for example], questions should flow freely from teacher to student, student to teacher, student to student and amongst the students themselves. Questions, in this case, should be used to construct higher levels of meaning and therefore lead to learning … Asking higher-level questions naturally lead to deeper understanding of issues. (Cross, 2003, p. 12)

> *Creating conditions that reinforce inquiry must be systemic and sustained. Inquiry-based teaching and learning pay special attention to motivational factors, provide opportunities for social interaction, and create active learning environments (Audet, 2005, p. 8).*

It is important to recognize that inquiry-based learning is no longer simply considered synonymous with the scientific inductive method of inquiry, although there are some similarities in certain educational contexts. The looser more qualitative premise of this approach found in the arts programs encourages that the students need to: 1) identify a topic and learning outcomes for the program; 2) create questions; 3) gather data; and 4) interpret these findings. However, what is most important is that the students then learn to activate this information into some meaningful form, process or outcome (Lang & Evans, 2006; *Focus on Inquiry,2004)*.

DIFFERENTIATED INSTRUCTION

> Differentiating instruction means creating multiple paths so that students of different abilities, interest or learning needs experience equally appropriate ways to absorb, use, develop and present concepts as a part of the daily learning process … it is now recognized to be an important tool for engaging students and addressing the individual needs of all students. (*Enhance Learning with Technology*, 2008)

Differentiated instruction attempts to incorporate new educational research into a methodology that accommodates all fine arts learners. The three areas of research that are permeating the work of differentiated instruction (*Part Two*) in the arts are the following:

1. Intelligences (habits of mind, Costa, 1991; multiple intelligences, Gardner, 1993; successful intelligences, Sternberg, 1996; emotional intelligence, Goleman, 1995; Goleman, 1998; and intelligence quotients, Covey, 2004)
2. Thinking styles (creative and critical thinking taxonomies: Bloom, 1956; Quellmalz, 1985; Krathwohl's affective taxonomy, 1964; Williams's creative taxonomy, 1989)
3. Brain-based research (Jensen, 1998; Hart, 2002; Sousa, 2003; Sousa, 2006)

It is especially important in the creative fine arts programs to acknowledge that all learners have different styles, abilities and unique frames of reference.

> *Dance … is an art form that offers teachers another concrete means to address the diversity and multiplicity of intelligences that make up a typical classroom (Jackson, 2002, p. 20).*

Because fine arts education is multidimensional and filled with a multitude of learning strategies for multiple learning styles with multiple learning benchmarks to indicate success, these programs can be challenging to assess. Therefore, it is important to consider how performance-based assessment (Alberta Assessment Consortia, 2000) and/or assessment *for/as/of* learning are used within the programs (*Re-thinking classroom assessment with purpose in mind*, 2006); Assessment for/as Learning, *Part One*. As well, it is helpful to consider the following when planning for and reflecting on differentiated instruction:

B = Building safe environments
R = Recognizing and honouring diversity
A = Assessment [*for* and *as* learning]
I = Instructional strategies [with opportunities for projects, creativity, problems and challenges]
N = Numerous curriculum approaches (Gregory, 2002; as cited by Gregory, 2005, p. 149).

> *One of the clearest and most important revelations stemming from brain research is that there are no "regular" students (Rose & Meyer, 2002, p. 38).*

PROCESS AND POST-PROCESS

How teachers choose to help students create and appreciate art forms is being considered and reconsidered by researchers. Two dominant approaches in educational literature attempt to explain the act of appreciating and creating art: *process* and *post-process*. Until recently, process has been accepted whole-heartedly as a good way to instruct the humanities (Conrad, 1990; Silberman, 1989) and, in turn, the fine arts. However, in progressive fine arts programs it is important to consider both schools of thought when theorizing and instructing in the arts. Teaching these creative programs warrants structured and flexible approaches to instruction.

Process

The fine arts process "can be viewed as complementary to that of writing" (Koster, 2000, p. 434). The foundational process theorist Donald Murray (1972/2003) describes his process in very simplistic terms: pre-writing, writing and re-writing. Koster (2000) compares a similar writing process framework (unidentified) with an art process framework where writing=art: 1) prewriting=rehearsal; 2) drafting=sketching; 3) revision stage=same for both; 4) peer share=same for both; 5) revision stage=same for both; 6) production=same for both; 7) editing=same for both; 8) teacher conference=same for both; 9) publishing=presentation. Helmholtz and Wallace (1926, as cited by Emig, 1971) were instrumental in developing another foundational process language with terminology which can translate to other artistic disciplines: 1*)* preparation (investigation); 2) incubation (not consciously thinking about the problem; 3) illumination (ideas emerge); and 4) verification (validity of idea is tested and put into form).

These and other renditions of this cognitive approach to learning have been turned into practice in many classrooms over the past 30 years because the concept of process has value and merit. However, this methodology should not be used to the exclusion of other teaching strategies (Robinson, 2007).

> [Process] is explained by the grandfather of process theory, as "the process of discovery through language. It is the process of exploration of what we know and what we feel about what we know through language … It is not a rigid lock-step process …" (Murray, 1972/2003, p. 4). Yet, it is often taught (as it is sometimes presented in our textbooks or how textbooks are interpreted by teachers) in a linear and formulaic manner … So what type of process is it then? Whose process is it? (Robinson, 2007, p. 19).

Post-process

The post-process theorists have responded to these extreme versions of the cognitive process theory. Post-process theorist, Breuch (2003), explains that there should be a re-examination of our definition of [process] so that it is seen as "an activity rather than a body of knowledge, our methods of teaching [are] indeterminate activities rather than exercises of mastery, and our communicative interactions with students [are] dialogic rather than monologic" (p. 99). In other words, the language of process theory can sometimes frame the thoughts of writers/artists to the degree that they feel unable to think beyond it and the prescribed process frameworks (Robinson, 2007).

The post-process theorists believe that creating anything is a free experience and, in some ways indescribable and, in extreme post-process theories, unteachable. However, post-process methodology has great merit because teachers need to mentor the organic fine arts experience through ongoing dialogue with students. These teachers or "connoisseurs", who see "what others may miss seeing" (Eisner, 2002, p. 187), help students develop their ideas as they evolve and explore opportunities within each unique artistic experience.

Research (Robinson, 2007) indicates that both the codifiable process and less-codifiable post-process theories have their place in fine arts instruction. It is important to provide some recommended process structures as to how students can create and appreciate fine art. The freedom to explore art forms beyond these boundaries should also be encouraged.

> *Once students learn to feel the satisfaction of a creative process that involves preparation, appropriate agonizing and practising, and then executing these skills, they will have the confidence to do it again. By doing this, we teach them that learning doesn't happen all at once. They need to also learn to do work that is messy, redundant and [sometimes] un-enjoyable. Long-term gratification pays off … but if we, as art agents, are not persistent in modelling this in our classrooms, students will never know [the rewards of such efforts] (Robinson, 2003, p. 27).*

LEARNER ENGAGEMENT

> *There must also be a meaning and relevance to the work — a reason to engage (Jackson, 2002, p. 21).*

Despite our efforts to authentically engage the students so that our program has "clear meaning and relatively immediate value to the student[s] …" (Schlechty, 2002, p. 1), they are often, at best, "ritually engaged" where the "assigned work has little or no inherent meaning or direct value [but they] associate it with extrinsic outcomes and results that are of value" (p. 1). It becomes the job of the fine arts teacher to help students move beyond this state of ritual engagement to a more purposeful and meaningful educational experience within these programs. When students are engaged, they are often experiencing a state described as "flow." Flow is an "optimal experience, a state of concentration so focused that it amounts to absolute absorption in an activity" (Csikszentmihalyi, 1990, p. 6). Belitz & Lundstrom (1998) extend this definition by saying that "[f]low is the natural, effortless unfolding of our lives in a way that moves us toward wholeness and harmony" (p. 2).

It is difficult for teachers to design programs where all of the students in the classroom will experience this type of intense occupation. However, teachers need to insure that "[t]he task, activity, or work … is associated with a result or outcome that has clear meaning and relatively immediate value [to the artist]" (Schlechty, 2000, p. 1). They must always consider that how they engage their students is as important as what they expect their students to learn.

> *The object, which is [at the] back of every true work of art, is the attainment of a state of being, a state of functioning, a more than ordinary moment of existence (London, as cited by Jackson, 2002, p. 21).*

LEARNING DOMAINS

Researchers have identified five learning domains within which students interact with different parts of themselves to learn and grow: 1) cognitive (thoughts); 2) affective (feelings); 3) spiritual (inspirations); 4) physical (body responses) and 5) conative (motivations). Fine arts teachers who are aware of and activate the various learning domains and the types of learning that occur within and among each interdependently are likely to offer innovative and well-rounded fine arts programs.

1. **Cognitive:** Educators are often more familiar with the cognitive intelligence (IQ: Intellectual Quotient) which has been valued in our education systems and is highly tested and considered carefully when determining student aptitude in our classrooms. It refers to "our ability to analyze, reason, think abstractly, use language, visualize and comprehend" (Covey, 2004, p. 50). This type of thinking is often referred to as the cognitive domain of learning.

> *Researchers' preoccupation with the efferent is exemplified by their focus on Piaget's work on the child's development of mathematical and logical concepts and the continuing neglect of the affective by behaviourist, cognitive, and artificial intelligence psychologists. This is slowly being counterbalanced by growing interest in the affective and the qualitative (Rosenblatt, 1994/2005, p. 30).*

2. **Affective:** Goleman (1995) also references the importance of emotional intelligence (EQ: Emotional Quotient), also referred interchangeably with other educational researchers as the "affective learning domain," which considers such things as "… self-awareness, managing emotions … empathy, and social arts" (Parry & Gregory, 2003, p. 91).
3. **Spiritual:** Covey also talks about Spiritual Intelligence (SQ) as being "the central and most fundamental of all the intelligences because it becomes the source of guidance for the other [domains]. Spiritual intelligence represents our drive for meaning and connection with [our perception of] the infinite" (Covey, 2004, p. 53) or other energy sources. This could be considered an extension of the meta-affective domain, but much research indicates that it is a separate way of experiencing the world and learning, (Covey, 2004; Hawley, 1993; Ruiz, 1997; Ornish, 1998; Walsch, 1996; Walters, 1990). This is true especially in the fine arts where experiences and inspirations are, at times, abstract and unexplainable. Although the word "in*spir*ation" comes from the word "spirit", the spiritual domain does not have to be connected to any specific belief or faith; rather, it is about the various sources of inspiration that energize and activate us such as nature, collective community and meditation.
4. **Physical:** The body impacts the creative state (PQ: Physical Quotient). As in sports, the functional body creates an optimal artistic experience. Controlled double-blind scientific laboratory studies are producing increasing evidence of the close relationship between body (physical), mind (thinking) and heart (feeling) (Covey, 2004).

> *Many people are so accustomed to being out of touch with the body that they live entirely in a mental world. The fact that the body and mind are interconnected might even be hard for them to believe … (Brach, 2003, p. 98).*

5. **Conative:** Riggs (1998) refers to three learning domains—cognitive, affective and conative (motivation). She, like others (Jasinski, 2004), find conative to be a necessary domain to balance the other learning functions. It includes the elements of engagement (Schlechty, 2002), discipline and determination and it is with these attitudes that learners function and screen their understanding of the learning that they "allow" themselves to experience in their fine arts programs.

There are several types of learning models that attempt to explain learning (*Part Two*) such as "learning systems" (Given, 2002, as cited by Gregory, 2005, et al). However, the above learning domains (Robinson, 2007) identify and explain some of the subtler dispositions of learning found in the fine arts.

METACOGNITION AND META-PROCESSING

> *Costa [says when] you hear yourself talking to yourself … if you [are] having an inner dialogue inside your brain and if you evaluate your own decision-making/problem-solving processes—you [are] experiencing metacognition (Fogarty, 1994, p. xi).*

"Decentring" is a term used by Piaget to reflect an advancing stage of cognitive development in children where they can empathize and step outside of themselves to reflect upon their experiences (as cited by Lunsford, 1979, p. 39). "[M]eta: [refers to] hovering above or beside the main flow, aware of what is happening rather than being immersed and lost in it" (Goleman, 1995, p. 47). This type of "meta" thinking is common in educational settings as it is referred to as "meta-knowledge" (thinking about your thinking) and "meta-memory" (understanding your memory processing) interchangeably with the notion of metacognition (Flavell & Wellman, 1977; Flavell, 1979). "Metacognition is traditionally defined as the experiences and knowledge we have about our own cognitive processes" (Flavell & Wellman, 1977, p. 71). When students are metacognitive, they are able to reflexively plan, monitor and evaluate (Fogarty, 1994) their "thinking" experiences.

> *Conscientious arts educators must engage in a fair amount of metacognition … It is only with programs requiring active involvement in the creative processes and critical analysis of the arts that their crucial role in the curriculum of every child is defensible (Harris, 2003, p. 13).*

These ideas expand when the different types of thinking are considered. These types of brain capabilities are often referred to as "intelligences" (Covey, 2004) or "learning domains" (Riggs, 1998) (see Learning Domains, *Part One*). However, when the abilities within these domains are reflected upon, this process of understanding begins to resemble "meta-knowledge" (Flavell & Wellman, 1977) in the form of "meta-processing" (Robinson, 2007).

> Meta-processing is the knowledge of one's own knowledge, the processes, as well as the cognitive, affective, motivational, spiritual [and physical] states and the ability to deliberately monitor and regulate these experiences. This definition of expands upon the definition of "metacognition" given by Hacker, Dunlosky and Graesser (1998) which only included the first two domains: the cognitive and affective (Robinson, 2007, p. 43).

With meta-processing, students are encouraged to reflect upon their thoughts (metacognitive), feelings (meta-affective), motivations (meta-conative), inspirations (meta-spiritual), and body reactions (meta-kinesthetic). This mental dialogism considers all aspects of learning highly prevalent in the creative fine arts disciplines. Although these meta-learning domains are categorized and defined separately in order to distinguish their features and functions, they are intricately connected.

Meta-questions or conversations could resemble the following:

1. Metacognitive: What fine arts strategy have I used? Is it working? If not, what alternate strategies could I use?
2. Meta-affective: What am I feeling most strongly about in this fine arts learning experience? How are my feelings impacting my learning?
3. Meta-conative: What motivates me in the arts? What blocks me? How can I motivate myself?
4. Meta-spiritual: Where did the idea come from? What inspires me?
5. Meta-kinesthetic: Am I tired? How am I breathing? How is my present body experience influencing my learning in the arts? (Robinson, 2007).

Some educators incorporate a series of questions in journaling activities to help students reflexively prepare to create, before, during and after the activity. "This activity help[s] students create a platform for their [thinking and] emotions … (Collard-Wiebe, J., 2003, pp. 23–24). "In other words, part of the nature of the [fine arts] is to assess quality and learn how to apply those judgements to one's own work. Much of the role of the teacher is to apprentice students into this process" (Black, et al., 2003, p. 71).

SUBJECT AND TECHNOLOGY INTEGRATION

> *Research indicates that arts inclusion enhances cognitive engagement among students; provides a better sense of ownership of learning; improves attention, engagement, attendance and perseverance among students; provides unique avenues for parent and community involvement; and inspires positive transformation of school community and culture (Appel, 2006, p. 15).*

The power of integrating the fine arts with other subject areas is evident in successfully run integrated programs. "Integrated lessons that blend the concepts of more than one subject, reflect how people naturally think, engage student interest, and tap higher-order thinking" (Sikes, 2007, p. 15). However, successful subject integration takes considerable preparation and thoughtful implementation because it is a complex educational concept (Burnaford, 2007).

> When discussing an arts-integrated curriculum, the usual definition is that the arts are infused or injected into a non-arts subject or domain. But there are many obvious opportunities to infuse historical or mathematical or scientific knowledge into an arts domain. Consequently, it is important to consider an arts-integrated curriculum as multidirectional" (Fineberg, 2004, p. 104).

How the arts link with other subject areas and "technology" [see Terminology of Key Research Constructs, *Part One*, p. 2)] can be done in myriads of ways such as following: project-based learning; thematic instruction; transfer of knowledge across artistic and nonartistic disciplines; using art to enhance the study of academic disciplines; using technology outcomes to enhance the study of the fine arts; interdisciplinarity among different art forms. The key difference in each integrative experience is how dominant or subservient the fine arts outcomes are within its integrative model. The most successful integration has been found to "grow from state curriculum standards in both content areas and the arts" (Catterall and Waldork, 1999; as cited by Mishook & Kornhaber, 2006, p. 4).

> Digital technology integration affords schools the opportunity to respond to the multi-faceted individual differences in our student population by providing more varied media, tools, and methods. Because of their inherent flexibility, digital technologies can adjust to learner differences, enabling teachers to 1) differentiate problems a student may have using particular kinds of learning media from more general learning problems; and 2) draw upon a student's other strengths and interests that may be blocked by the exclusive use of [traditional methods] (Rose & Meyer, 2002, p. 7).

Although digital media is similar to traditional instructional media because it represents information through text, sound and images, there is one substantial difference—flexibility.

> Digital media surpass traditional media in their ability to meet diverse students' varied needs in a variety of instructional contexts. This flexibility is inherent in the way digital content is stored and transmitted … Four aspects of digital media's flexibility are particularly beneficial for classroom application: versatility, transformability, the ability to be marked, and the ability to be networked (Rose and Meyer, 2002, pp. 62–64).

Technology and some technology expertise provided by the teacher or other mentor/aid is a powerful tool that enables students in the fine arts to explore and extend their arts experiences in multiple directions that are unique to this generation of fine arts students.

A concern of many fine arts educators, when considering amalgamating fine arts and other programs/technology, is that the arts will lose their "discipline" and "rigour" when combined with other learning outcomes. "The challenge to both those who develop curriculum guides and standards as well as to those who teach them is to ensure that in the process of arts integration, the meat of each discipline is not replaced by sawdust" (Fineberg, 2004, p. 104). It is important, then, to consider that:

> [t]he goal [of fine arts integration] is not to compromise the integrity of the [fine arts] disciplines, but to get them out of the silos, and to break down the barriers. Schools must be places where students are encouraged to think across differences, outside the walls of the subject, beyond the borders. The arts encourage this trans-disciplinary form of thinking and they also invite the intuitive leaps that are so important to creative problem solving (Wyman as interviewed by Willingham, 2005, p. 23).

Therefore, it is important that the integrative instruction is equally rigorous in both the academic and artistic domains.

How teachers integrate their arts programs with others, i.e., complementary, core and technology, to expose students to the wonders of the arts, without losing the "fine" in fine arts, is of considerable importance. It involves careful, collaborative planning by the school jurisdiction/division and school site with a long-term vision of what successful arts integration can mean. "Comprehensive professional development that offers resources and strategies for planning, implementation and assessment is critical" (Appel, 2006, p. 16). Showcasing what the students are capable of doing (process and product) also has an impact on future integrative planning. Having a very strong arts philosophy, vision and goal helps to ensure that "academic learning and art learning are two things in culture that go hand-in-hand … By organizing the school around arts learning, tested content can be introduced into the curriculum without displacing the arts" (Mishook & Kornhaber, 2006, p. 7).

> *The purpose of art education is not to induct individuals into the world of the professional art community. Rather its purpose is to enable individuals to find meaning in the world of art for life in the everyday world (Effland, 2002; as cited by Mishook & Kornhaber, 2006).*

CONTEXTUALIZATION

> *Historical and cultural understanding means appreciating the arts in the time and place of their creation and understanding how the arts both reflect and influence cultures (Manitoba Education, Citizenship and Youth, 2003, p. 5).*

> The National Symposium on Arts Education's *Policy Guidelines for Arts Education in Canadian Schools* (2004) recommends that quality arts programs provide opportunities to address: 1) cultural perspectives within multiculturalism and Aboriginal cultures and 2) diversity, which include socio-economic status, ability, gender, sexual orientation, race, and ethnicity. In so doing, quality arts education programs ensure that students are able to see their own cultural and life experiences within the curriculum (p. 3).

By looking at life, past and present, through unique fine arts lenses, students and teachers can appreciate their diverse histories and cultures in a multitude of ways. The arts help people establish who they are in terms of their own identity, school, community, culture and global society.

Exceptional fine arts programs help students find a stage, canvas, studio or other media/venue with which to focus their unique experiences and bring it into the foreground of their educational experiences. By doing so, students can share who they are and who they want to be in various artistic contexts. This deeper awareness of cultural and social differences can present many educational opportunities in the creative arts classrooms, such as exploring cultural traditions, ethnic diversity, transculturalism, social justice issues and, most importantly, the matters of equity, tolerance and respect for one another (National Symposium on Arts Education, 2004).

ASSESSMENT FOR/AS LEARNING

Fine arts programs are unique places of learning and require multiple ways of assessing understanding. For example, assessment can be product-oriented.

> An important data source for determining what students have learned is the art[ ] that students create. These works are potent sources of evidence regarding the outcomes of effective arts education when competence in qualitative reasoning is an educational aim … The work is an expression, representative of their ability to think intelligently about the perception and creation of the [arts] (Eisner, 2002, p. 92).

However, much of the assessment in the various fine arts occurs along the journey (see Process and Post-Process, *Part One*) toward an end product often defined as "assessment *for* learning", rather than "assessment *of* learning" (evaluative). As well, while students are metacognitive/ meta-processing, they are often involved in their own self-assessment referred to as "assessment *as* learning" (*Rethinking Classroom Assessment with Purpose in Mind* …, 2006).

Traditional arts assessment occurs in the following assessment strands: "1) knowledge/content of the art; 2) responses to art; and 3) performance-related questions" (Jensen, 2001, pp. 109–110). However, there is still considerable debate on the value of assessment and its need to legitimize the fine arts outcomes. Instead, much of the "lived" experiences of the creative arts occur in the moment, and are fluid and/or spontaneous. "Teaching the arts seems impossibly 'floaty'" (Black, et al., 2003, p. 71). "Much of the best art is spontaneous, interactive, or not required" (Jensen, 2001, p. 112). Teachers must capture evidence of this "nebulous" learning in performance "snap-shots".

> Performance assessment is a measure of assessment based on authentic tasks such as activities, exercises, or problems that require students to show what they can do … Performance tasks often have more than one acceptable solution … The process involves the use of higher-order thinking skills (e.g., cause and effect analysis, deductive or inductive reasoning, experimentation, and problem solving). Performance tasks … are frequently used for learning as well as assessment (Alberta Assessment Contortia, 2000).

In any performance assessment, it is always important to consider the following: 1) accuracy of the feedback (consistency); 2) quality of the feedback (constructive); 3) that students are involved in their own feedback (self-assessment); and 4) that teachers seek ongoing teacher development to improve their knowledge and skills within their own assessment practice (Black, et al., 2003).

> *Our tools, as useful as they might be initially, often become our masters (Eisner, 2005, p. 51).*

Performance assessment is about assessing the various parts of the whole experience, which can be done, but several researchers agree that:

> [y]ou can measure the parts, but [can you truly measure] the whole? You can take a snapshot, but what about the long-term view? … Arts provide learners with the opportunity to develop specialized brain systems, none of which are easy to quantify because they are the processes that allow for later results … Because these processes are not the results, testing the processes instead of results may encourage students to narrow their artistic input in hopes of focusing on a better grade (Jensen, 2001, pp. 110–113).

Therefore, it becomes particularly important for the teachers to be flexible in their assessment practice, and to be sensitive in the instruction of their students, knowing what encourages optimal artistic process and output (formative assessment), while still being able to gauge some evidence of the learning journey (formative and summative assessment). There is some research (Jensen, 2001; Wiggins & McTighe, 1993; as cited by Jensen, 2001; Wiggins & McTighe, 1998) that suggests a middle ground between traditional assessment methods and no accountability, which is making the arts courses "pass/fail". This system allows for "continuous feedback, not grades" (Jensen, 2001, p. 114) and requires some subject expertise.

> *To have evidence regarding educational practice has meant [unfortunately] to have scientific evidence (Eisner, 2005, p. 55).*

Connoisseurship

"[T]he range, richness, and complexity of educational phenomena occurring within classrooms are wider than what can [often] be measured. Some phenomena can only be rendered. It is this richness and this complexity to which educational connoisseurship addresses itself" (Eisner, 2005, p. 51). The connoisseur in the fine arts classroom is the one who has more expertise and experience than those around him/her, and is most typically the teacher, although there are often varying degrees of connoisseurship amongst the students themselves. These connoisseurs learn to recognize the refined attributes of the fine arts program. They have developed a high level of consciousness that makes them clear and focused at their craft/art/intellectual pursuit. The ultimate connoisseur is able to move beyond simply knowing art well, to being able communicate what he or she knows to be true to students. Connoisseurs are able to criticize exactly what is going on in the grey areas of the program—the discreet areas of human performance that are not always detectable, let alone assessable.

> *[G]ood educational criticism … should help readers or listeners see more than they would without the benefit of the criticism … To the extent that criticism is effective, it should illuminate qualities of teaching and learning that would otherwise go unseen (Eisner, 2005, p. 46).*

It becomes important for the connoisseurs to give ongoing private connoisseurship and public criticism of the artistic phenomena that they observe in their classrooms to their students. In conversation, most powerfully one-on-one, the students and teacher are able to transcend the initial artistic experience and move fluidly to various "next steps" in the creative process. Short conversations or comments are sometimes all that this type of mentoring requires. Vygotsky's (2004) description of the "zone of proximal development" expounds on the ability of the teacher to scaffold experiences for students so that students can span the gap between their present state of learning and the expertise of the teacher.

> However, [s]ometimes the ideal road is hard to get to: not all teachers are experts, and not all artists are at the top of their field. School leaders have to [then] ask themselves where the experts are in their buildings and how to best use them in providing instruction in and through the arts. They have to assess whether there is potential for expertise given opportunities for professional development and the time to practice new and improved skills (Fineberg, 2004, pp. 150–151).

As well, over time, the students, through the refining of their own abilities, can exceed some of the connoisseurship of the teacher. A wise teacher/connoisseur accommodates new connoisseurship into the program so that educational collaboration can occur among those students who have expertise and experience and those students who have less.

Recommendations for Core Learnings

Introduction to the Language of Core Learnings

"The essential goals of all arts education are to develop artistic perception, creative expression, historical and cultural understanding, and aesthetic valuing (Manitoba Education, Citizenship and Youth, 2003, p. 5). Many of the Canadian fine arts programs consider these goals and have curriculum targets that are set out as curriculum organizers, learner objectives, and in some of the new programs, outcomes. The most recent programs (Québec, the Atlantic Provinces, Manitoba and British Columbia), communicate learner expectations in terms of general and specific learning outcomes (Bajard, 2005, p. 2).

More traditionally, learning outcomes are an important part of any unit of study. They are clear statements of what a learner is expected to be able to do, understand or appreciate within the program. More specifically, effective learning outcomes should:

- Identify important learning requirements in the content of learning
- Use clear language
- Relate to different kinds of knowledge
- Be achievable and assessable.

The recommended core learnings featured in this research include other more discrete competencies, similar to the fine arts work done in New Zealand where the learner expectations in the arts are referred to as "key competencies". Key competencies are defined as "more than discrete skills and attitudes; they integrate all aspects of learning; knowledge, skills, attitudes and values; they offer an alternative way of viewing curriculum and a clearer focus for teacher practice" (O'Connor & Dunmill, 2005). In this case, there are similarities between the following recommendations for core learnings and the above description of "key competencies."

However, Eisner (2002) cautions us. "[B]eware, outcomes are what actually occur as a result of intervention, not necessarily what are intended to occur. If evaluation focuses only on what was intended, it is likely to miss outcomes that were unintended" (Eisner, 2002, p. 70). Therefore, although the guiding core learnings are helpful in defining and providing structure to the program, fine arts teachers should always be open to multiple possibilities in the living, creative curriculum of the fine arts programs.

Considerations for Fine Arts Core Learnings

When considering the curriculum organizers, objectives, outcomes and competencies from other fine arts programs and research it becomes clear that each subject discipline has a very unique and discrete language. Most fine arts programs of study, with the exception of some very recent efforts to incorporate some common language descriptors across the subject areas, e.g., in Manitoba, have independent, subject-focused curriculum descriptors using terminology that is unique to that discipline. The challenge in creating core learnings that are inclusive of all fine arts subject areas is finding a language that can encompass and effectively describe all of the necessary competencies of each discipline across the fine arts curricula as well as consider new research (Burnaford, 2007).

Therefore, it is necessary to turn to a language of "understanding" (Eisner, 2002; Robinson, 2007; Wiggins & McTighe, "facets of understanding", 1998) to help incorporate various attributes of each program and new fine arts theory into a common framework. By creating this core learnings model, it becomes possible to classify fine arts language unique to each discipline into a framework of conceptual understanding common to all of the arts. In other words, the outcomes are general enough to house more specific descriptors which in future curriculum design could become the foundational language of specific outcomes, unique to each subject.

This outcome framework introduces seven core learning statements to clarify the various expectations of the fine arts programs. These seven outcomes evolved as a result of a rigorous contrast-comparison among foundational researchers/curricula developers in this field. When an effort to reduce the number of outcomes was made, discrete details from certain curricula were overlooked or did not fit adequately into another outcome. These outcomes descriptors (competencies/skills/values/attitudes/knowledge), at this stage of research, are merely to remind readers of some of the discipline-specific descriptors found in other curricula and research. These terms or phrases are written as they appear in other documents. These descriptor lists are fairly comprehensive, but could be expanded to include other terminology. Again, these outcome "descriptors" are not intended to be "specific outcomes" typically found within formalized programs of study. However, these descriptors could form the basis of future research toward creating discipline-specific outcomes.

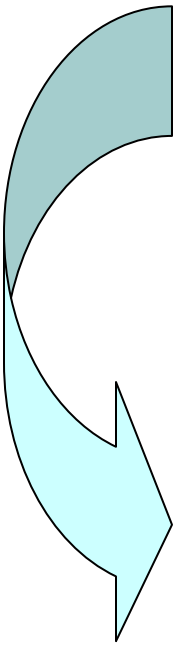
> *[Art] requires superior observation skills, the ability to process information and then apply it in unique ways and, perhaps most importantly, something of substance to communicate. The broader the intellectual education and understanding of the artist, the greater the chance that he or she will find the universal themes and insights common to great art (Prince, 2002, p. 3).*

Fine Arts Core Learnings K–12

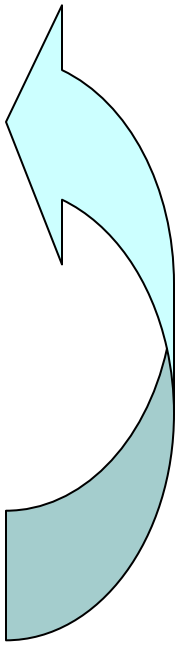
The purpose of this framework is to communicate key fine arts concepts and learner expectations in a flexible and effective manner. In doing so, there are some important considerations:

1. No core learning category is exclusive of another core learning category.
2. These outcomes are <u>not</u> set in an order of importance. In other words, the order of these outcomes is not intended to be a linear progression in the process of understanding, nor a taxonomy of understanding.
3. All core learnings are intended to be reciprocal and/or can happen all at once.
4. Outcome descriptors can be relevant to more than one outcome other than where they are initially classified within this framework.

CORE LEARNING STATEMENTS



1. Students will ***perceive*** their fine arts discipline and other artistic perspectives with aesthetic awareness and creativity.
2. Students will *acquire* critical, creative, expressive and/or transactional *language* to better understand the knowledge and skills of their fine arts discipline.
3. Students will *communicate* their creative perceptions and knowledge to collaboratively consider and learn more about their fine arts discipline.
4. Students will *apply* their learning by participating in process-oriented and product-oriented activities in their fine arts discipline.
5. Students will better *understand self* by learning to reflect on their ideas and experiences within their fine arts discipline.
6. Students will *contextualize* their learning in their fine arts discipline by considering aspects of time, place and culture.
7. Students will *integrate and extend on* their learning and experiences in their fine arts discipline with other subjects, technology and real-life (employment or other) opportunities.



CORE LEARNINGS FRAMEWORK

Core Learnings	Outcome Descriptors (worded as found in the historical and current curriculum/research contexts)
1. To Perceive	• Imagination • Creativity • Refined/discreet perceptions • Aesthetic awareness • Development of sight in the service of feelings • Appreciates another's situation, affect and point of view • Appreciates own creativity in the context of others • Empathy • Dispositional • Thinking
2. To Acquire Language	• Critical language • Creative language • Expressive language • Transactional language • Technical – Elements of structure – Elements of style • Verbal/non-verbal • Discipline-specific or inclusive • Conceptual understanding • Theory • Multiple ways of knowing • Subject orientation • Making meaning
3. To Communicate	• Cognitive expression • Affective expression • Discipline-specific forms of expression • Explain • Analyze • Interpret • Builds interpersonal and intrapersonal understanding • Responsive • Considers all five senses • Aesthetic criticism • Creative valuing • Reading, writing, speaking, listening, viewing and representing • Moving to learn • Discussing conceptual relationships • Playing to learn • Relating to others • Contributing

4. To Apply	• Process-oriented • Product-oriented • Creation • Experimentation • Exploration • Composition • Presentation • Participation • Representation of all aspects of understanding (skills and experiences) • Interplay of skills and creativity • Making connections • Improvisation • Directing
5. To Understand Self	• Accepts constructive input • Self-assesses • Reflecting • Self-monitoring • Reflexive strategies • De-centers to understand self • Intrinsic motivation • Authentic engagement • Frame of reference • Experiential • Flow of the experience • Learner relevant • Opportunity for choice • Meaningful • Metacognition • Meta-processing (metacognitive, meta-affective, meta-conative, meta-spiritual, meta-kinesthetic) • Managing self
6. To Contextualize	• Historical • Cultural • Situational • Personal • Time • Place • Community • Media awareness
7. To Integrate and Extend	• Make connections • Understand conceptual relationships within and beyond the fine arts discipline • Integrate into other subject areas • Use information and communication technology to support and extend the program – Communicating, inquiring, making decision and solving problems – Foundational operations, knowledge and concepts – Processes for productivity • Extend into present/future arenas of employment • Extend into real-life experiences

Indicators of Success

In light of the research orientation of the trends and effective practices in K–12 fine arts education, the following would indicate success in the various fine arts programs: 1) provincial indicators of success (academic, post-secondary/professional and personal); and 2) program indicators of success through the core learnings.

> *Artistry consists of having an idea worth expressing, the imaginative ability needed to conceive of how, the technical skills needed to work effectively with some material, and the sensibilities needed to make the delicate adjustments that will give the forms the moving qualities that the best of them possess (Eisner, 2002, p. 81).*

Provincial Indicators of Success

ACADEMIC

1. There are more students applying for admission into the fine arts programs.
2. Alberta attracts students from out of province into its fine arts programs (curricular and extracurricular).
3. There is an increase in the students' ability to accomplish the outcomes in each program of studies as measured by final grades.
4. There are increased numbers of talented and skilled students graduating from the fine arts programs.
5. Fewer students will drop out of school, and there will be reasons for an increased graduation completion rate connected to the fine arts programs.
6. There is evidence of multicultural and historical integration into the arts (process/products).
7. The fine arts programs are thriving, sustainable and capable of meeting the needs of a growing population of students; e.g., staff, resources and technology.
8. The educational stakeholders, e.g., teachers and administrators, are sensitive and capable of meeting the needs of diverse cultures within the fine arts disciplines through effective practices.

POST-SECONDARY AND PROFESSIONAL

9. Students are able to communicate a theoretical and practical fine arts language with other like-minded artists/students/professionals.
10. Students are employable and successful in the marketplace in related fields.
11. Students are able to integrate and extend their knowledge and abilities (subject/technology) in their respective fields of study or work.
12. Students are qualified and eligible to move into post-secondary fine arts programs.
13. There is a successful link and transition into post-secondary opportunities in related fields of study.

14. There are significant grants and gifts for students in the fine arts programs recognizing the needs and aspirations of this student population.
15. There is significant research developing innovative theory and practice in the fine arts and its importance and relationship with other fields of study.
16. New relationships between schools and "high-tech" schools and industries are evident.
17. New partnerships are formed with the entertainment/fine arts schools and industries.
18. Employability surveys indicate successful employee skill levels of new graduates and find correlations between this increase in performance and the fine arts-integrated and fine arts subjects.

PERSONAL

19. Students can communicate a theoretical and practical fine arts language with other like-minded people/artists.
20. Students can recognize a sense of self-satisfaction in the completion of their fine arts programs and in their ongoing fine arts experiences.
21. Students are able to demonstrate a practical application of fine arts knowledge and skills in their personal lives.
22. Students continue on a lifelong learning path in the arts by continuing to appreciate, support and/or enroll in fine arts opportunities as a result of their formative educational exposure in the arts.
23. Students encourage their friends and relatives/children to enroll in fine arts programs because of their positive experiences.
24. More audiences of varying age groups attend and support the fine arts programs.

> *Hard as it is to define, we know that the arts open our eyes, ears, bodies and minds to understandings that are only communicated through movement, sound and imagery. Students engaged in artistic expression communicate on a whole new level and think in very different ways than they do in other subject areas. Even if they never again create works of art, they can't "unlearn" those different ways of thinking (Harris, 2003, p. 13).*

Program Indicators of Success through the Core Learnings

Perceiving
• Students are able to think imaginatively and creatively. • Students have acute and refined artistic perceptions. • Students can demonstrate aesthetic preferences. • Students are able to consider other artistic perspectives.
Language
• Students know what to look for in their art and, in turn, broaden the language with which to communicate new understanding. • Students develop various types of language, e.g., critical, creative, expressive, transactional, technical and theoretical, to better understand their discipline. • Students acquire verbal and nonverbal language related to their discipline.
Communication
• Students are able to transform their artistic experiences into speech and/or text. • Students can communicate effectively verbally and/or nonverbally, and, in turn, can build, independently and collaboratively, a greater understanding of their art.
Application
• Students are able to represent relationships among the parts of their education to constitute a whole experience (process or product) (Eisner, 2002). • Students are able to demonstrate flexible purposing and can shift directions and solve problems as challenges within art outcomes arise (Eisner, 2002). • Students are able to appreciate and create ideas artistically.
Self-knowledge
• Students are intrinsically satisfied with their artistic experiences. • Students can explore their intrapersonal experiences: thoughts, feelings, inspirations, body reactions and motivations. • Students can reflect upon their strengths through multiple modes of learning.
Context
• Students can demonstrate their understanding through a variety of frames of reference and can shift frames with different artistic experiences. • Students can develop a critical understanding of the mass media. • Students appreciate the arts in the context of their local and global communities, can transcend social and cultural boundaries, and are able to honour diversity … (Manitoba Education, Citizenship and Youth, 2003, pp. 6–8).
Integration and Extension
• Students can make connections within and beyond their fine arts discipline into other subject areas and real-life opportunities (work and leisure). • Students are competent in the use of technology to develop, extend and represent their fine arts learning.

Interpretations and Implications

The province of Alberta grapples with many of the same fine arts educational trends and issues faced by other education systems. The ongoing matter of budget and school scheduling restraints are formidable obstacles in many education systems. Implementing new fine arts curricula, like the implementation of any new curriculum, can help rejuvenate the arts programs. Offering professional development to better understand the new language of the programs of study and support documents, e.g., theory and practice, as well as acquiring new fine arts materials and resources, can help bolster the profile of this field of study. Updating the fine arts curricula also puts Alberta on par with other progressive fine arts educational organizations grappling with educational best practice in the arts. In general, new implementation initiatives often lead to the development of new educational approaches and systems.

However, it appears that "[t]he one lesson learned in reviewing the history of support for arts education is that the advocacy war never ends. There will always be a tension between the arts and other parts of the curriculum" (Fineberg, 2004, p. 35), especially when money is an issue. It appears that some ongoing changes in the provincial and school board systems will be necessary to help sustain any new fine arts initiatives. "Good arts programs, if they are to serve a school's needs, require visionary and enabling leadership, sufficient time for planning and implementation of good ideas, and artistic and pedagogic expertise if they are to become viable supports for school reform" (Fineberg, 2004, p. 140). It is also important to review the state of the arts regularly using rigorous criteria to indicate the status and condition of the arts (Ruppert & Nelson, 2006).

The effective practices in the literature seem to have an ongoing dichotomy between the need for structure and flexibility. Curriculum in some other core subjects seems conducive to research that expresses the importance of clear and obtainable general and specific outcomes with standardized assessment targets (Burnaford, 2007). Whereas the literature surrounding the fine arts indicates that this type of curriculum structure is possible, even valuable, but not without the need for some curriculum elasticity. The literature clearly indicates that the fine arts need to be treated differently than other subjects. The challenge for curriculum, instruction and assessment developers is to design a clearly laid out curriculum framework considering all of the fine arts disciplines. While this framework will need to have discipline-specific outcomes and assessment targets, it will need to afford the teaching professional with the opportunities for organic/creative practice within these guidelines unique to each discipline.

The multiple indicators of success, through successful fine arts programs, are exciting possibilities for students graduating from the fine arts and entering into various roles in society. The benefits of having good arts programs with effective fine arts targets and standards seem evident in the literature because [t]he arts offer the following powerful benefits to schools:

1. They can cause parents to become engaged with schools and involved as partners with their children and their children's teachers.
2. They can connect children to their own cultures and the cultures of others.
3. They help students develop creativity, adaptability and other ways of thinking and working that are correlates of future school and life success.

4. According to mounting evidence, the arts are linked to students' general academic success and specific achievement in other subject areas (Sikes, 2007, p. 14).

Successful fine arts environments are found where teachers consider the unique learning targets and benchmarks of success in each fine arts discipline. They do so while developing programs for unique learners and learning circumstances (*Part Two*), using technology, and in the context of other subjects and real-life experiences.

In conclusion, the overarching theme of most of the literature is that much of the responsibility for the practice and assessment of these complex and creative subjects rests on the professional in the classroom. Having artist-teachers (connoisseurs) in the classroom seems to be the ideal for a fine arts program, although there are some ways indicated for the school to build collaborative expertise within the school and community. For example, it is advantageous to open up our fine arts programs to an even greater degree than is presently occurring and welcome the support of parents, artistic or otherwise, other fine arts community stakeholders and artists-in-residence. However, the need for teachers who can achieve the desired curriculum targets and standards through effective practices leading to optimal indicators of success cannot be overemphasized. Recruiting artists into the educational field or supporting teachers in continuing their arts education through post-secondary or professional development opportunities seems vital to the insurgence of new fine arts curricular theory and practice.

Part Two: Theoretical Findings

Work in the arts is not only a way of creating performances and products; it is a way of creating our lives by expanding our consciousness, shaping our dispositions, satisfying our quest for meaning, establishing contact with others, and sharing a culture (Eisner, 2002, p. 3).

Abstract

Part Two is a theoretical summary report with recommendations for the future fine arts programs of Alberta in light of an extensive review of current educational research. This research is done in the context of the 21st century in all four K–12 fine arts education disciplines—music, visual art, drama and dance—including some references to multimedia programs/initiatives. The research questions request a review of the role of the fine arts in relation to various educational, psychological and social concepts: 1) early childhood development; 2) personal and social development; 3) critical thinking; 4) creative thinking; 5) students at risk and high school completion; 6) multiple intelligences; and 7) brain research. The findings emerge in three categories of information: 1) conceptual background (the theoretical concepts are explained); 2) arts links (conceptual connections are made to the fine arts); and 3) educational implications.

Some current fine arts research cautions educators about the absolute evidence of the "transferability" of the arts into educational outcomes and proposes some limitations. The question of whether the arts are valuable for their transferability or usability in other educational domains, as opposed to holding their own value with regards to the learning dispositions that they foster, warrants additional consideration. The distinction between general correlations and causal relationships in the fine arts research, as it pertains to the seven categories of study, are made explicit.

The implications of these educational fine arts connections are examined in conjunction with *Part One,* which examined the following: 1) trends in teaching; 2) effective practices; 3) recommendations for core learnings; and 4) provincial indicators of success as well as indicators of success through the recommended core learnings.

Introduction

Research Problem and Methodology

This research summary was commissioned to investigate existing and current theories of learning in relation to arts education. The dominant research question appears to be "What is the role of the fine arts in promoting the educational experience of the whole student through his/her K–12 schooling?" In this literature review, relevant and current research, as it pertains to the guiding questions, is critically examined to consider the recent discoveries about the value of the fine arts to students psychologically, socially, academically, cognitively and creatively through various dispositions and intelligences, and in accordance with brain-based research. A synthesis of these discoveries is presented in three categories: conceptual background, arts links, and educational implications while also considering some of the academic controversies involved in these research topics. Interpretations and educational recommendations are incorporated into the literature review along with some overarching interpretive themes being presented in the summary.

The research methodology used for this project is that of a traditional literature review, unlike the conjoining project (*Part One*) where a constant-comparison methodology (Corbin & Strauss, 1990; Glaser & Strauss, 1967) is used in addition to a literature review format of study in order to draw out similarities and differences among the emerging research themes to make recommendations for the fine arts core learnings. In this literature review, small and large direct reference excerpts are included to safeguard the authenticity of the supporting research. To synthesize them would risk losing some of the credibility of the findings. In general, this literature review serves to compile foundational, current, relevant information about the benefits of the fine arts into a repository of reference information, while attempting to synthesize it and demonstrate connections between the concepts, arts and pedagogical implications of these theories.

Guiding Questions

5. What is the effect of arts education on early childhood development?
6. What is the role of arts education in personal and social development?
7. How is critical thinking developed through the arts?
8. How is creative thinking developed through the arts?
9. What is the role of the arts in meeting the needs of students at-risk and increasing high school completion?
10. What is the application of multiple intelligences theory in arts education?
11. What is the application of brain research in relation to arts education?

Terminology of Key Research Constructs

1. **Definitions of Art Education:** Arts education is typically understood to be about learning in, about and through dance, drama, music and visual arts. However, there appear to be multiple references. "Art learning" considers the cross-references of the social and cognitive realms of the art experience. "Arts in education" denotes "the centrality of art as both precipitator and repository of learning, teaching and schooling. "The arts and education" represents the reciprocal relationship between the two areas of inquiry (Gadsden, 2008, p. 30).
2. **Multimedia:** In addition to the four art disciplines of art, music, dance and drama, "[m]ultimedia represents a 'singular' integration of media objects, such as text, graphics, video, animation and sound to represent and convey information" (Simkins, et al., 2002, p. 11).
3. **The Correlation of Art Education and Psychology and Sociology:** Early childhood development and personal and social development are typically examined in the schools of psychology, psychoanalysis and sociology, with interpretations and lexicons unique to each of these fields of study. However, it becomes valuable to correlate educational experiences within these foundational stage/processes of development to consider how to promote and enhance the childhood and adolescent experience. It then becomes possible to consider how to optimize the fine arts "learning moments" within each field of study.

4. **Artistic Inquiry:** The three dominant types of artistic inquiry are the following: 1) aesthetic inquiry (questions the value, definition, meaning and nature of art); 2) critical inquiry (explores and investigates a specific piece or body of artwork); and 3) creative inquiry (explores creative expression) (Lampert, September, 2006). In this literature review, each mode of inquiry is considered in terms of critical thinking (convergent/deductive) or creative thinking (divergent/inductive).
5. **Students at Risk and High School Completion:** "Children at risk for school failure include children who have certain predisposing factors that may cause them to be low educational achievers. Among the factors causing children to be "at-risk" are prenatal problems, maternal drug/alcohol use during pregnancy, birthing problems, environmental toxins, infant diseases, or adverse socio-economic conditions … [B]eing at risk for school failure should not be viewed as an "all-or-nothing" state. There is a wide variation in children who suffer from at-risk conditions" (Thompson, 1995, pp. 391–398).
6. **The Language of the Unique Learning Mind:** "Howard Gardner … published a significant book suggesting that intelligence is not a unitary concept, that humans possess at least seven intelligences (recently these have expanded to include another intelligence), and that an individual is predisposed to developing each of the intelligences to different levels of competence" (Sousa, 2003, p. 34). Current researchers have also stated that there are various thinking, social and emotional dispositions that accommodate learning. Facione, et al. (as cited by Gadsden, 2008, p. 34) "refer to such dispositions as being represented in a core of attitudes for schools, intellectual virtues, and habits of mind." Dispositions are the tendencies to use existing skills (Lampert, September, 2006).
7. **Brain Research:** The biology of the brain is another way to examine the value of the arts. "Enhanced environmental stimulation can affect the brain in many ways … 1) metabolic allastasis; 2) enhanced anatomical structures; 3) increased connectivity; 4) responsiveness and learning efficiency; 5) increased neurogenesis and growth factors; 6) recovery from trauma and system disorders" (Jensen, 2006, p. 57). By examining these various biological responses to enriched learning environments such as the arts, it becomes possible to consider how to best promote the arts in optimal brain-compatible learning environments.

> *[T]he activities represented by the arts—dance, music, drama, and visual arts—are basic to the human experience and necessary for survival. If they weren't, why would they have been part of every civilization from the Cro-Magnon cave dwellers to the urban citizens of the 21st century? (Sousa, 2006, p. 213).*

Significance and Limitations

> *The arts—neither the panacea to ameliorate all that troubles us in education nor the beacon of all possibility—offer us a lens through which to examine long-standing questions, provocative ways to (re)consider creativity, opportunity to re-imagine engagement, and a renewed sense of possibility that can lead us to the formation of new epistemologies (Gadsden, 2008, pp. 54–55).*

The current fine arts research in education supports a fresh look at the value of the fine arts—music, art, dance, drama and multimedia—in our ever-growing and multifarious education system of the 21st century. However, the new findings indicate that there are more complexities and intricacies in the role of fine arts in education than were previously considered.

> Moreover, what counts as art and the arts is an equally and increasingly complex question … The arts in education have taken on a range of meanings, and not everyone concerned with the study of the arts agrees on what constitutes the arts … Some art may be seen as unique for the sake of art whereas other forms of art may be labelled as utilitarian … What are the characteristics of the knower of the arts, a learner of the arts, or a classroom that engages students through the arts? What socially constructed sense of the world does the learner, teacher, and researcher bring to the study and teaching of the arts? (Gadsden, 2008, pp. 35, 42–43).

Regardless of some of the ambiguity within the research surrounding the definitions of arts education, there continues to be an unwavering recognition of the importance of the fine arts for their own merit, as well as in the context of new areas of study.

> The arts matter to children. We know this as parents. We know this as teachers. And we know this from our memories of our own childhood. And now we have writings by knowledgeable authorities, reports by government committees, curricula from ministries of education, and research from expert academics, that document and articulate the role and power of the arts in the lives of our children. What we knew in our hearts was right all along (Booth, 2004, p. 9).

The various creative disciplines are demonstrating that they can help develop or enhance various dispositions of the educational participants. Credible suggestions are being made that the fine arts promote and, in turn, are developed through other aspects of thinking, learning and growing. "When art is integrated into the curriculum, the competency scores in other subjects have increased" (Funk, 1992; Gardiner, 1996; Jing, Yuan & Liu, 1999; as cited by Jensen, 2001, p. 9).

However, it is important to consider the research carefully as there are very few studies demonstrating what we would consider to be "causal absolutes" between the arts and other research (Catterall, 2002; Winner, 2006; Gadsden, 2008; Kamhi, 2007).

> Learning and the role that transfer (by whatever definition) plays are far more complex than simple conceptions allow; we see a range of different words in use to characterize learning such as "parallel," "entangled," "entwined," and "contextual," all of which suggest that not all transfer is alike and that it is not direct (Catterall, 2002, p. 154).

It is valuable to consider the positive "correlations" that we make when referencing the arts and other types of social, emotional, cognitive and whole brain development. However, these correlations must also consider the teaching of the arts. "Without knowing what is learned in art class [and how it is learned], we cannot possibly guess at what might transfer outside of the arts" (Winner, 2006, pp. 8–9). It seems that it is not always the fine arts themselves that create remarkable experiences for students in other psychological, sociological, emotional and academic outcomes. For example, "[o]ur experience suggests … that not all types of exposure to the arts are necessarily positive for all participants … [T]here are people who do not have happy memories of arts lessons in school and, consequently, as adults, tend to shun anything to do with the arts" (Karkou & Glasman, 2004, p. 60). Rather, it seems important to examine the manner in which the fine arts are delivered and how it is linked to meaningful arts outcomes.

The current fine arts research appears to be making a shift from justifying its existence to focusing on how it develops the whole child in the context of his or her real-life experience, in the global atelier. "Efland … argues that the arts are educationally important 'if and to the extent that they enable individuals to integrate their understanding of the world'" (Kamhi, 2007, p. 34). The fine arts visionaries see the arts as a means of building a broader view of the global cultural experience.

> As is true for multiculturalism in education, fundamental to the expansion of theory and pedagogy in the arts is the notion that educational institutions and educators themselves must support students in transforming existing practices for academic achievement, cultural understanding, social equality, and social justice (Gadsden, 2008, p. 37).

It is in this "transformation" (not the "transmission of knowledge") of learning in the arts classrooms and other subject areas, and its connections to real-life experiences, that the true value of the fine arts appear to be unfolding. The fine arts are striving to be seen for their own merit. "As Eisner (2002) implies, the arts must be studied not as a contrast to science or as a failure to be scientific but as a primary area of inquiry that draws on a range of conceptual frameworks" (Gadsden, 2008, p. 45). With this current objective in fine arts research clearly in mind, it is the hope that it will "move arts education research up one firm notch" (Winner, 2006, p. 17).

Because of this academic validation of the arts for their own sake, we are able to see the arts through new lenses using a variety of different languages. What seems to be abundantly clear in all of the rich diversity of the fine arts literature, past and present, is the recognition that the arts make a positive difference to students and their education. Therefore, it is increasingly important for us as educators to sustain and grow a healthy fine arts approach to education with this research in mind.

Research

Arts Education and Early Childhood Development

> *Every child is an artist. The problem is how to remain an artist when he grows up. Pablo Picasso*

What is the effect of arts education on early childhood development?

CONCEPTUAL BACKGROUND

"The arts are natural for young children" (*Young Children and the Arts,* 1998, p. v), and they appear to positively influence early childhood development. However, before understanding the connections between the arts and childhood development, it is important to understand why current research has found childhood to be an important foundational period of a person's life.

> Early patterns of behavior continue throughout life. Personality traits, attitudes, habits and even health status, established in the first five to six years, correlate highly with level of development and adjustment to life as an adult. Growth and development are continuous but occur in spurts instead of a progressive, upward direction. Physical, emotional, or mental growth may appear to be at a standstill for period of time. Growth is uneven and occasionally very rapid. [However, development is generally] definable, predictable, sequential, and continues through adulthood (Thompson, 1995, p. 37).

Children emerge and grow from a state of simple to more complex understandings … "from homogeneous to heterogeneous, and from the general to the specific" (Thompson, 1995, p. 38).

In order to better understand the process of childhood development, researchers refer to the trends and patterns of childhood development that they observe. "Stages [of childhood development] refer to qualitatively different cognitive or behavior patterns. At each stage, the major patterns are distinctive from those shown during the previous stage of development" (Thompson, 1995, p. 62).

> Piaget described four basic states of cognitive development, which represent the basic ways that children construct their understanding of the world. Each period involves reorganization in the child's thinking. The ages of children in each stage are approximations of when such changes in cognitive structures occur … 1) sensorimotor thinking; 2) preoperational thinking; 3) concrete operational thinking; [and] 4) formal operational thinking (Thompson, 1995, p. 73).

During these various stages of development there are optimal times of growth and development as the brain grows and changes. While the brain is developing, children require stimulation. The more stimulating and "enriched" their environments, the better it increases the opportunity for them to practice and become competent in the sensory stimuli that they are becoming attuned to all around them.

ART LINKS

A close look at what constitutes the best kind of experience for infants and young children leads quickly to the arts. From a baby's first lullaby, to a three-year-old's experimentation with finger paint, to a seven-year-old's dramatization of a favorite story, developmentally appropriate arts experience is critical. For all children, at all ability levels, the arts play a central role in cognitive, motor, language, and social-emotional development. The arts motivate and engage children in learning, stimulate memory and facilitate understanding, enhance symbolic communication, promote relationships, and provide an avenue for building competence (*Young Children and the Arts*, 1998, p. v).

Each art discipline lends itself to promoting a different type of perspective, language, skill, stimulus and/or media. It allows children to open up an artistic box of creative possibilities. Educators are becoming more familiar with the types of fine arts and the level of sophistication of these arts that will promote the various stages of childhood development.

The simplest form of fine arts activity in any child's life, in and out of the classroom, is the act of "play". One of the times in many peoples' lives that they can describe as being the most creative is when they "played" by themselves and with each other in the world of imagination. Creating characters of themselves, building forts, acting out various scenarios, fighting fictitious wars, having pretend tea parties, and other acts of play are times where children can represent themselves and the world around them in a form that they can enjoy and from which they can "try out" their new developmental understanding.

> In play, as Piaget noted, children take reality in hand in order to take possession of it. They freely decompose and recompose it, consolidating this quality of convergent and divergent thinking. Through play, children confront reality and accept it, develop creative thinking, and escape from a reality that is too often oppressive. It is here that some of our most serious mistakes take root. The dimension of play … is thus an essential element of the human being. If we take this dimension away from children and adults, we remove a possibility for learning. We break up the dual play-learning relationship. The creative process needs to be recognized and legitimated by others (Rinaldi, 2005, p. 171).

This basic type of imaginative activity has formed the basis of many types of psychological "play therapy" because it allows children to unravel the mysteries of the mind while using their imagination. As well, adults are encouraged to play to rediscover themselves in unique and creative ways. "Child development specialists note that … play is the way children promote and enhance their development. The arts are a most natural vehicle for play" (*Young Children and the Arts*, 1998, p. v). Play forms the fundamental basis of how people participate in the arts from childhood into adulthood.

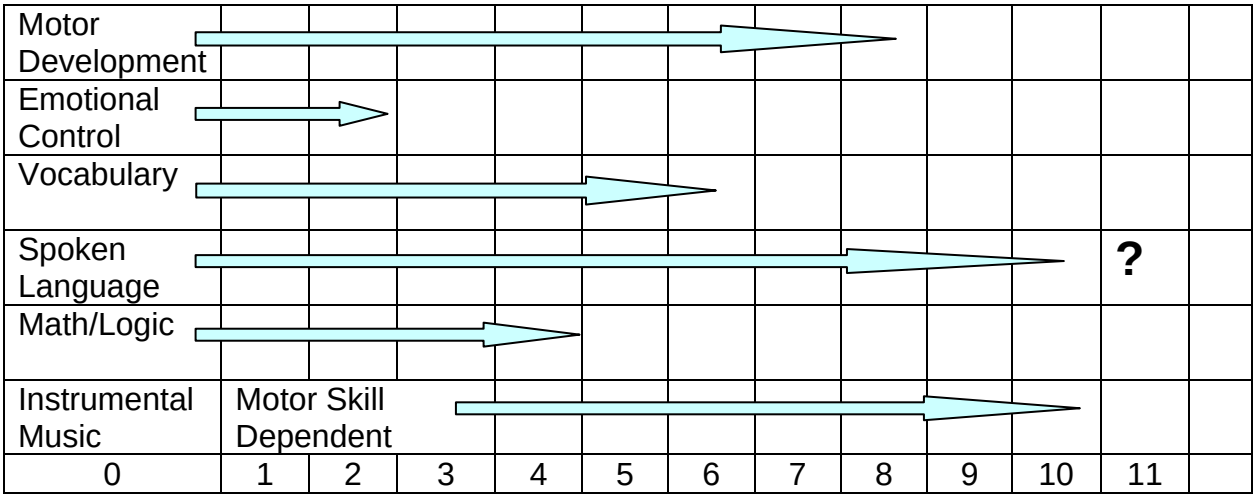
The arts play an important role in human development, enhancing the growth of cognitive, emotional, and psychomotor [brain] pathways (Sousa, 2006, p. 214).

With respect to other types of more specific fine arts activities during childhood, as much exposure and enjoyment as possible to art, music, dance, drama, technology and other arts activities should be encouraged. However, researchers have discovered that there are key types of fine arts experiences that fit into certain periods of a child's life, helping the child to learn and grow.

> Windows of opportunity represent important periods in which the young brain responds to certain types of input to create or consolidate neural networks. Some windows are critical, and are called critical periods by pediatric researchers. For example, if even a perfect brain doesn't receive visual stimuli by the age of two, the child will be forever blind, and if it doesn't hear words by the age of 12, the person will most likely never learn a language. When these critical windows close, the brain cells assigned to those tasks may be pruned or recruited for other tasks (Diamond & Hopson, 1998; as cited by Sousa, 2006, p. 24).

The chart below shows some of the significant periods for learning in childhood, according to recent research. Future studies may change the representation of these ranges indicated in this chart. It is most important to remember that learning is ongoing throughout a full lifetime. "This ability of the brain to continually change during our lifetime in subtle ways as result of experience is referred to as plasticity" (Sousa, 2006, p. 25).

Windows of Opportunity as a Child's Brain Matures



Each window represents the researched trend of children at this age level. Depending on the child, each window can have its own moderate range of plasticity. Learning can occur in each of the window areas for a lifetime, even after a window tapers off. However, the skill level is most substantially developed during this windowed period of time.

EDUCATIONAL IMPLICATIONS

When considering these windows of development, it becomes important to examine what children should be exposed to in the arts and how they should interact with this content. Some traditional fine arts programs have focused on "transmitting" information to students. However, the level of interactivity, especially in childhood, is paramount in its effectiveness in promoting developmental skills. There is considerable research in music that suggests (inter-) activity-specific benchmarks for educators to consider in their practice (Jensen, 2001). Some suggestions for when students might best start music lessons and when they can acquire various skills have been mapped out by some researchers, in particular Eric Jensen (2001). [See also Appendix A.]

Other educators have done extensive work to map out children's developmental stages from birth to age eight (*Young Children and the Arts*, 1998). [See also Appendix B.] Included in the chart are examples of specific arts activities that children can do and that adults can do with them at different stages of development. The examples provided take into consideration the different types of learning apparent in childhood development (cognitive, linguistic, physical and social-emotional). Although it is difficult to predict absolute levels of development, and exactly what type of fine arts activity best suits certain periods of development, it is helpful to review what fine arts "typically" support various stages of development, especially in the early years. It allows educators/parents an opportunity to consider how to boost their programs/homes with these types of learning strategies. In general, "[r]esearch on how the young brain develops suggests that an enriched home and preschool environment during the early years can help children build neural connections and make full use of their mental abilities" (Sousa, 2006, p. 28).

With regard to discovering the "optimal" time for students to benefit from certain fine arts experiences, there are some principles that can serve to guide the endeavour to match the age-appropriate and interest-appropriate fine arts program with the right classroom.

1. Children should be encouraged to learn in, through and about the arts by actively engaging in the processes of creating, participating/performing and responding to quality arts experiences, adapted to their developmental levels and reflecting their own culture …
2. Arts activities and experiences, while maintaining the integrity of the artistic disciplines, should be meaningful to children, follow a scope and sequence, and connect to early childhood curriculum and appropriate practices. They also may contribute to literacy development …
3. The development of early childhood arts programs, including resources and material, should be shared among arts education specialists, practicing artists, early childhood educators, parents, and caregivers; the process should connect with community resources … (*Young Children and the Arts,* 1998, p. 2).

The fine arts are enjoyable and filled with creative possibilities through the various stages of childhood development. Educators need to consider their educational philosophy that will, in turn, impact their fine arts pedagogy. It will influence their individual and collaborative planning, and implementation and assessment of these disciplines in the classrooms with sensitivity to the students' age group(s).

> Since the late 1990s, there has been an increasing focus on how students build or construct personal meaning. Piaget (e.g., 1967) argued that knowledge is never acquired passively because new knowledge can be handled only through assimilation to a cognitive structure an individual already has. In social constructivist thinking, learners are active and adapt to the world by forming and reforming categories and structures that work to explain the phenomenal world and allow the learner to interact with it effectively (O'Connor, 1998; as cited by Soren, 2004, p. 145).

Constructivism, as explained in *Part One*, encourages students to build their educational experiences in tandem with their fine arts teachers in ways that are powerfully purposeful and relevant to them.

Arts Education and Personal and Social Development

> *[S]ocial scientists have postulated that students who participate in the fine arts tend to experience greater academic achievement and are less likely to have social, emotional, or behavioural problems … [M]usic, painting, dance and drama have been cited as essential to academic and emotional development (Respress & Lutfi, 2006, p. 24).*

What is the role of arts education in personal and social development?

CONCEPTUAL BACKGROUND

Personal life abilities that allow people to be secure, confident and effective are desirable and achieved in a variety of ways over the course of a lifetime. "The need to connect, associate, collaborate, and cooperate is prevalent in all humans as well as other species … [S]tudents need to feel that they belong, are contributing members of a group, and are accepted and respected" (Panksepp, 1998; as cited by Gregory, 2005, p. 13). Having these positive social attributes usually go hand-in-hand with having strong personal dispositions. In other words, being effectively independent leads to a positive interdependence in the world.

ARTS LINKS

Various studies have been designed to examine some benefits of the arts in conjunction with personal and social behaviours and attributes; however, few age-specific causal or correlative relationship studies are available. The personal and social findings seem to be more general than the research findings for childhood development. What has been determined by research is that the fine arts can serve to facilitate many of the types of interactions from childhood through to adulthood that make people confident in themselves and with the people around them. "Studies of student learning experiences in drama, music, dance, and multi-arts activities show student growth in self-confidence, self-control, self-identity, conflict resolution, collaboration, empathy and social tolerance" (Soren, 2004, p. 140).

> Arts education develops in students a capacity for empathy and collaborative work. The culture of schools where the arts are part of the core curriculum is engaging and positive. In such schools, one finds self-motivated students, greater parental involvement, intensified student and teacher engagement, strengthened collegiate aspirations, and respect for cultural differences … The arts are a universal language, one that bridges cultures and articulates the highest aspirations of humankind (Perrin, 2008, p. 26).

"Learning the arts provides a higher quality of human experience throughout a person's lifetime" (Sousa, 2006, p. 215) because it allows people a vehicle to understand themselves and others around them in new and innovative ways.

How do the arts accommodate personal and social realization? The arts help to make public what is private and personal. Through the arts, a transformation of information is communicated in a variety of ways that help people navigate themselves and connect with people in the world around them. "[T]he social value of an image or idea does not secure importance unless something else happens … [T]he contents of consciousness need to be made public; they need to be represented … [T]he arts provide a means through which meanings that are ineffable can be expressed" (Eisner, 2003, pp. 342–343).

> Humans have, throughout the course of their lives on this planet, employed the arts as means through which meaning can be made and shared. The drawings on the walls of the Lascaux Caves portray and communicate what was important to those who lived about 17,000 years ago. The rhythms that were employed in music and dance as early humans gathered in communities were ways of conveying emotions and images that would not take the impress of literal language. Later they became a part of our history: they were "handed down" (Eisner, 2003, pp. 342–343).

It is through this artistic handing down that our historical culture is transposed, re-created and communicated over time.

EDUCATIONAL IMPLICATIONS

A dominant focus of research on this topic, like it is in childhood development, surrounds the concept of uninhibited play. It is important to allow students the freedom to play, discover, and learn the abandonment of uninhibited creativity so that they can "secure experience that is valued intrinsically" (Eisner, 2003, p. 343).

> Every student has creative potential. Creativity can conflict with established rules, procedures, and patterns, and what is "correct." When you promote creativity, expect a mixture of novel, imaginative, and valuable answers, and also answers that may seem silly or bizarre. Let students think, solve problems, and use divergent ideas (Lang & Evans, 2006, p. 463).

However, the arts are also about grooming creativity into an art form that is both exciting to create and inviting to understand by its audience. This requires attention to the style and structure of the art discipline.

Knowing when to match fine arts outcomes within specific programs with specific personal and social stages is a desirable educational goal; however, there is little research to support these explicit correlations. "[T]he Compendium displays the results of a sizable effort to catalog and describe research on the effects of learning in the arts on academic and social skills" (Catterall, 2002, pp. 152–154). [See also Appendix C.] The social skills in this inventory also resemble personal attributes which could also be considered indicators of success in terms of personal development. The efforts to provide an inventory of this nature is grounded in accumulated research. Sixty-five core relationships are listed. Some associations between the arts and these academic and social indicators of success prove to be stronger than others. Some relationships are found in numerous studies, and others are found in one or two high-quality research investigations. This is a thorough effort to create a list of academic and personal/social developments that are considered to be valid results of learning or engaging in the arts.

However, it is important to reiterate that some of these studies do not go "beyond the single-phase survey-based and qualitative self-report evaluations" (Boyes & Reid, 2005, p. 10). Regardless, the general consensus of much of the research is that the arts and arts therapies, when they are implemented "appropriately", "can contribute towards the personal well-being and social integration of school students. Thus, the capacity of children/young people to learn and achieve can be facilitated and ultimately strengthened" (Karkou & Glasman, 2004, p. 58).

> Case study results showed that students performing well in at least one art form reported a wide range of positive effects from arts education. [However], … [r]esponses differed by art form. Students reported that dance increased body awareness, visual art led to expressive skill, drama enhanced empathy, and music promoted active listening … Learning gains from exposure to one art form are not the same as gains from exposure to another art form, and the arts should not be treated as "one" unified discipline (Harland, et al., 2000, as cited by Karkou & Glasman, p. 76).

Therefore, a specific discipline can have a multitude of specific personal and social outcomes.

Critical Thinking and the Arts

> *[Arts] activities enhance students' abilities to approach both art and life with a disposition for accepting that when confronting complex problems and issues there are many possible solutions which must be carefully reflected upon and resolved (Lampert, September, 2006, p. 50).*

How is critical thinking developed through the arts?

CONCEPTUAL BACKGROUND

Thinking skills can be categorized in a multitude of ways, but for practical purposes they are often divided into the two major groups of creative thinking and critical thinking.

> This distinction is somewhat arbitrary because the two types of thinking are closely and irrevocably intertwined—creative thinking has critical components and critical thinking has creative elements … [People move] rapidly and often unconsciously from divergence to convergence and back again …, use both modes of thinking to solve problems, create new technologies, make new artefacts, and establish philosophies (Parry & Gregory, 2003, pp. 160–162).

In general, critical thinking is typically convergent in nature and attempts to focus the field of options in the environment by using criteria or evaluating the data. People think convergently when they consider alternatives produced by creative thinking. Critical thinking is often referred to as the reasonable consideration of a problem and the "focused evaluation of various alternatives" (Lampert, September, 2006).

Critical thinking also happens in the context of several realms of learning. Robinson (2007) identifies five domains of learning and the potential of decentring and being reflexive within these learning domains: 1) (meta)-cognitive; 2) (meta)-affective; 3) (meta)-conative; 4) (meta)-kinesthetic; 5) (meta)-spiritual (*Part One*).

> Similarly, Restak (1994) identifies five systems that are constantly interacting, with multiple connections, as we accept, process, and interpret information … the five systems are the emotional learning system, the social learning system, the physical learning system the cognitive learning system, and the reflective learning system. (Gregory, 2005, p. 5).

The key difference between the two theories (Robinson, 2007, and Restak, 1994; as cited by Gregory, 2005) is that the latter systems model does not deal directly with motivation (conative domain), or inspiration (spiritual domain), which are both valuable considerations in the fine arts programs. Both models suggest that all of the types of learning support critical thinking.

While considering the various types of learning that can occur, critical thinking includes the ability to reason deductively and inductively.

> The deductive method of instruction is the one most familiar to teachers. When we teach through deductive reasoning, a concept is presented and then specific examples are examined to see if they conform to the rules or generalizations relating to the concept … Inductive thinking causes us to do the opposite of deductive reasoning … [It] … means to form a generalization from a set of particular facts. Inductive thinking allows students to make inferences and form hypotheses … [and] may be more brain compatible in that it enables students to construct personal meaning for themselves (Parry & Gregory, 2003, pp. 180–181).

Thinking is often categorized in a number of ways. Some of these are referred to as taxonomies where there are levels of understanding from simple to complex. Bloom's taxonomy (1956) is widely accepted among educators, as is Quellmalz's (1985) thinking taxonomy which is similar to Bloom's model. [See also Appendix D.] A more recent model of thinking that is not a taxonomy, but reciprocal in nature, refers to the various "facets of understanding" as a result of constructive and thorough types of thinking. A student who really understands … can: 1) explain; 2) interpret; 3) apply; 4) see perspective; 5) demonstrate empathy; and 6) reveal self-knowledge (Wiggins & McTighe, 1998, pp. 163–164).

ARTS LINKS

Now recognizing the complexity of critical thinking, "it is absolutely indispensable to reconsider our relationship with art as an essential dimension of human thinking" (Rinaldi, 2005, p. 172).

> Recent developments in cognitive science and neuroscience help explain the power of the arts. These developments have shown that "the mind is embodied"—that brain and body make up a single, fully integrated cognitive system. Scientists have found that most thought occurs on a level well below our conscious control and awareness and involves the processing of a continual stream of sensory information. Physical sensation and emotion are essential components of the mind as integral in thought and learning as logic is. In fact, logic may not be possible without them (Demasio, 2003; as cited by Rabkin & Redmond, 2006, p. 63).

However, "[i]t is ironic, then, that the arts are frequently dismissed as 'merely' emotional, not cognitive [when in fact,] … [t]heir emotional content is part of what makes them cognitively powerful" (Rabkin and Redmond, 2006, p. 63).

> *Thinking in the arts is a form of qualitative inquiry in which sensibility is engaged, imagination is promoted, technique is applied, appraisal is undertaken" (Eisner, 2002, p. 232).*

Students, who are highly exposed to the fine arts, are capable of seeing multiple perspectives, and it is this ability to think broadly and not narrowly that is "closely aligned with critical thinking competencies and dispositions as they are described in many of the construct models" (Ennis, 2002; Facione, et al., 1995; Jones, et al., 1995; Kin, 1994; Paul, et al., 1997; Perkins, Jay & Tishman, 1993; Perry, 1999; as cited by Lampert, Spring, 2006, p. 216). It was found that fine arts students performed considerably higher than non-arts students on "truth-seeking, critical thinking maturity, and open-mindedness—suggesting that visual arts curriculum and instruction may significantly enhance the critical thinking disposition" (Lampert, Spring, 2006, pp. 223–224).

EDUCATIONAL IMPLICATIONS

> *Few educators … oppose the idea of getting students to think more critically … yet rhetoric [often] outstrips practice (Case and Wright, 1999; as cited by Lang & Evans, 2006, p. 460).*

One of the dominant techniques mentioned in the fine arts educational literature to enhance the critical thinking process is the act of stepping back and reflecting on the act of thinking. Reflection is often considered to be the most powerful part of learning, and to do so in the arts is a complex networking of various types of cognitive functioning, which include the interdependence of: 1) memory systems; 2) communication systems; 3) reasoning; 4) attention; 5) emotion; 6) social awareness; 7) physical experiences; and 8) sensory modalities. The reflective system supports the ability to be aware of our critical thinking by:

- revisiting and analyzing situations
- exploring and reacting with ideas
- creating plans
- facilitating progress toward goals (Gregory, 2005, p. 8).

This type of metacognition in the various fine arts disciplines often warrants a series of questions to assist in this self-monitoring of the varying levels of critical understanding. The following are a series of questions that can be used to assist in developing critical and reflective thinking. These questions build upon each other as they increase in complexity:

- Did I collect? Did I select? Did I consider? Did I discriminate? Did I judge? Did I record?
- Did I analyze? Did I evaluate? Did I understand? Did I note? Did I respond? Did I consider? Did I discriminate? Did I articulate?
- Did I develop my ideas? Did I explore new ideas and techniques? Did I review everything as I was progressing? Did I modify things as a result of my reviewing? Did I refine and change things as I progressed? Did I have ideas (more than one)?
- Did I produce a personal response? Did I make informed connections? Did I use my time well? Did I need to use my work journal? (Stoddart, 2002, pp. 40, 41, 88, 112).

> The Socratic questioning method serves as another reflective process where there are identifiable categories of questions for the adept Socratic questioner to dip into: questions of clarification, questions that probe assumptions, questions that probe reasons and evidence, questions about viewpoints or perspective, questions that probe implications and consequences, and questions about the question (Paul, et al., 1989, p. 26).

There are other models of critical and aesthetic inquiry (Geahigan, 1997; Stewart, 1997; Barrett, 1997) that encourage students to "step" back and reflect in a structured reflective process of inquiry (Lampert, September, 2006, p. 48). [See also Appendix E.]

Often this type of reflection occurs in writing. The "journal becomes the storage point of knowledge, ideas, observations and analysis" (Stoddard, 2002, p. 113).

Painting is just another way of keeping a diary (Pablo Picasso; as cited by Jensen, 2001, p. 51).

Personal journal writing helps students to improve their writing skills while exploring their feelings and opinions. It is important for the teacher to help prompt critical journal writing, with constructive questioning techniques, which will encourage students to respond thoughtfully. As well, "Marzano, Pickering, and Pollock (2001) found that graphic organizers … increase student [critical thinking demonstrated through their] achievement with the possibility of 37 percentile gains" (Gregory, 2005, p. 117).

The importance of the teacher intervention and facilitation of how to think critically is very important.

> King (2002) notes the importance of teacher guidance … in inquiry-based activities for students. Without teacher intervention students may revert to seeking just one "right answer" to a problem rather than working to reconcile various and opposing viewpoints and perspectives. Because critical thinking requires the reflective consideration of various solutions and perspectives before deciding on one resolution, it is important for teachers to guide students in resisting early closure when they work to resolve complex, open-ended problems (Lampert, September, 2006, p. 47).

Effective teaching practice guides students to stretch their minds through various critical thinking strategies. Teachers can help their students to be flexible in their thinking styles so that they can see multiple perspectives that will encourage "big picture" thinking. Teachers can encourage students to reconcile various points of view and see variations between similar and differing perspectives. Students need to be taught not to approach analysis as only a mechanical process. They need to know how to pursue new information in greater depth and to appreciate the various perspectives from which this information comes (Paul, et al., 1989).

Creative Thinking and the Arts

How is creative thinking developed through the arts?

CONCEPTUAL BACKGROUND

Creative thinking is typically divergent by nature and explores many ways of solving problems and creating and responding to information. "Divergent means to move outward in many directions from a given point. [First], by scanning the information that already is stored in long-term memory, and, [second], by going out and seeking new information" (Parry & Gregory, 2003, p. 160). Another way of thinking about divergence is that "[i]t means having the ability to construct new connections between thoughts and objects that bring about innovation and change, and taking known elements and creating new connections" (Rinaldi, 2005, p. 170).

Many people use the terms "creative thinking" and "creativity" as if they were synonymous, but they are not. "Creativity is an umbrella construct that subsumes creative thinking" (Treffinger, 1996; as cited by Puccio & Murdoch, 2001, p. 67). As well, Gardner (1995) argues that people are not just creative in a general way. "No one can be expected to be highly creative in every discipline. Rather, each person is creative in particular domains of knowledge" (Koster, 2000, p. 85). In other words, there is no one right way of being creative.

Frank Williams (1970–1993) developed a taxonomy for creative thinking processes that houses eight levels of creative attributes: 1) fluency (generate lots of ideas); 2) flexibility (ability to adjust); 3) originality (seek various possibilities); 4) elaboration (stretch through expansion); 5) risk-taking (experiment); 6) curiosity (question alternatives); 7) imagination (build a picture in the mind); 8) complexity management (create order out of chaos) (Gregory, 2005, p. 131). This creative process model considers the discreet types of creative thinking that students may experience either consciously or perhaps incidentally in their fine arts experiences.

ARTS LINKS

> *Aside from promoting our awareness of aspects of the world we had not experienced consciously before, the arts provide permission to engage the imagination as a means for exploring new possibilities. The arts liberate us from the literal; they enable us to step into the shoes of others and to experience vicariously what we have not experienced directly (Eisner, 2002, p. 10).*

The arts require that students make decisions that accommodate their creativity and, in turn, their learning. These arts courses also help to develop students into good problem solvers, capable of using a variety of systems to accomplish a successful outcome. "Good problem solvers have a number of characteristics in common. Among these are flexible thinking, perseverance, precision, and the ability to continually monitor one's own performance" (Parry & Gregory, 2003, p. 55). Sternberg (1996) proposes that creativity benefits from a set of 10 decision-making skills, and it can be argued that these skills can be taught effectively in any of the arts disciplines:

1) redefine problem; 2) analyze one's ideas; 3) sell one's ideas; 4) knowledge is a double-edged sword; 5) surmount obstacles; 6) take sensible risks; 7) willingness to grow; 8) believe in yourself; 9) tolerance and ambiguity; 10) find what you love to do and do it (Sousa, 2003, pp. 91–93).

The fine arts, when taught with the consideration for "effective practices" (see *Effective Practices Part One*), are instrumental, within each unique discipline, for developing the creative thinking skills that are so important in the development of a creative mind and spirit. "The arts have an important role to play in refining our sensory system and cultivating our imaginative abilities [so that they can foster creative thinking]. The arts provide a kind of permission to pursue qualitative experience in a particularly focused way and to engage in the constructive exploration of what the imaginative process may engender" (Eisner, 2002, p. 4).

EDUCATIONAL IMPLICATIONS

> *Many school districts in the United States and Canada have ranked the abilities to think creatively and solve problems as two of the most important exit outcomes or expectations for their students. Although people tend to agree that problem solving is a desirable skill, there is very little agreement about the best way to teach it (Parry & Gregory, 2003, p. 47).*

Creative thinking (Gregory, 2005, p. 130) and creative problem solving (Sousa, 2003) can be taught. This type of thinking flourishes in the fine arts classroom because it is here where there is the possibility of an environment that by its very nature and design encourages it. "[There are] two characteristics to support the assumption that creativity can be taught … The first principle holds that creativity is best understood through a multifaceted perspective; the second principle states that the generation of novel perspectives is a fundamental element of creativity (Puccio & Murdock, 2001, p. 67).

The process approach, as explained in *Effective Practices: Part On*e, or even the creative taxonomy (Williams, n.d.; as cited by Gregory, 2005) is not intended to be a linear lock-step process; rather, a series of functions that occur reciprocally or concurrently while students are being creative. There is some argument that not all aspects of creativity can be codified in a process model, but rely on the mentorship of the connoisseur for the subtleties of creative development. However, there is another line of reasoning in favor of an established creative language. By having a process language, it affords teachers a starting point to discuss creativity, expand on this language, or deconstruct the creative experience with their students. For example, Koster's (2000) process model can be divided into seven basic components:

- Motivation
- Problem finding
- Knowledge
- Skill immersion
- Incubation
- Insight
- Production (p. 89).

However, another pervasive theme about creativity that arises in the current literature is that there needs to be a climate of receptivity where students feel safe. "To think creatively, one should be in a state of relaxed alertness, which means that one is relaxed enough to allow his or her brain some latitude in making connections but alert enough to recognize a good idea" (Parry & Gregory, 2003, p. 190).

> According to Malchiodi (1998) for creativity to be promoted, it is important to provide a safe environment, that is a safe physical space, a predetermined time (e.g., one hour for each session with a clear beginning and an end) and to facilitate an overall nonjudgmental atmosphere. The same author asserts that creativity also requires a clear intention to make something, and draws heavily upon openness, spontaneity and playfulness (Karkou & Glasman, 2004, p. 61).

As well, students should be encouraged to work together collaboratively and feel comfortable in doing so. "Creativity is in principle relational; it needs to be approved in order to become a shared wealth. Too often, however, we are afraid of this creativity, even our own, because it makes us 'different'" (Rinaldi, 2005, p. 171). Therefore, it becomes important, as a teacher, to encourage active exploratory discussion so that students are not blocked from carrying out their creative aspirations.

Malaguzzi (1998) encourages some basic tenants of creativity for any fine arts school environment(s):

1. Creativity should not be considered a separate mental faculty but a characteristic of our way of thinking, knowing and making choices.
2. Creativity seems to emerge from multiple experiences, coupled with a well-supported development of personal resources, including a sense of freedom to venture beyond the known.
3. Creativity seems to express itself through cognitive, affective and imaginative processes. These come together and support the skills for predicting and arriving at unexpected solution.
4. The most favourable situation for creativity seems to be interpersonal exchange, with negotiation of conflict and comparison of ideas and action being the decisive elements.
5. Creativity seems to find its power when adults are less tied to prescriptive methods but instead become observers and interpreters of problematic situations.
6. Creativity seems to be favoured or disfavoured according to the expectations of teachers, schools, families, and communities as well as society at large, according to the ways children perceive those expectations.
7. Creativity becomes more visible when adults try to be more attentive to the cognitive processes of children than to the results they achieve in various fields of doing and understanding.
8. The more teachers are convinced that intellectual and expressive activities have both multiplying and unifying possibilities, the more creativity favours friendly exchanges with imagination and fantasy.
9. Creativity requires that the school of knowing find connections with the school of expressing, opening the doors … to the hundred languages of children (pp. 75–77).

These guidelines carefully safeguard the delicacy of the creative learning experience as it requires educators to reflect upon their teaching practices to effectively open the doors of creativity to their students. These principles also look at the idea of "failure" in a different light, and encourage students to be resilient in their efforts to continue trying to be creative even if their first efforts require further attention.

Researchers and practitioners generally conclude that:

- creativity is complex and multifaceted
- creativity is not a matter of characteristics or traits residing solely within the individual; rather, creativity arises from the complex and interdependent interactions among each person's characteristics, the operations each is able to perform, the context in which each works, and elements of the tasks or outcomes themselves
- creativity and problem-solving skills can be taught (Perkins, 2001, p. 443).

Therefore, it becomes the challenge of fine arts educators to learn more about the nature of creativity and find the effective practices that encourage optimal imaginative and inventive thinking in the classroom (see *Effective Practices Part One*).

The Role of the Arts with Students at Risk and High School Completion

> *More and more students in North America are leaving school early. One of [teachers'] greatest challenges will be to identify students at risk and determine what to do to help (Lang & Evans, 2006, p. 116).*

What is the role of the arts in meeting the needs of students at risk and increasing high school completion?

Conceptual Background

The matter of students at risk has become increasingly prevalent in the North American educational culture.

> … Canadian children are slipping through the cracks and failing to finish school. Ten percent of young adults 20–24 are high school dropouts. That's higher than in many other countries, such as the United Kingdom (eight percent) and Czech Republic (six percent). In Norway, the drop-out rate is less than five percent … There are plenty of theories as to why we aren't doing better at keeping kids in school [such as:] under-funded schools, … large class sizes, to a dearth of alternative programs to suit different learning needs (Bendall, 2008, p. 90).

Although this national average sounds gloomy, Statistics Canada indicates that this dropout rate has decreased over the last 15 years from an 18 percent dropout rate (Canadian School Boards Association, 2008). However, Alberta has a very high dropout rate: "25 per cent of Alberta students do not complete high school within five years of entering Grade 10" (Canadian School Boards Association, 2008, p. 2).

Alberta High School Completion Rates (Canadian School Boards Association, 2006; as cited 2008)

	2000/01	2001/02	2002/03	2003/04	2004/05
3-year rate	65.1%	65.6%	67.8%	69.3%	70.4%
4-year rate	71.8%	71.8%	72.3%	73.4%	75.1%
5-year rate	73.9%	75.1%	75.2%	75.5%	77.4%

It appears then that "[o]ne of the greatest public health issues in America, it could be argued, is the failure of the education system to provide direction and purpose to young people, particularly adolescents. This results in apathy at best and, at worst, youth violence" (Perrin, 2008, p. 26). Schools are faced with an ever-increasing demand to seek solutions to the matters of students at risk in innovative and effective ways. The increase in the population at risk has resulted for a variety of reasons.

> The students who used to drop out because of financial needs, behavior and attention disorders, poor memory, pregnancy, weak social skills, household violence, or a host of other problems, are now in schools. The bottom line is that so-called hard-to-reach students used to drop out. Now we are committed to helping them stay in school—and to succeed. The arts are the best vehicle available to do that job (Jensen, 2001, p. 9).

The Alberta School Boards Association [ASBA] suggests that one of the reasons that students are dropping out is that "[d]ropouts [are] less engaged—academically and socially" (Canadian School Boards Association, 2008, p. 4). However, the reasons for why students are at risk are not as simple as the reason ASBA suggests. Instead, the reasons that students drop out are multiple and multifaceted. These students are often unmotivated and unable to clearly see their way in the school systems. "These students are 'tuning out.' They are potential early school leavers. They usually have had a pattern of failure and do not expect to do well in the future. That is, there is a cycle of failure and low expectations (Lang and Evans, 2006, p. 116).

> The "Attribution Theory" [considers] the reasons for a pattern of failure.
>
> 1. [The belief of] a lack of ability …
> 2. [The belief that] … success would have occurred had the effort been expended …
> 3. The belief that the task was unreasonably difficult …
> 4. The belief that bad luck was experienced when failures occurred … (Lang & Evans, 2006, pp. 116–117).

This belief system is often stronger than what their possible mentors are trying to tell them otherwise. All of the external encouragement in the world has difficulty competing with an entrenched, negative belief system. The challenge is to intervene and break this cycle of beliefs that perpetuate a continuance of failure.

Brain research also helps to explain why some students continue to be part of this cycle of academic despair:

> … [T]he sensory register and temporary memory systems use past experiences as the guide for determining the importance of incoming stimuli to the individual. Thus, if an individual is in a new learning situation and past experience signals the sensory register that prior encounters with this information were successful, then the information is very likely to pass along to working memory. The learner now consciously recognizes that there were successes with this information and focuses on it for further processing. But if past experiences produced failure, then the sensory register is likely to block the incoming data, just as Venetian blinds are closed to block light. The learner resists being part of the unwanted learning experience and resorts to some other cerebral activity, internal or external, to avoid the situation. In effect, the learner's self-concept has closed off the receptivity to the new information … [W]hen a curriculum concept struggles with an emotion, the emotion almost always wins. Of course, it is possible for the rational system (frontal lobe) to override the emotions, but that usually takes time and conscious effort (Sousa, 2006, p. 53).

It becomes important to recognize why students grapple with ongoing struggles with school to the degree that they might choose to leave and, by doing so, to compete with these forces that pull at students from various frames of reference.

ARTS LINKS

> *When individuals find their creative strengths, it can have an enormous impact on self-esteem and on overall achievement (NACCE, 1999; as cited by Karkou & Glasman, 2004, pp. 59–60).*

The arts are programs that naturally link students with diverse types of positive experiences. There is considerable research in this area that supports that the arts make a difference to the "student at risk" and suggest how these disciplines can help students stay in school. "[C]ertain populations—including young children, students from economically disadvantaged circumstances, and students needing remedial instruction—[discovered that] learning in the arts may be uniquely able to advance learning and success in other areas" (Soren, 2004, p. 139).

> Intensive engagement in the arts actively supports the psychological, physical, and social development of preadolescent and adolescent students. Because training in the arts often engages the whole child, it is also effective in schools with student populations that have a wide variety of learning styles, experiences, and background. It has been shown, for example, to reduce the incidence of such problems as apathy and aggression among students in urban settings (Perrin, 2008, p. 26).

> More specifically, [t]he arts reach students not ordinarily reached, in ways not normally used. This keeps tardiness and truancies and, eventually, dropouts down. Students connect to each other better—greater camaraderie, fewer fights, less racism, and reduced use of hurtful sarcasm. It changes the environment to one of discovery. This can re-ignite the love of learning in students tired of being filled up with facts. Arts provide challenges for students at all levels, from delayed to gifted. It's a class where all students can find their own level, automatically … Students of lower socioeconomic status gain as much or more from arts instruction than those of higher socioeconomic status. This suggests the gifted programs need to expand their target audiences (Jensen, 2001, p. 3).

Other discipline-specific research examples demonstrate how the arts can reach students at risk and allow them to gain back a love of and power over their own learning. They can do so because something inside of them shifts. It feels good, and it can be shared with the people around them.

> Self-concept improves when we gain greater control and mastery over our lives. It improves when we have specialized skills and can get along with our peers. [For example,] [t]he processes learned in dramatic arts include the ability to express personal ideas without fear or censorship, the beauty of movement, the skills of choreography, and the corresponding vocabulary … All of these can enhance self-concept (Jensen, 2001, p. 77).

This can happen in other disciplines as well. For example,

> [d]ance can develop balance and, ultimately, reading skills. What the developing brain needs for successful movement and cognitive growth is sufficient activation of the motor-cerebellar-vestibular system … We have an increasingly sedentary population. Fortunately, dance routines often include spinning, leaping, crawling, rolling … University has documented significant gains in attention and reading from these stimulating activities (Jensen, 2001, p. 78).

It appears that "[k]inesthetic arts may enhance cognition, positive attitudes, and confidence; in some cases, kinesthetic arts may grow new brain cells" (Jensen, 2001, p. 71). This type of research supports the provincial initiative to incorporate daily physical activity (DPA) into the school day.

All of the arts, whether they are deemed kinesthetic arts or not, incorporate the awareness of the importance of the body into its spectrum of learning outcomes. Some of this physicality is overt and bold. Other body movements are subtle and yet important because these discreet body skills make the difference in the calibre of the process and/or presentation. Some examples of where discreet physical expression is required might involve an artist's brush stroke, a pianist's phrasing, an actor's posture and a dancer's leap. Each successful small movement is involved in a broader series of small movements and becomes the life blood of the arts. It appears, in the research, that this movement is the very thing that triggers a "re-set" of the default buttons for students at risk.

The literature supports very strongly that the arts can make a difference in the lives of the students challenged by their circumstances, and/or their thinking about their circumstances. As well, it can positively impact the communities that surround and support them. The themes of research that stand out suggest that the fine arts should be used in the following ways:

1. as specialized support in school for students who face serious emotional difficulties and/or are on the edge of exclusion; this can be an input from trained arts therapists, ideally in collaboration with teachers and other support units
2. as collaborative arts projects with arts organizations and other community groups
3. as a form of prevention of mental health problems and/or social exclusion that can be undertaken by the teachers themselves, in collaboration with arts therapists, artists and/or other support services and community groups connected with the school (Karkou & Glasman, 2004, p. 60).

> *[B]eing involved with the arts can have a lasting and transforming effect on many aspects of people's lives. This is true not just for individuals, but also for neighbourhoods, communities, regions and entire generations, whose sense of identity and purpose can be changed through art (Karkou & Glasman, 2004, p. 59).*

EDUCATIONAL IMPLICATIONS

Alberta school administrators and educators were asked some questions about what they felt would help improve high school completion.

> School administrators … suggested that providing a greater variety of course options, giving students credits for extracurricular activities, partnering with businesses to demonstrate the link between what is being taught and what is needed at work, encouraging students to identify what would make courses more interesting and changing student evaluation mechanisms could improve high school completion rates.
>
> Educators also identified actions related to "learning and teaching" as being important. Introducing expanded and flexible program delivery options, changing the structure of the school year, changing requirements for a high school diploma and expanding course offering with flexible funding, recognizes that students are more likely to be engaged in academic activities if the program of studies as well as teaching practices are more adaptable to their needs and way of learning (Alberta Education, *High school completion*, 2006, pp. 8–9).

In general, these educators seem sensitive to the needs of this challenging population of students, as they suggest that there is a need to broaden the types of programs offered and a need to expand the way these and other programs are delivered. Short-term success has a greater chance of leading to long-term success with students at risk:

> The first is to structure a series of success experiences for at-risk students. The second is to help students understand that they contributed to the successes. Alderman [1990] says that four "links" need to be provided for "helpless" students to become successful and to increase their sense of self-worth: 1) set proximate goals (short-term and manageable); 2) [vary] learning strategies; 3) [find] successful experiences; 4) attribution for success … [link] effort and ability and personal achievement (Lang & Evans, 2006, pp. 117–118).

There are specific examples of where the arts have been formally introduced into curricular and extracurricular programming and have met with increased academic performance and other positive transferable outcomes. It is felt that these positive results ward off student failure, apathy and the potential for dropping out.

> One good model has been succeeding for more that 50 years: the Waldorf schools, as independent, arts-centered institutions that are one of the fastest-growing educational models in the world, with 130 schools in the United States and 700 worldwide … They heap on field trips, encourage journal reflections, downplay tests … Students often spend a whole year building a piece of furniture or a musical instrument … Prominent educational figures such as Howard Gardner and Theodore Sizer admire Waldorf schools. Oppenheimer (1999) recounts a number of facts about Waldorf. On Scholastic Assessment Tests, Waldorf students outperform national averages … Graduates commonly get into the best universities. They often pass achievement tests at double or triple the rate for public school students. College professors remark about the humility, sense of wonder, concentration and intellectual resourcefulness of Waldorf graduates (Jensen, 2001, p. 12).

The Waldorf curriculum achieves these successes with its students by grounding their programs heavily in the arts, and some of it is based on the Reggio Emilio Curriculum. They learn other subjects, such as science, literature and math, but they do it through the processes of the various fine arts disciplines.

Another strong example of the implementation of a fine arts program, where the students were exposed to very adverse circumstances, is the Health, Education, in the Arts, Refining Talented Students (HEARTS) Family Life Center.

> [This program] is an after school violence prevention project … that seeks to provide those engaging and academically enriching experiences … Emphasis is placed on each student's inherent talents, skills, interests, aptitudes, competencies, abilities and endowments. These strengths are addressed through utilization of the fine arts in the areas of music, art, drama, and dance … [P]articipation in the fine arts enhances academic achievement, commitment towards school and self-esteem, as it reduces students' propensity towards violent acts. Research also indicates that fine arts programs reduce delinquent behaviour and improve self-esteem … [S]everal researchers concluded that engagement in the arts nurtures the development of cognitive, social, and personal competencies (Respress & Lutfi, 2006, pp. 25–27).

There are many programs where the educational community has embraced a positive cultural model for keeping students in school. One is based on the Native American childrearing philosophies to provide a compelling alternative for creating a positive classroom climate:

> A primary goal is to foster self-esteem. Without a sense of self-worth, a child is subject to social, psychological, and learning problems … [There] are four inter-related central values as the "unifying theme — of positive cultures for education and youth work programs" … : 1) belonging (attachment); 2) mastery (achievement); 3) independence (autonomy); 4) generosity (altruism) (Coopersmith, 1967, and Brendtro, Brokenleg and Van Bockem, 2002; as cited by Lang & Evans, 2006, p. 119).

Students at risk are referred to as "children of discouragement" in some cultural educational endeavours.

> Brendtro, et al. (2002) outline approaches for working with [these] "children of discouragement" (p. 70). This involves: 1) maintaining an environment that involves relating to the reluctant by "establishing positive relationships" with youth; 2) using alternative methods for structuring learning experiences that are "brain friendly"; 3) "mobilizing positive youth involvement" to counter irresponsibility and rebellion; and 4) having the "courage to care" by establishing programs that foster pro-social values and behavior (as cited by Lang & Evans, 2006, p. 120).

These four guidelines resemble many of the fine arts curriculum goals with an emphasis on the emotional and social development of the students. It is this emphasis on the well-being of the students that combats their susceptibility to failure.

Multiple Intelligences in Arts Education

> *Gardner's definition moves away from a quantifiable number on a linguistic or mathematical test and suggests to teachers that "examining intelligent behaviours" is to document the full range of a student's capabilities (Stefanankis, 2002, p. 3).*

What is the application of multiple intelligences theory in arts education?

Conceptual Background

Educators have begun to look at alternative theories to the theory of intelligence or intelligence quotient (IQ). "Gardner's seminal contribution to sociology, psychology, and education is the notion [that there are] 'many ways to be smart'" (Parke, 2003, p. 11). Gardner's qualitative look at the diverse ways that the mind can participate in learning is foundational research, which has opened doors for other theorists to consider multiple ways of knowing. It is possible to consider how we each see the world in the following metaphor, "[i]f your camera is loaded with black-and-white film, you look for shadows, for light and dark, but if the same camera is loaded with color film, you seek color. What the film in your camera can do influences what you will do" (Eisner, 2002, p. 8).

> Gardner's multiple intelligences model now includes eight intelligences. These are: 1) spatial, 2) logical and mathematical, 3) linguistic, 4) musical, 5) bodily kinesthetic, 6) interpersonal, 7) intrapersonal; and 8) environmental intelligence. Gardner (1999) believes that the intelligences found in each individual are in any combination of strength and weakness. It is from this variance that individual differences emerge (Parke, 2003, p. 11).

There have been many suggestions about new roles for intelligences, such as the culinary, the technological, the emotional and the spiritual, but they have not been adopted by Howard Gardner. The critics of Gardner's theories claim that there is no brain research to support the division of these intelligences.

Despite the arguments that arise over the language used to describe multiple ways of knowing, it is interesting to compare and see the similarities and differences among some of the models of differentiated learning. For example, three models of intelligences that attempt to seek alternate ways of learning are the following: Gardner's Multiple Intelligences; Costa's Intelligent Behaviour; and Goleman's Emotional Intelligence (Parry & Gregory, 2003, p. 99). [See also Appendix F.]

Another way of looking at the various ways that students can learn and understand is in the current work of "dispositional theory." These dispositions make key connections to learning systems and learning domain theories.

> The concepts of thinking, social, and emotional behaviors take on a more complex and interesting meaning when they are considered as dispositions. It is this idea of dispositionality, of tendencies or inclinations toward patterns of behavior, that allows us to learn more both about the processes of thinking and the interrelationship between thinking, emotional (as part of personality) engagements, and social engagement and about how learners build on and implement learnings in different settings … [In other words], [l]earning for a given task is not finite; rather, it is open, continuous, and complex (Gadsden, 2008, pp. 43–44).

Regardless of the terms used to describe the multifaceted manner with which people integrate knowledge into their worlds, it is important to see that educational researchers are thinking beyond the traditional and predominantly quantitative models of cognitive intelligence.

> *According to the MI theory, we need to dramatically shift the way we think about learning and therefore assessing all learners. Teachers should not ask themselves, "is this a smart student?" but "how is this student smart?" (Stefanankis, 2002, p. 7).*

ARTS LINKS

There are numerous reciprocal connections between the multiple ways of learning and understanding and the value of the fine arts. "Horowitz and Abeles (2000) who did test the premise found that students with high arts exposure showed clear evidence of an understanding of "multiple or alternative vantage points" (Burton, Horowitz, & Abeles, 2000, p. 42; as cited by Lampert, Spring 2006, p. 216). The fine arts involve the whole child in all of their learning domains: cognitive, affective, conative, kinesthetic, and spiritual (see *Learning Domains: Part One*). Therefore, it seems natural to assume that the fine arts disciplines that also cater to the whole child will nurture the same type of multifaceted learning experiences. "When we work with the arts we are working with the body and the mind. The body might be the vehicle of expression, and the mind, the integrative and imaginative force that makes expression meaningful" (Stiegelbauer, 2004, p. 114).

There are many examples of how each fine arts discipline can promote multiple ways of knowing and are promoted by various intelligences. One example is in the area of dance. Dance can promote so many natural links to multiple intelligences, in particular, spatial, musical, bodily kinesthetic and interpersonal.

> Dance, like poetry, is a way for ideas and images, feelings, and emotions to be expressed so that whole new strings of ideas and interpretations can emerge. Dance allows children to know themselves in other ways, through the body's capacity to express thoughts and feelings, through the different forms, movements, and actions are not the content or subject of study; rather, it is the dancer who is the subject of study. The dancer's feelings, insights, and development of sensibilities are expressed through movement forms (Anderson, 2004, p. 84).

Multimedia work can also coordinate various multiple intelligences, such as spatial, logical, linguistic and musical.

> [Multim]edia compel children to think in a different way from linear, printed texts such as a science textbook or even a picture book. Media are often choreographed around lead characters or avatars who guide children through a site or a film and help them to interpret the story … The level of interactivity in media allows students to enjoy music, dance, drama, and visual arts all at once, without being made aware of doing so. As educators we want to harness our language programs to this interest in print combined with electronic texts to build a bridge to literacy (Rowsell, 2004, p. 97).

With regard to dispositional theory, it is interesting to note that these dispositions can be explained further using the descriptors found in the learning domains theory, in particular, the cognitive (creative and critical thinking), affective (emotional) and conative (motivational) learning domains. As well, there is a reflexive component to the dispositions which resembles the "meta" stance apparent in "meta-learning domains", such as metacognition (Robinson, 2007; *Part One*). In other words, dispositions require students to be self-reflective and self-regulatory or, in the instance of multiple learning domains, capable of "meta-processing." Examples of the dispositions are the following:

> a) persistence—how it develops and is revised with time, the conditions and contexts that foster it, and the factors that militate against it; b) creativity, its unfolding, and its applications; c) language, literacy, and math; d) self-regulation, approaches to learning, and learning behaviours; and e) students' development of critical reflection and introspection, particularly as these relate to empathy and understanding others (Gadsden, 2008, pp. 43–44).

"Habits of mind also explore these natural inclinations unique to each learner" (Costa & Kallick, 2008). The dispositional research reifies the need for educators to consider how to promote students to be meta-cognitive, meta-affective, meta-conative, meta-kinesthetic, and meta-spiritual (Robinson, 2007; *Part One*).

EDUCATIONAL IMPLICATIONS

> *One of the major implications of Gardner's theory is that intelligence can be taught—that people can learn to behave in more intelligent ways if multiple forms of intelligence are nurtured and valued. This is a significant departure from traditional concepts of IQ, which are based on the premise that intelligence is fixed at birth and immutable thereafter (Parry & Gregory, 2003, p. 97).*

Teachers need to embrace the fact that multiple ways of learning, which leads to multiple ways of knowing, can be taught. The concept of "differentiated instruction" (see *Effective Practices Part One*) requires that teachers vary their teaching pedagogy to consider the various kinds of learners in their classrooms. Lazear (2001) indicates quite eloquently what the fundamental considerations should be in a multiple-intelligence-friendly classroom.

> If we were to take seriously this multimodal approach to teaching and learning, some of the implications might include the following:
>
> 1) Daily lessons should be "multisensory" learning experiences that provide students with chances to touch, see, hear, taste, dance, smell, write, discuss, draw, sculpt, paint, reflect and sing about what they are learning …
> 2) The various media and tools for stimulating the intelligences must be abundantly present in the classroom, and students must be encouraged and taught how to use them for gaining knowledge, processing information from a lesson, knowing and learning, and creating a range of products that demonstrate their understanding …
> 3) Teachers should create self-instructional tracking plans to ensure that they are teaching in intelligence-balanced ways. Most teachers tend to teach in the way they were taught and in ways that are most comfortable for them …
> 4) Assessment of students' learning must likewise involve a range of intelligence performances that go beyond paper-and-pencil tasks …
>
> Multiple intelligence lessons must, first of all, be couched in the unique language and symbol systems of the various intelligences, which include, but go beyond, the traditional "reading, writing, and 'rithmetic" biases of the existing curriculum (Lazear, 2001, pp. 206–207).

When teachers look for evidence of success in a multiple intelligence classroom, the assessment tools need to be broad and varied. For example, "[c]ollections of student work captured in a portfolio become a tool for teachers and students to see evidence of growth over time" (Stefanankis, 2002, p. 14). Success in a fine arts classroom where differentiated instruction embraces various types of intelligences and dispositions is not always evident to the untrained, or even trained educational eye. Success in the fine arts, especially in multiple intelligence settings, can be something intrinsic that takes root in students in unique ways in their academic, professional and personal lives (see *Indicators of Success Part One*).

> *Typically, people who excel are emotionally balanced, flexible thinkers, and creative problem solvers. These are the people whose relationships flourish, who succeed in the careers of their choice, and who maintain balanced and healthy lifestyles. In short, they possess the qualities and attributes most teachers would describe as being desirable goals for all students. If we want students to attain these goals, we need to look to nontraditional theories of intelligence for insight (Parry & Gregory, 2003, p. 97).*

Brain Research and Arts Education

> *[T]he brain sifts through all incoming sensory stimuli and selects those that are the most relevant or meaningful (Wolfe, 2001, p. 103).*

What is the application of brain research in relation to arts education?

CONCEPTUAL BACKGROUND

Brain-based research has become an increasingly important field of research informing educational theory and practice. There are various scanning technologies for examining how the brain functions (Sousa, 2006). Through this technology, the researchers are able to better understand which parts of the brain are activated by various types of mental activities. Through these types of studies, researchers have been able to conclude and build on the premise that:

> [l]earning is a process of building neural networks. Over a lifetime, you have constructed networks in the cortex of your brain containing information about an unbelievable variety of concepts … How was this network formed? In all probability, your brain formed it in three different ways: through concrete experience, representational or symbolic learning [of real life ideas or objects], and abstract learning [not always with a visible concrete counterpart] (Wolfe, 2001, p. 138).

However, there are some cautions to consider when using brain-based research to enlighten educational practice.

> John Bruer (1998, 1999) cautions educators not to leap to unsupported judgments regarding direct applications of neurobiological insights for educational applications. He chides educators who speak of "brain-based" learning as if using the brain for learning were a recent evolutionary wrinkle. He also criticizes educators who hold misconceptions of right-brain/left-brain behaviors and base educational practice on those misconceptions … Also, educators may attempt to fashion their lessons on a shallow understanding of what neuroscientists report. Despite these cautions, we still need to disseminate and pay attention to research even though we know that further investigation may suggest new directions. Dissemination informs further research and moves the field forward (Given, 2002, p. 13).

Wolfe (2001) disputes that hemispheric brain research be tossed out entirely, claiming that none of the theories about the roles of the different hemispheres was completely inaccurate or entirely accurate.

> Over the past two decades, a large body of research has emerged on the roles of the cerebral hemispheres … Although it now seems clear that our hemispheres each have their specialties, we must remember that they work in concert at all times … Perhaps we need to put more emphasis on teaching to both halves of the brain, since they work together all the time (Wolfe, 2001, pp. 44–48).

The research themes that are consistently emerging in the field of brain-based research are the following: "Research shows that the brain develops five learning systems: emotional, social cognitive, physical and reflective" (Given, 2002, p. 6). "The emotional, social, and physical learning systems tend to be the most powerful in terms of their demands. The level of their functioning determines how effectively the cognitive and reflective systems operate" (Given, 2002, p. 129). In essence, "[e]motion drives attention, and attention drives learning … The brain is biologically programmed to attend first to information that has strong emotional content" (Sylwester, n.d.; as cited by Wolfe, 2001, pp. 86–88).

> *"H]ighly complex and novel movements involve most of the brain" (Jensen, 2001, pp. 72–73).*

Given (2002, p. 12) compares three theories of cognitive functioning which include 1) the brain's natural learning systems; 2) Gardner's Multiple Intelligences; and 3) Dunn and Dunn's Learning Style Domains. This comparison is helpful in highlighting where there are commonalities and differences among the theories.

The Brain's Natural Learning Systems	Gardner's Multiple Intelligences	Dunn and Dunn's Learning Style Domains
Emotional	Intrapersonal	Emotional
Social	Interpersonal	Social
Cognitive	Linguistic Mathematical Musical Visual/Spatial	Psychological
Physical	Bodily/Kinesthetic	Physical
Reflective	Natural	Environmental

With regard to gender distinctions, it is interesting to note that there are no significant differences in overall cognitive performance between the sexes.

> However, on specific skills, more females perform better on tests of perceptual speed, verbal fluency, determining the placement of objects (sequence), identifying specific attributes of objects, precision manual tasks, and arithmetic calculation. More males perform better on spatial tasks, such as mentally rotating three-dimensional objects, at target-directed motor skills, at spotting shapes embedded in complex diagrams, and in mathematical reasoning (Cahill, 2005 et al; as cited by Sousa, 2006, p. 174).

As well, "[w]hen recalling emotions, females use a larger portion of their limbic system than do males. Females are also better at recognizing different types of emotions in others" (Baron-Cohen, 2003; as cited by Sousa, 2006, p. 175).

> The results of these and other studies further indicate that more females are left-hemisphere preferred and more males are right-hemisphere preferred. Why is this so? To what extent do nature (genetic makeup) and nurture (environment) contribute to these structural and performance differences? Although no one knows for sure, the research evidence suggests that the influence of prenatal hormones, natural selection and environment could explain these results (Sousa, 2006, p. 175).

ARTS LINKS

> *In the past 10 years, discoveries from brain research confirm the plasticity and enrichment that comes from music, dance, and visual arts. There are sufficient data to support the fundamental value of arts on equal standing with every other so-called discipline, including science, languages, and math. Arts can no longer be called a cultural add-on (Jensen, 2006, p. 227).*

It is important to note why the arts are considered to be excellent enrichment opportunities. It makes sense that they offer such stimulating opportunities for the brain because the arts are "novel, challenging learning that's usually coherent and relevant" (Jensen, 2006, pp. 226–227).

> The arts enhance the process of learning. The systems they nourish, which include our integrated sensory, attentional, cognitive, emotional, and motor capacities are, in fact, the driving forces behind all other learning. That doesn't mean that one cannot learn without the arts; many have. The arts, however, provide learners with opportunities to simultaneously develop and mature multiple brain systems, none of which are easy to assess because they support processes that yield cumulative results (Jensen, 2002, p. 2).

Specific arts disciplines offer different opportunities that help stimulate brain development and functioning.

> Music: It seems that certain structures in the auditory cortex respond only to musical tones. Dance: A portion of the cerebrum and most of the cerebellum are devoted to initiating and coordinating all kinds of movement, from intense running to the delicate sway of the arms. Drama: Specialized areas of the cerebrum focus on spoken language acquisition and call on the limbic system to provide the emotional component. Visual arts: The internal visual processing system can recall reality or create fantasy with the same ease … In those cultures

> that do not have reading and writing, the arts are the media through which that culture's history, mores, and values are transmitted to the younger generations and perpetuated (Sousa, 2006, p. 214).

Of all of the disciplines, music continues to have the most research that demonstrates strong connections to highly complex neural activity. "The mental mechanisms that process music are deeply entwined with the brain's other basic functions, including emotion, memory and even language. Research shows that the human brain is predisposed to detect patterns in both music and language" (Wolfe, 2001, p. 161).

> Music-making is part of what makes us human. Frank Wilson (1999), Assistant Clinical Professor of Neurology at the University of California School of Medicine, says that learning to play an instrument connects, develops, and refines the entire neurological and motor brain systems (Jensen, 2001, p. 14).

Music is also a discipline that can be integrated successfully across the fine arts disciplines and other subject areas. "[For example] [t]he patterns and symbols in music are underlying concepts that help to make math more understandable" (Wolfe, 2001, p. 164).

EDUCATIONAL IMPLICATIONS

> *An effective classroom climate might be described as one that allows students to naturally increase the endorphin, dopamine, norepinephrine, or serotonin levels in their brains, making the students education experiences more pleasurable and rewarding (Wolfe, 2001, p. 68).*

Educators are wise to realize the significance of brain-based research regarding the role of emotion in learning and its ability to increase retention and should plan classroom instruction accordingly. Teachers need to consider the types of activities that are part of the affective learning domain:

> Activities such as simulations and role plays are often highly engaging and enhance not only the meaning of the material but also the emotional connections. Teachers who have their students act out a particular event of history or form a mathematical equation using fellow students are increasing the chances of retention of the event or the equation … Solving real-life problems is another way to raise the emotional and motivational stakes (Wolfe, 2001, pp. 108–109).

However, it is also important to remember that "[e]motion is a double-edged sword, with the ability to enhance learning or impede it" (Wolfe, 2001, p. 111). Educators need to understand the biological role of emotions and, with this understanding, provide emotionally healthy and innovative school environments that promote optimal learning.

"The most powerful strategies increase retention, understanding, and students' abilities to apply the concepts [that] they are learning" (Wolfe, 2001, p. 131). Some of the reputable brain-based instructional techniques involve the following learning outcomes. Teachers will: 1) create a classroom that supports thinking; 2) activate learners' prior knowledge; 3) provide advanced organizers that provide a conceptual, organizational overview; 4) create a cooperative group learning environment; 5) teach thinking explicitly; 6) ask higher-order questions; 7) engage in creative problem solving; 8) teach concept development inductively; 9) facilitate metacognition; 10) use graphic organizers tools (Parry & Gregory, 2003). Many of these instructional strategies are similar to the constructivist principles and classroom applications (Parry & Gregory, 2003. [See also Appendix G.]

In particular, class projects have been found to be excellent ways of getting students engaged in their learning because, when properly designed, they can present opportunities for students to make their own choices and guide their own learning processes. "Watching students busily engaged in an activity is always a rewarding sight … [However], project and activities should be a means to enhance learning, not an end in themselves (Wolfe, 2001, p. 142).

> Simulations (life-like activities) are also helpful teaching activities, however, they need to be carefully planned and processed for the full benefits to be realized. Students often need assistance in comparing and contrasting the simulation with the actual event so they can abstract the general principles from it. Experts in experiential learning tell us that the time spent in debriefing a simulation should be equal to the time spent in the activity itself. Some simulations are highly emotional, and, while this can be an added benefit for retention, there is a potential danger when students aren't able to separate the simulation from reality and become upset or angry (Wolfe, 2001, pp. 145–146).

There are many types of learning activities that can be considered valuable in a brain-based learning environment. When planning for such activities, lesson plans should be:

- flexible—controlled by the teacher and amenable to modification and adaptation
- brain compatible—consistent with what is known about how the brain learns
- adaptable—capable of accommodating a variety of instruction, thinking skills, multiple intelligences, graphic organizers and authentic assessments (Parry & Gregory, 2003, p. 67).

It becomes important to undertake higher-level planning when preparing a brain-compatible constructivist classroom that encourages higher-level thinking.

Interpretation

> *Research appears to exemplify that "the arts [are] a seamless part of learning and teaching" (Gadsden, 2008, p. 38).*

There appear to be three major themes running throughout the seven areas of research. First, the fine arts appear to enhance personal, social, psychological, learning domain and cultural development in the school environments where they are implemented effectively. The activities undertaken in the arts programs encourage students to enjoy learning in the arts and other subjects and, in some cases, increase student attendance and high school completion. For example,

> … [t]housands of schools around the country are extremely arts centered—and they're succeeding. Typically, arts-centered schools have fewer dropouts, higher attendance, better team players, and increased love of learning, greater student dignity, and enhanced creativity, and they produce citizens better prepared for the workplace of tomorrow and with greater cultural awareness as a bonus (Jensen, 2006, pp. 226–227).

Secondly, the arts are connected with many positive developmental learning outcomes, some general correlations, and a few specific causal relationships from childhood through to adulthood. Some fine arts are more optimally developed at different times in a person's lifetime and help to develop personal and social attributes at these specific times. The ideal is to have extensive exposure to the arts, in the fine arts programs and across the curriculum. It is also important to have this arts enrichment over the course of the students' K–12 schooling, especially in the foundational years from birth to 10 years of age. It is at this stage of life where the windows of opportunity for learning some specific fine arts skills in the various disciplines are most open and flexible.

Finally, the fine arts promote and are promoted by an array of learning theories: critical and creative thinking, multiple intelligences, learning dispositions, and learning systems/learning domains. The current research is now considering the importance of the affective learning domain (emotions), especially in the field of brain-based research. Considering the encouragement in the literature for appreciating learning diversity, teachers are encouraged to differentiate their programs to accommodate the different types of learners and learning styles in their programs. As well, the student-directed approach, which gives students the ability to help design their own creative paths within the programs (constructivist philosophy), seems to demonstrate the most exciting fine arts findings.

Despite the breadth and diversity of the literature and these three emerging interpretive themes, it is important to indicate that the strongest and most reliable causal fine arts links to cognitive development are: a) listening to music encourages spatial-temporal reasoning; b) learning to play music develops spatial reasoning; and c) classroom drama promotes verbal skills (Gadsden, 2008). It is also apparent in this literature review that there are many significant studies supporting the transfer of learning from fine arts to other experiences in drama and music; however, there are considerably fewer credible studies in the visual arts and dance (Catterall, 2002).

In conclusion, it is apparent that many of the fine arts attributes; i.e., critical and creative thinking and metacognition can be taught. As a result, future studies need to research the classroom practices, as well as teacher knowledge and inquiry required in effective fine arts programs that will, in turn, promote a positive transfer of learning into other areas of education, "particularly on topics about which teachers are not particularly knowledgeable" (Gadsden, 2008, p. 38).

> … [T]he proverbial elephant in the room is the question of how, whether, and with what purpose and content are prospective teachers prepared to teach and infuse the arts into their instruction. A fundamental question concerns what teachers and those who prepare teachers count as knowledge and how different epistemological stances matter (Gadsden, 2008, p. 38).

Although the fine arts lend themselves to many creative opportunities for students, it is how the fine arts are understood by the educators and, in turn, taught through effective teaching practices to their students that determines the success of the fine arts for all who participate.

The effective fine arts practices (found in *Effective Practices Part One*) seem consistent with the effective practices found in *Part Two*. These best practices include the following:
1) constructivism; 2) inquiry-based learning; 3) differentiated instruction; 4) process and post-process; 5) learner engagement; 6) learning domains; 7) metacognition and meta-processing; 8) subject and technology integration; 9) contextualization; 10) assessment *for/as* learning; and 11) connoisseurship.

To reiterate, these effective practices promote learning in the following research areas: 1) early childhood development; 2) personal and social development; 3) creative and critical thinking; 4) supporting students at risk and high school completion; 5) multiple intelligences; and 6) brain research. As in the findings of *Part One*, the role of the constructivist teacher is a significant part of the fine arts program. "Perhaps "partner" captures [the role of the teacher] best … They're in the same boat. They share risks and profits, frustrations and successes. Figuratively, and often literally, teachers roll up their sleeves to work and learn alongside their students as colleagues" (Simkins, 2002, p. 104).

In terms of assessment, the literature encourages the teacher to be sensitive to the definition of assessment in the unique milieu of the fine arts classroom with regards to assessment *for* learning (*Effective Practices, Part One*).

> The word "assess" comes from the Latin assidere, which means to "sit beside" … [T]his position—beside a child—is the best way to actively understand that individual. This makes assessing a learning experience for the teacher who gathers information from learners to see their unique capabilities, not disabilities (Stefananski, 2002, p. 9).

Although the fine arts experience is ultimately up to the student in terms of what he/she chooses to do: 1) perceive; 2) acquire language; 3) communicate; 4) apply; 5) understand self; 6) contextualize; and 7) extend and integrate (see Core Learnings, *Part One*), the literature confirms that the role of the teacher seems the most important factor in determining the value of the fine arts outcomes in terms of student learning and development.

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Appendix A
Developmental Period in the Fine Arts (Excerpts from Jensen, 2001)

Music
There's no evidence that utero exposure to Mozart or any other composer has benefits.
Birth–2: At this time, the neurons in the auditory cortex are highly plastic and adaptive. [R]esearchers believe the skill [of music] beings very early.
2–5: [T]hose who began to play prior to age five showed the greatest changes [in brain development], suggesting a model for critical periods of somasensory development through music instruction … Maybe the best music for young children is [that which] engages the whole body, the mind and the emotions … Today's evidence shows that all ages are good for starting music lessons, but the sooner the better. If one starts early, one may benefit from enhanced interhemispheric brain activity for auditory processing.
5–10: Today's evidence [also] shows that all ages are good for starting music lessons … [T]he audiation (the ability to create and hear a piece in your head) is present in nine-year-olds … By age nine they have the following basic mental processes in place that musicians have: perception, rhythm and tonal skills.
10 and over: Under some conditions one may still begin after 10 and become a highly competent musician … It should be remembered that the nonmusical benefits (satisfaction, memory, creativity, appreciation and self-discipline) may be as great as or greater than the more obvious skills acquired [at this age].
Some of the advantages of learning [an] instrument through the various musical stages are the following: music and [successful] IQ [score] correlations; music and math skill [correlations]; increased scores in spatial-temporal reasoning ability; listening to music increases abilities on certain spatial tasks [temporarily]; background music may facilitate a more focused thinking for general intelligence … ; music enhances emotional and social intelligences; and music enhances perceptual-motor systems.
Art
Our visual system … has both critical and sensitive periods for development.
A second critical period is [that] … we learn to see and estimate movement and velocity. We learn to estimate size and distance. Over time, drawers grow from connected objects to hierarchically random improvised solutions (Greenfield & Schneider, 1977; as cited by Jensen, 2001, p. 52) ... Some evidence suggests that the benefits are greater when the visual arts are started earlier …
As children grow into adolescents, it's time to allow them—encourage them—to use space, objects and their hands …
Some of the advantages of learning visual art through the various artistic stages are the following: there is a positive correlation between test scores and studying the visual arts; aesthetic capabilities are enhanced; motivation and self-discipline are increased and visual arts encourage inclusion and the sharing of cross-cultural heritage.
Kinesthetic Arts (Dance and Drama)
Though drama and dramatic play [and dance] have many direct benefits, one indirect benefit is that it facilitates the maturation of the brain's cortical systems (Allman, 1999; as cited by Jensen, 2001, pp. 75–76). This is especially important for enhancing student learning. Reading, counting, speaking and problem solving are all maturation correlated. And it's play that speeds the process. It does it faster and more efficiently than other means because play usually has the following recipe for brain growth built in: challenge, novelty, feedback, coherence and time.
Some of the advantages of learning kinesthetic arts through the various kinesthetic stages of development are the following: improved [brain] development; theatre students scored significantly higher in creativity than those who did not study theatre; self-concept improves; learning improves overall; vestibular activation increases attention span; ability to follow direction increases; the sense of timing increases; there is a sense of personal mastery; the ability to be playfully expressive increases; social skills improve; increase cognitive abilities; and improve emotional attunement.

Appendix B

***Young Children and the Arts*, 1998, pp. 6–13** http://journal.naeyc.org/btj/200407/ArtsEducationPartnership.pdf

Creative Arts

Young babies

Stages	Ages	Examples of What Children Do During This Stage	Sample Arts Experiences That Promote Learning	What Adults and Children Can Do Together in the Arts
When babies are awake, they can be nurtured through sights, sounds and gentle touches. Babies should stay calm and in a regular routine (e.g., don't let babies cry for long periods of time).	birth to 3 months	• Sleeping, sucking, grabbing, staring, listening, crying, and making small movements. • Use facial expressions such as smiling and frowning to express their needs. • Respond to voices, both loud and soft tones, by turning their heads and moving their arms and legs.	• Stimulate eye movement and auditory development through contrasting images (e.g., black and white or colored objects) and voices (speaking or singing). • Increase awareness of space, movement, and sound by hanging mobiles, playing soothing music, and making animated faces. Babies discover that they can change what they see, hear, and touch.	• Watch for babies' cues and signals, such as a response to music and objects (cues include smiles and reaching). • Allow babies to hear soothing music, birds singing, water babbling, and other soft sounds. • Hang mobiles within a foot of the eye line. Sing, talk, and read books to babies. • Use gentle movement when holding babies (e.g., rocking and swaying).
Holding, cradling, and hugging will nurture babies and develop their sense of touch and space. Young babies show pleasure by looking intently, joyful smiling and laughing, arm and leg movements, and other gestures.	3 to 8 months	• Respond to people's voices by turning their head and eyes. • Vocalize with some intonation and begin making repetitive sounds. • Respond to objects and people they can see and touch, and voices and music they can hear. • Make meaningful noises, coo, and babble. • Respond to friendly and angry tones of others' voices. • Will begin to be able to roll over and sit upright by the end of this stage.	*Continue previous experiences as well as the following:* • Encourage recognition of new aspects in the environment by touching objects, and hearing adults name them, and observing functions. • Stimulate innate sense of discovery through music and movement, through shaking a rattle, or swaying to the notes of a violin, flute, or guitar (or other music). • Build vocal skills through stories and songs; encourage expression by making faces, gestures, and sounds.	*Continue previous experiences as well as the following:* • Begin to place rattles or appropriate toys with textures and sounds in babies' fists. • Encourage babies to reach and sway arms. • Use appropriate soft and colorful materials for babies to touch (e.g., blankets or toys). • Use vocal sounds to express feelings, such as happy and surprised. • Encourage babies to laugh and smile by rhyming, singing, and using pat-a-cake type gestures. • Use nap time to read nursery rhymes and sing lullabies.

Crawlers and walkers

Stages	Ages	Examples of What Children Do During This Stage	Sample Arts Experiences That Promote Learning	What Adults and Children Can Do Together in the Arts
Crawlers and walkers are able to see and begin to know how things work. They experiment with their world and use their senses to understand everything by touching, seeing, hearing, etc. They also need extra attention and supervision (especially as they begin to crawl and walk). They need someone to talk to them about what they see and hear.	8 to 18 months	• Experience new senses of adaptation and anticipation (e.g., through hide-and-seek, peek-a-boo). • Become more deliberate and purposeful in responding to people and objects. • Comprehend simple words and intonation of language (such as "all gone," and "bye-bye"). • Begin speaking and actively experiment with their voice. • Can follow simple instructions, especially with visual or vocal cues. • Hold large crayons, move them between hands, and make marks on paper. • Can place blocks one on top of the other. • Demonstrate continuous vocabulary growth up to 30 words. • Crawl, pull self up, walk, climb, and may begin to run. • Actively show affection and express positive and negative feelings.	*Continue previous experiences as well as the following:* • Encourage imitation of voices, sounds, and movements. • Expose them to different sounds and movements that others make. • Allow exploration of the different sounds they can make with their voice or by clapping their hands. • Teach motor skills by using simple musical instruments such as toy drums and xylophones. • Teach repetition of patterns in voice, movement, and sounds as well as texture and colors in images and objects. • Develop balance by simple dance movements while sitting or standing.	*Continue previous experiences as well as the following:* • Move to different play areas to see nature, people, and images. Talk about what the children see. • Play music and move the children's feet, legs, and hands to the beat. • Explore shapes and colors of everyday objects (e.g., clothing, cereal boxes, etc.). Talk about what is around them and make up songs to go with what they see and hear. • Hang pictures at eye level. Name, describe, and point to items in the pictures. • Use character voices and gestures when reading stories. • Provide opportunities to explore safe and appropriate media in visual arts (e.g., finger-painting with water, drawing with crayons).

Toddlers

Stages	Ages	Examples of What Children Do During This Stage	Sample Arts Experiences That Promote Learning	What Adults and Children Can Do Together in the Arts
Toddlers move quickly and with greater skill during this phase. They begin teaching themselves and learn from watching other children. Words become associated with movement and accompanying body sensations. Identity becomes an important issue during this stage, tied to increasing independence.	18 to 24 months	• Copy others' actions and voices, speak in two-word (short) sentences, name objects, and can look at books on their own. • Build thoughts, mental pictures, and verbal labels associated with learned concepts. • Can stand on tiptoes, catch a ball with arms and chest, and walk up and down stairs. • Unbutton large buttons, and unzip large zippers. • Begin to match and sort and learn where objects belong. • Show curiosity and recognize themselves in a mirror or photograph. • Demonstrate vocabulary growth up to approximately 200 words. • Use words to express feelings.	*Continue previous experiences as well as the following:* • Children learn to make aesthetic choices such as what color to paint the sky and what songs they like to sing. • Encourage imagination and pretending by prompting children to move like a cat through a jungle or dance like an imaginary character to music. • Build vocabulary through drama, role playing, and acting out stories (with puppets or pictures). Acting out stories also generates questions and allows for multiple answers. • Learn about feelings through songs, poems, and stories.	*Continue previous experiences as well as the following:* • Activities with items as simple as a paper plate, nontoxic paint, and play-dough are appropriate. Allow children to explore and experiment with materials (with supervision). • While listening to music, dance and move while holding their hands. • While dressing children, pretend socks are puppets or animals. • Recreate children's favorite stories or routines. • Build a library of books and take weekly trips to the local library. • Show and tell stories from photographs. • Have simple musical/percussion instruments available to play. • Visit children's museums and appropriate child-friendly exhibits and performances.
Toddlers become increasingly coordinated in their movements and gestures at this time. Language development increases rapidly, and they begin counting up to five. They develop an interest in other children and being near them. They begin developing an interest in pretend play.	24 to 36 months	• Develop symbolic thought and build mental concepts or mental pictures. • Make first representational drawings. • Engage in self-directed imaginative play. • Listen, repeat, and experiment with words on an increasing basis. Speak in sentences with three or more words. • Understand self in relation to others. • Can paint with large brush and tear paper.	*Continue previous experiences as well as the following:* • Develop problem solving skills and empathy by predicting what will happen next and pretending to be favorite characters in books, stories, or songs. • Help to develop analytical skills by listening and responding to music, poems, drama games, and looking at visual art and describing the details.	*Continue previous experiences as well as the following:* • Continue to build on experiences in music, drama, dance, and art and make arts-based activities a daily routine. • Incorporate singing, storytelling, and dance into daily experiences (e.g., eating lunch, nap time, and saying good-bye). Identify shapes, textures, and colors in foods and clothing.

Toddlers (cont'd)

Stages	Ages	Examples of What Children Do During This Stage	Sample Arts Experiences That Promote Learning	What Adults and Children Can Do Together in the Arts
	24 to 36 months (cont'd)	• Complete a form puzzle with large knobs. • Begin to turn pages one at a time. • Can repeat representative gestures and motions such as "Itsy, Bitsy Spider," or "I'm a Little Teapot."	• Promote physical development and self-confidence through dance and creative movement. Children learn how to use different parts of their body to express themselves. • Drawing, painting, games, and songs promote different concepts such as loud and quiet, hard and soft, light and dark, etc. • By stringing beads or drawing on paper, hand coordination is developed.	• Tell and act out family stories about grandparents, aunts and uncles, and others. • Assist children in using brushes and paint and mold objects with clay. • Create simple costumes for drama and theater activities (e.g., dress-up in old clothes). • Take children to child-friendly museums, libraries, and live performances to introduce them to different aspects of their community.

Preschoolers

Preschoolers' strengths and motor skills along with their more adult-like body proportions allow greater opportunities to explore the world. Children can count to five and higher during this stage. They start to play with other children and are more likely to share. They are generally more cooperative and enjoy new experiences.	3 to 4 years	• Ask many questions, mainly those that begin with "why." • Talk about things and make up stories. • Print large capital letters using pencil or crayon. • Cut figures with scissors, and may be able to print first name. • Push and pull a wagon. • Attempt to get dressed on their own. • Gain a sense of direction and relationship to others' space. • Begin to show social skills and manners. • Can match shapes, colors, and patterns. • Can draw faces with some detail. • With direction, can play group games such as "Ring Around the Rosey," and musical chairs.	*Continue previous experiences as well as the following:* • Contribute to the child's ability to learn causality. New problems pose questions and encourage children to seek their own answers and act on choices. • Help develop language skills by reciting poems and finger plays. Number skills are developed through music (e.g., counting rhythm and beats when playing a musical instrument). • Dance helps to build motor control, body relationships, and directionality. • Spatial acuity is developed through drawing, sculpting, and other visual arts. • Social skills are encouraged by group activities such as learning dance steps or singing songs.	*Continue previous experiences as well as the following:* • Pantomime characters from books read with children. Ask them to guess characters. • Imitate movements made by objects (such as cars) and other people (such as drivers). • Construct collages using paper, glue, scissors, and magazine cut outs. Talk with them about the collage or create a story together. • Hum tunes to familiar songs and allow children to add the lyrics that go with the melody. • Allow children to observe themselves in the mirror while dancing or acting out a story. • Bring small groups of children to interactive performances and exhibits.

Preschoolers (cont'd)

Stages	Ages	Examples of What Children Do During This Stage	Sample Arts Experiences That Promote Learning	What Adults and Children Can Do Together in the Arts
Preschoolers learn greatly from interaction with others. They begin to understand that they have feelings and opinions that are different from others. Children at this stage are more likely to understand and remember the relationships, concepts, and strategies that they acquire through firsthand, meaningful experiences. They have longer attention spans and enjoy activities that involve exploring, investigating, and stretching their imagination.	4 to 5 years	• Can copy simple geometric figures, dress self, and use more sophisticated utensils. • Use language to express thinking and increasingly complex sentences in speaking to others. Express their own feelings when listening to stories. • Enjoy using words in rhymes and understand nonsense and using humor. • Can be very imaginative and like to exaggerate. • Say and begin writing the alphabet. • Can identify what is missing from a picture (such as a face without a nose.) • Can identify basic colors. • Have better control in running, jumping, and hopping but tend to be clumsy.	*Continue previous experiences as well as the following:* • Strengthen nonverbal, cognitive skills by encouraging children to describe people in their world using pictures, body movements, and mime. • Provide creative outlets for prereading skills through activities such as making up stories, reciting poems, and singing songs with puppets and stuffed animals. • Children begin to make observations by role-playing human and animal characters in a variety of imaginary settings. • Memory is strengthened by repeating stories, poems, and songs. • By using clay or other art supplies, children learn to make choices and how to make things happen.	*Continue previous experiences as well as the following:* • Discover with children how the body can move to music and the difference when there is no music. • Create music with children using empty containers as drums. (Empty plastic containers filled with beans and rice can serve as maracas, for example.) • Make a patchwork quilt with scraps of materials sewn together with yarn. Create and illustrate stories based on the quilt. • Encourage children to assume roles of family members or literary figures in improvisations. Base them on children's experiences, family customs, books, or songs. • Recreate drawings from favorite books.

School-age children

School-age children are able to make conscious decisions about art, music, dance, and theater and respond to them with feelings and emotion. They learn to compare and contrast different sounds, pictures, and movements. They become increasingly skilled at creating their own art, songs, stories, and dance movements. Since children learn in an integrated fashion, it is vital that their learning experiences incorporate multiple domains of development including cognitive, physical, and socioemotional.	5 to 8 years	• Have good body control for doing cartwheels and better balance for learning to ride a bike. • Play jump rope and hop scotch. • Can build inventive model buildings from cardboard and other materials. • Begin spelling, writing, and enjoy telling stories to other children and adults. • Become increasingly independent and will try new activities on their own.	*Continue previous experiences as well as the following:* • Children will learn many ways of using their own language to tell stories. This can be encouraged by telling folktales and stories through pantomime, drawing, and music. • Through the artistic process, children learn what works and what doesn't. They also learn how to think about making choices when experiencing music, dance, theater, and art. • Children develop higher levels of thinking by learning to look at others' artwork or performances and developing an opinion. • When discussing music, art, dance, and theater, children can talk in terms of likes and dislikes. This builds judgment and analytical skills.	*Continue previous experiences as well as the following:* • Represent familiar actions like making pizza and doing chores in creative movement and dance activities. Allow the child to choose movements and ask the reasons for those choices. • Write and recite poetry and paint pictures that depict themes such as nature, school, and family. Ask questions and encourage discussion. • Exhibit children's artwork, and hang it so others can look at and respond to it. • Make scrapbooks or portfolios to keep favorite stories, photos, and artwork. • Collect tapes and recordings of music and encourage children to select favorites. • Encourage improvisation and stories, and provide materials that offer imaginary props.

Appendix C
The Arts and the Transfer of Learning

Transfer in the Compendium studies

This Compendium displays the results of a sizable effort to catalog and describe research on the effects of learning in the arts on academic and social skills. In order to explore the many relationships suggesting evidence of transfer in these studies, it may be useful to provide a detailed portrait of the many arts-related academic and social outcomes that in fact find support in research.

Figure 1 presents just such an inventory. A first reaction might be that a great many academic and social developments have been linked to the arts in accumulated research—65 core relationships by rough count and more if every nuanced outcome variable across all compendium studies were to be listed. Of the relationships shown

5 Bransford, J. et al. (Eds.) How People Learn, Expanded Edition. Washington D.C.: National Academy Press, 2002

6 Damasio, A.R. Descartes' Error: Emotion, Reason, and the Brain. New York: Avon Books, 1995. (First published in 1994.)

7 Sylwester, R. A celebration of neurons: An educator's guide to the human brain. Alexandria, VA: ASCD

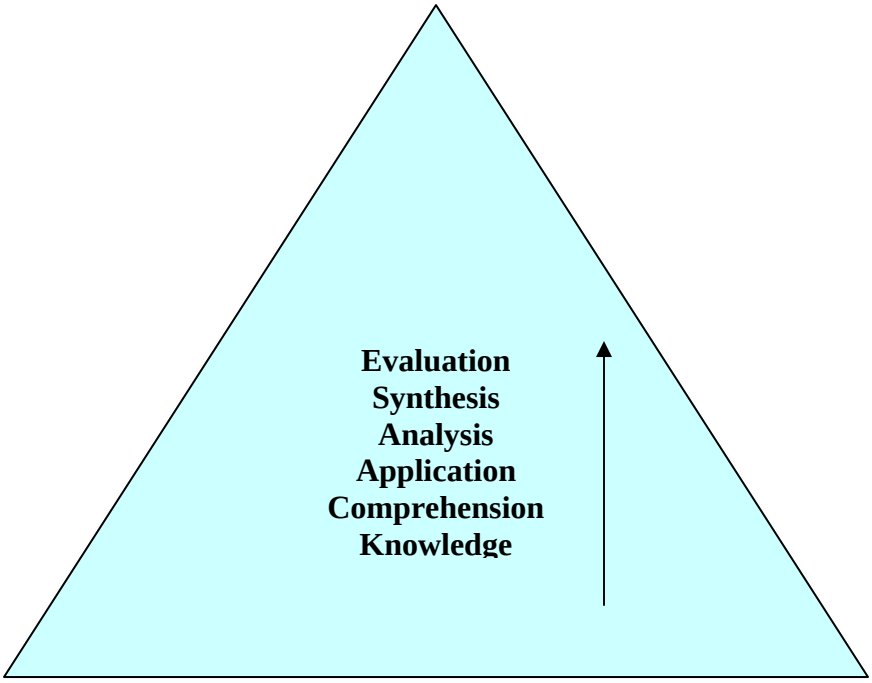
Figure 1. Compendium Summary: The Arts and Academic and Social Outcomes

Arts Learning:	Cognitive Capacities and Motivations to Learn:
Visual Arts	
Drawing	Content and organization of writing.
Visualization training	Sophisticated reading skills/interpretation of text.
Reasoning about art	Reasoning about scientific images.
Instruction in visual art	Reading readiness.
Music	
Early childhood music training	Cognitive development
Music listening	Spatial reasoning. Spatial temporal reasoning. Quality of writing. Prolixity of writing.
Piano/keyboard learning	Mathematics proficiency. Spatial reasoning.
Piano and voice	Long-term spatial temporal reasoning.

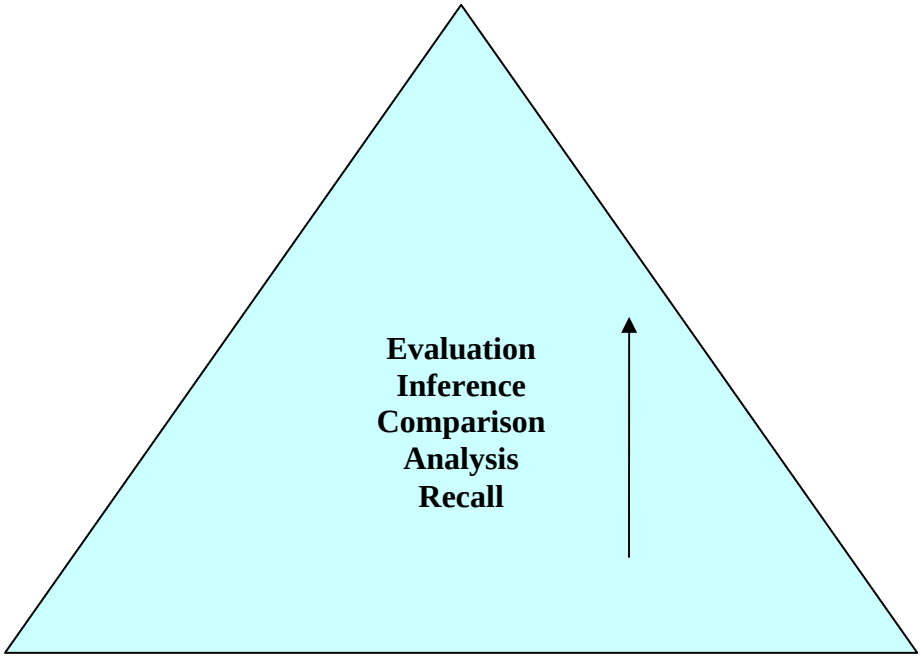
Music performance	Self-efficacy. Self-concept.
Instrument training	Reading. SAT verbal scores.
Music with language learning	English skills for ESL learners.
Classroom Drama	
Dramatic enactment	Story comprehension (oral and written). Character identification. Character motivation. Increased peer interaction. Writing proficiency and prolixity. Conflict resolution skills. Concentrated thought. Understanding social relationships. Ability to understand complex issues and emotions. Engagement. Skill with subsequently read, unrelated texts. Problem-solving dispositions/strategies. General self-concept.
Dance	
Traditional dance	Self-confidence. Persistence. Reading skills. Nonverbal reasoning. Expressive skills. Creativity in poetry. Social tolerance. Appreciation of individual/group social development.
Creative dance	General creative thinking – fluency General creative thinking – originality, elaboration, flexibility.
Multi-arts Programs	
Integrated arts/academics	Reading, verbal and mathematics skills. Creative thinking. Achievement motivation. Cognitive engagement. Instructional practice in the school. Professional culture of the school. School climate. Community engagement and identity.
Intensive arts experience	Self-confidence. Risk-taking. Paying attention. Persevering. Empathy for others. Self-initiating. Task persistence. Ownership of learning. Collaboration skills. Leadership. Reduced dropout rates. Educational aspirations. Higher-order thinking skills.
Arts-rich school environment	Creativity. Engagement/attendance. Range of personal and social developments. Higher-order thinking skills.

(Catterall, 2002, pp. 152–154)

Appendix D
Bloom's Taxonomy



Quellmalz's Taxonomy



(Gregory, 2005, pp. 104–105)

Appendix E
Inquiry Strategies

Geahigan (1997) Model of Aesthetic and Critical Inquiry

- Students exchange observations and opinions about a work of art
- Students compare and contrast related works of art
- Students reflect on controversial art

Stewart (1997) Strategies for Fostering Critical and Aesthetic Discussions

- Keep the discussion focused
- Raise questions without providing answers
- Ask participants for clarification and supporting evidence for their opinions
- Relate viewpoints to aesthetic theory
- Encourage and suggest alternative viewpoints
- Provide closure by summarizing the opinions that emerge in the discussion

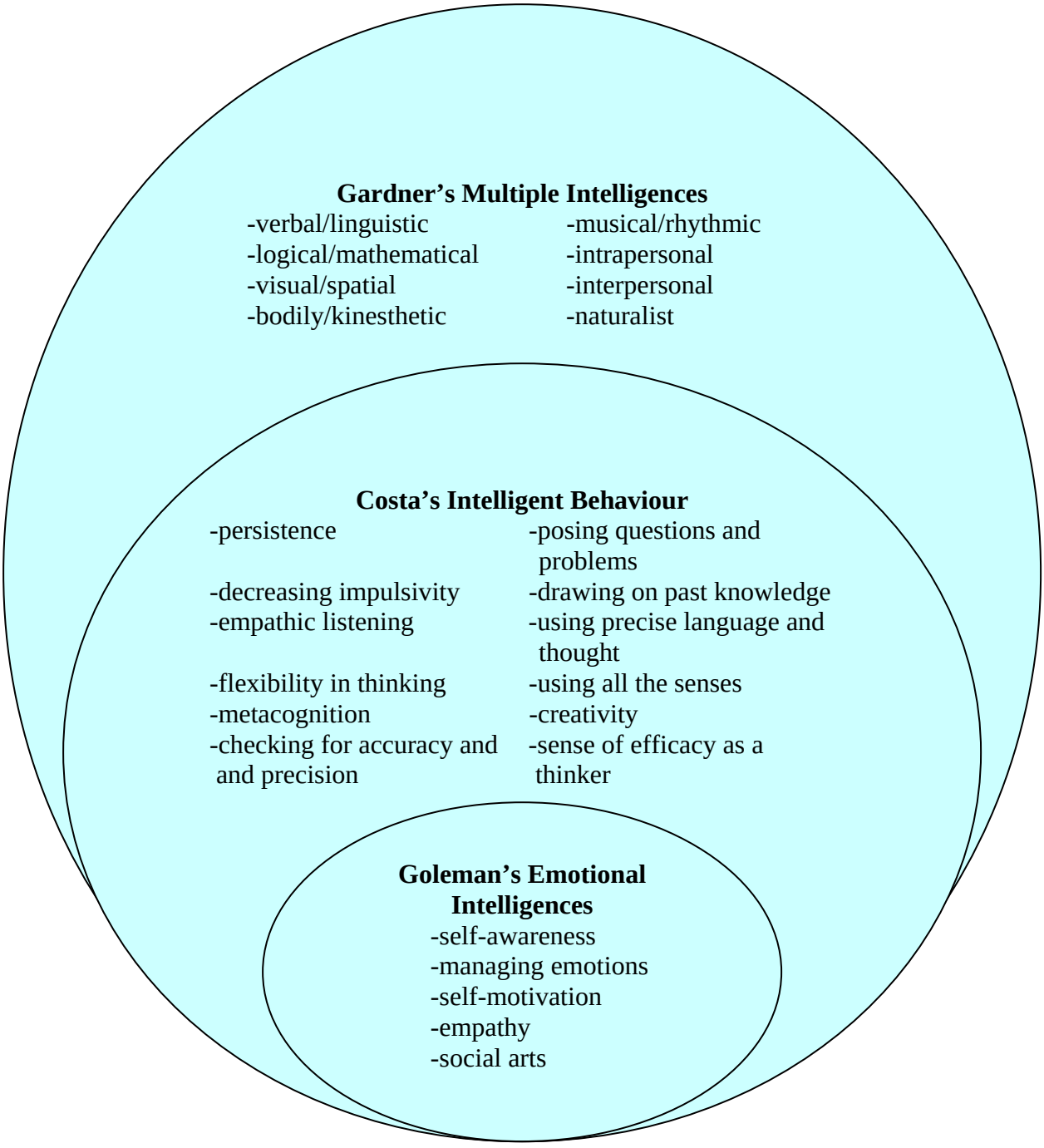
Barrett (1997) Three Critical Inquiry Questions

- What do I see?
- What is the artwork about?
- How do I know?

(As cited by Lampert, September 2006, p. 48)

Appendix F
Three Theories of Intelligence

(Parry & Gregory, 2003, p. 99)



Appendix G
Brain-compatible Constructivist Classrooms
(Parry & Gregory, 2003, p. 62)

Constructivist Principles	Brain-Compatible Elements	Classroom Applications
Pose problems of emerging relevance	Tap into the brain's natural tendencies to seek meaning and make sense of the world. Stimulate the brain's natural curiosity to seek novelty and variety.	Present problems in such a way that students are invited to develop questions and pursue answers that have personal meaning.
Structure learning around primary concepts	Use the brain's ability to recognize and construct patterns and to make connections between and among ideas.	Present the "big picture" or context so that students see how the parts relate. Isolate skills and teach them separately, when necessary, but put skills back into context as soon as they are mastered.
Seek out and value students' points of view	Foster an emotionally safe environment where learners are able to take risks and engage in creative thinking. Strengthen the neural connections through articulation of ideas.	Encourage students to express their own ideas related to major concepts. Value their points of view and foster an open interchange of ideas.
Adapt curriculum to address students' suppositions	Provide a variety of concrete experiences as a way of developing neural connections. Provide opportunities to clarify concepts through discussion.	Challenge the students' thinking by provoking them to examine their suppositions, premises and beliefs.
Assess student learning in the context of teaching	Practice the new learning in context through elaboration and rehearsal, enabling the brain to establish connections between the context and the learning, thus making it easier to recall and apply in the future.	Be sure that the assessment strategies are an integral part of the teaching-learning process. Apply assessment strategies that relate closely to ways in which they are used in the real world.

Biography

Shelley Robinson is a native Albertan and has been teaching music (piano and theory) with Mount Royal College in Calgary since 1983, and the fine arts (music, drama and art) and humanities (English and social studies) K–12 in the public education system since 1988. She has also been an English coordinator, fine arts coordinator and curriculum facilitator with the Rocky View School Division (1998 to 2005). She has recently completed her PhD in Curriculum, Teaching and Learning at the University of Calgary (2007). She is presently the Assistant Principal at the Calgary Science School.