Tools for Putting MI into Practice

Tools are instruments for doing work, and virtually every sort of work uses them. In the work of schooling children, we employ tools such as blackboards and computers, maps and chalk. However, many of the most important educational tools are not three-dimensional things. Instead, they are ideas about how to work with students, curriculum, materials, and colleagues.

The theory of multiple intelligences, "MI," is one of the ideas, or tools, that many educators use in their work. Yet, in most complex work—from building a house to managing a business—many tools are necessary. In this chapter we describe three tools that are needed to engage students' multiple intelligences in ways that advance their learning. Each tool is meant to enhance knowledge and skills across a broad range of students. The tools we present are not the only tools that can be used. However, they are a good basic set, because they deal with three fundamental aspects of schooling: the learner, the curriculum, and the school as an organization.

Here are the tools we'll focus on:

- MI, a tool for focusing on learners' cognitive abilities;
- Entry Points, a tool for developing curriculum;
- Compass Point Practices, a tool for developing organizational practices across classrooms and the school.

In this chapter, we present the background to these tools and describe them in detail.

If you are new to these ideas, keep in mind that it takes time and practice to feel comfortable using any tool. Remember your early attempts at using a sewing machine or a new piece of software? Like those tools, the ones we describe here will become familiar and helpful as you work with them.

If you are already working in schools, you might want to think about how your current practice includes ideas that are similar to and different from the tools presented here. Educators sometimes find that many of their ideas align with the tools we'll describe, but that they did not necessarily have a language for expressing or naming these ideas. Having ways to describe what you do, or having names for the ideas, helps you to reflect systematically on your practice. This, in turn, allows you to see more clearly
the strengths in your practice and also to see possibilities for further development. In addition, when educators have a shared vocabulary, it can help them to communicate about their practice and to build a stronger learning environment for their students (Kornhaber 1999; Kornhaber and Krechevsky, 1995; Schön, 1983).

THE THEORY OF MULTIPLE INTELLIGENCES: A TOOL FOR FOCUSING LEARNERS’ COGNITIVE ABILITIES

Background

The theory of multiple intelligences (MI) was developed by Harvard psychologist Howard Gardner and first presented in Frames of Mind: The Theory of Multiple Intelligences (Gardner, 1983/1993). In Frames of Mind, Gardner took issue with the way that most psychologists had characterized intelligence since the beginning of the twentieth century. That traditional psychological view was based largely on studies of mental tests. According to that view, all human problem solving is governed by one underlying mental ability. This ability is known as general intelligence, or g. However, Gardner’s years of research in the arts, developmental psychology, and neuropsychology led him to cast doubt on the centrality of g:

- If general intelligence governed all problem solving, then young children should show roughly the same rate of intellectual development in mastering language skills, drawing, math, dance, or other areas. Yet, development across these areas occurs at different rates. For example, children typically develop sophisticated language skills far faster than they develop sophisticated skills in math.
- If g prevailed, then child prodigies should excel across the board, in music, as well as in painting, chess, and math. However, prodigies rarely, if ever, fit such a pattern. They typically excel in only one or two areas.
- If g were the rule, then autistic savants or stroke victims should have weak capacities across the board. Yet, there are brain-damaged people who can play music beautifully but who are severely impaired in their use of language; there are others who can communicate well, but who cannot solve basic math problems.

Rather than attempting to explain all of human intelligence in terms of g and the mental testing that supports it, Gardner began with a very different question: What are the mental abilities that support the wide range of adult roles found over time and across cultures? So, for example, what abilities enable people to become teachers, carpenters, musicians, engineers, storekeepers, hunters, architects, doctors, religious leaders, farmers, or stockbrokers? What enables human beings to repair a car’s faulty wiring, navigate the ocean, or negotiate a peace treaty? Rather than defining intelligence in terms of mental test results, or IQ scores, Gardner defined an intelligence as a psychobiological potential to solve problems or fashion products that are valued in one or more cultures (Gardner, 1999). In other words, an intelligence is a capacity inherent in the human brain that is developed and expressed in social and cultural contexts.
Evidence and Criteria

To uncover the abilities or "intelligences" that support these diverse roles, Gardner considered research from his own fields of developmental psychology and neuropsychology as well as more far-ranging disciplines such as cross-cultural anthropology and evolutionary biology. To determine whether a capacity should be called an intelligence, Gardner argued that each possible intelligence should meet most, if not all of the following criteria:

- It should be seen in relative isolation in prodigies, autistic savants, stroke victims, or other exceptional populations.
- It should have a distinct developmental trajectory. That is, different intelligences should develop at different rates from their beginning manifestations in infancy to full adult usage.
- It should have some basis in evolutionary biology. In other words, an intelligence ought to have helped our human ancestors to survive and ought to be evident in other mammals.
- It should be captured in symbol systems. Given its importance, humans would likely have found a way to transmit information that draws on the intelligence, as they do, for example, in notations for math, language, music, spatial relations, and various forms of movement.
- It should be supported by evidence from psychometric tests of intelligence. Gardner drew on this kind of evidence, which commonly uncovers verbal, spatial, and numerical abilities. However, unlike traditional psychologists, he did not rely on evidence from psychometric tests to the exclusion of other information.
- It should be distinguishable through experimental psychological tasks. For example, experimental psychologists have found that different neural structures help to support different kinds of mental processing.
- It should demonstrate a core, information-processing operation. That is, there should be nearly automatic mental processes that handle information related to each intelligence. For example, barring neurological impairment, human beings automatically break up streams of sound into the words of their own language; discriminate greater or lesser numbers in small groupings of objects; attempt to make sense of facial expressions in interpersonal encounters; and make distinctions between pitches when they hear music.

The Eight Intelligences

Using this definition and these criteria, Gardner has now identified eight intelligences:

*Linguistic intelligence* allows individuals to communicate and make sense of the world through language. Those who have a keen sensitivity to language in its spoken and/or written forms demonstrate this strength as poets, writers, lawyers, and public speakers. Linguistic intelligence is highly valued and rewarded in school.

*Logical-mathematical intelligence* enables individuals to use, appreciate, and analyze abstract relationships. In Western culture, this capacity is often harnessed in mathematical reasoning and scientific investigations. Mathematicians, scientists, and engineers deploy this intelligence at
high levels. Like linguistic intelligence, logical-mathematical intelligence is emphasized in school.

Spatial intelligence enables people to perceive visual or spatial information, to transform this information, and to recreate visual images from memory. Blind people skillfully employ this intelligence, using it to create mental maps of their environments. It is commonly seen operating at high levels in architects, artists, surgeons, and pilots.

Musical intelligence allows people to create, communicate, and understand meanings made out of sound. It is manifested to high degrees among composers, musicians, and acoustic engineers.

Bodily-kinesthetic intelligence entails using all or part of the body to solve problems or create products. This intelligence seems to stand in stark contrast to the reasoning prized in traditional tests of intelligence. Yet, advanced forms of problem solving and creativity are evident in the activities of choreographers, rock climbers, and skilled artisans.

Interpersonal intelligence is the capacity to recognize and make distinctions among others’ feelings and intentions and to draw on these in solving problems. Successful teachers, actors, therapists, political leaders, and salespeople rely on strong interpersonal intelligence.

Intrapersonal intelligence enables individuals to recognize and distinguish among their own feelings, to build accurate mental models of themselves, and to draw on these models to make decisions about their lives. Intrapersonal intelligence is sometimes seen in skillful autobiographies and, more generally, among those individuals who make sound choices about their life and work.

Naturalist intelligence allows people to solve problems by distinguishing among, classifying, and using features of the natural world. This intelligence is commonly seen in people’s ability to categorize different kinds of plants and animals and has been harnessed to the task of distinguishing among human-made objects. It is essential to the work of landscape architects, hunters, archeologists, and farmers.

Some Important Points

There are several points about MI that are especially important for educators to keep in mind:

First, Gardner notes that the exact number of intelligences is less important than the notion that intelligence is multiple rather than primarily dependent on g. Over time, Gardner may find other abilities that qualify as intelligences when judged against his criteria. In fact, the naturalist intelligence was established several years after the others, once evidence to support it had been uncovered.

Second, barring brain damage, all individuals possess all the intelligences. Though we have often heard educators or parents describe a youngster as “bodily-kinesthetic” or “linguistic,” this convenient shorthand runs counter to the theory. What differs across people is not the intelligences they possess, but their profiles of intelligence. That is, individuals differ with regard to the relative strengths and weakness among their intelligences. For
instance, some people will be stronger in spatial intelligence than they are in musical or in bodily-kinesthetic intelligence. Other individuals may be stronger in logical-mathematical and spatial intelligence than they are in linguistic or interpersonal intelligence. Still others may be strong in intrapersonal, linguistic, and musical intelligence than they are in logical-mathematical or naturalist intelligence. While school has traditionally prized a profile strong in linguistic and logical-mathematical intelligences, individuals with markedly different "profiles of intelligence" are successful in the real world.

A third nuance stems from the theory's focus on real-world roles. Even a brief consideration of real-world roles—journalist, mathematician, dancer—reveals that each real-world role draws on a combination of intelligences. For instance, a journalist certainly requires strong linguistic ability. However, to be successful, a journalist likely also needs keen interpersonal skills to conduct good interviews, and reasonable logical-mathematical skills to weigh evidence and make judgments about conflicting sources of information. A mathematician certainly requires strong logical-mathematical skills. However, a mathematician may also rely on spatial skills for visualizing relationships and likely also draws on interpersonal intelligence to make mathematical ideas understood and interesting to others. A dancer needs bodily-kinesthetic strengths, but she must also use musical intelligence to align her movements with the mood and meter of the music, spatial skills to organize these movements on stage, and intrapersonal and interpersonal intelligences to access her own feelings and convey these to an audience. In short, each of the intelligences contributes to real-world success. We believe that if schools thoughtfully engage a wider range of students' strengths, they will help more students to succeed in school and beyond.

Interpreting MI for School Use: Some Issues to Consider

The multiplicity of intelligences and their utility in the real world is a two-edged sword for schooling. Many educators have rightly seen that schools' traditional focus on linguistic and logical-mathematical intelligences has left many students on the sidelines.

On the other hand, in an effort to use MI and enable more students to succeed, educators have oftentimes divided the curriculum up into seven or eight discrete "intelligence activities." For instance, educators may divide a unit on reptiles into centers that ask students to move like a reptile, create a reptile song, read reptile books, and draw or sculpt reptiles, do reptile math problems, etc. Staff developers, consultants, and numerous writers have widely advocated this approach, and it is commonly used when educators first try adapting the theory to practice. There is no doubt that this approach offers a clear line from theory to curriculum. However, some awkward things happen when MI—a tool for understanding cognitive abilities—is used as a tool for curriculum development. Superficial activities may become more frequent and some of the substance of the curriculum may be sacrificed. Because of such problems, MI has sometimes been criticized for watering down standards, rather than enabling richer learning across the student population. To use MI well, one needs tools aimed more specifically at developing curriculum that engages learners who have different profiles of intelligence. The following section, "Entry Points," provides a tool for curriculum development devised by Howard Gardner.
ENTRY POINTS: A TOOL FOR DEVELOPING CURRICULUM

Background

Several years after MI was put into practice, Howard Gardner devised a framework that was more appropriate for constructing curriculum to support success among learners with very different profiles of intelligence. In developing this framework, Gardner was considering this question: What are some of the characteristics or features of the disciplines that also reflect the different ways that people can learn? By asking this question, Gardner sought to devise a map that respected the complexity of individuals' profiles of intelligence and the richness of math, literature, science, history, art, and other disciplines.

Gardner provided an initial description of such a framework, which he called entry points, in his 1991 book, *The Unschooled Mind* (revised in Gardner's 1999 book, *The Disciplined Mind*). Gardner regards the entry points as different doors, each of which leads into the same room—the subject or topic being studied. He asserts that each curriculum unit can be divided into entry points, with each entry point allowing learners to encounter the substantive knowledge, concepts, and skills of the disciplines.

While individual learners' profiles of intelligence may lead some students to prefer some entry points over others, Gardner argues that it is important for students and teachers to approach a topic through multiple entry points. The use of multiple entry points allows students to gain different perspectives on the same topic. By having a range of perspectives, students' understanding is deepened: they become more able to go beyond rote recall and to find new ways to represent and apply what they have learned. Rather than being left with one static idea of a topic, they are more likely to transfer information about the topic from one context to another.

The Entry Points Framework

The Entry Points Framework we are using in this book is described below. To illustrate the entry points, we draw on Gardner's example, which shows how each entry point can be applied to the topic of evolution (Gardner, 1991a, 1999). However, as you read the following example, you may also want to develop your own illustration, using a topic that you have taught or plan to teach.

*Narrative:* The narrative entry point deals with the story or stories that are central to a topic. Typically a rich, or "generative," topic will offer several possible narrative entry points, some of which may be recounted or performed as dramatic narratives. For instance, for the topic of evolution, there is the narrative involving Darwin's own life, his voyage to the Galapagos Islands, or even various traditional folk stories about how different animals and plants came to have their unique form.

*Logical-Quantitative:* This entry point focuses on numerical aspects of a topic and/or on deductive, logical reasoning, of the sort that can often be captured by *if-then* syllogisms. A more quantitative entry point for the topic of evolution might entail looking at Darwin's effort to map the
distribution of different species across different islands. A logic-focused entry point might pose syllogisms for the students to explore: if there were no variation within a species, then what might happen when its environment changed?

Aesthetic: The aesthetic entry point engages artistic aspects of, or representations of, a topic. It may also focus on sensory features associated with the topic. An aesthetic entry point for evolution might be to examine different drawings Darwin made of finches or other species he studied on the Galapagos and to describe how their shapes/morphologies differ.

Experiential ("Hands-on"): This entry point provides students opportunities to do work involving the physical "stuff" of the topic. For example, for the topic of evolution, students might breed fruit flies, or do virtual simulations of evolutionary processes, and document what they observe.

Interpersonal: The interpersonal entry point involves working together with others to learn about a topic. One way to incorporate the interpersonal entry point in the topic of evolution is to form research teams to carry out real or simulated experiments in breeding fruit flies.

Existential/Foundational: This entry point deals with fundamental, philosophical questions about the nature of the topic, why it exists, and/or what is its meaning or purpose. For the topic of evolution, this entry point might explore questions such as "Why are new species created and others die out?" or "What is the purpose of variation within species?"

The Entry Points Framework (a tool for curriculum development) clearly complements MI (a tool for understanding learners’ cognitive abilities). Because different students have different profiles of intelligence, some students will be more engaged by pursuing a logical-quantitative entry point while others may find an aesthetic entry point more intriguing. But again, Gardner believes that it is important to use a variety of entry points to enhance students’ perspectives and understanding of a topic.

Applying Entry Points in the Classroom: Some Issues to Consider

We have heard from teachers that the Entry Points Framework may be somewhat easier to implement than MI. Implementing MI seems to demand that the teacher have a reasonable grasp of each student’s different profile of eight intelligences. This is a tall order, especially at the beginning of the year and especially for new teachers! In contrast, the Entry Points Framework allows the teacher to engage diverse learners by focusing on a more manageable number of points: one topic and a handful of entry points. (It’s often best to start with fewer entry points and build up your repertoire, especially if you are relatively new to teaching or to these ideas.) Because the entry points largely map onto different intelligences, nearly all students should find ways to get at the substance of the topic using their strengths. At the same time, teachers can orchestrate entry point activities so that their students can also have opportunities to develop skills in their weaker areas.

Let’s get concrete: Imagine a state curriculum framework that requires fourth graders to understand area and perimeter. Oftentimes, these concepts
are taught didactically, through teacher presentations and math workbooks that rely heavily on the logical-quantitative entry point. Many students come to some understanding of area and perimeter in this fashion. However, many of these same students could come to an even stronger understanding if they could explore and represent these concepts through the entry points. This would give them somewhat different perspectives on these concepts and help them to apply what they have learned. In addition, some students do not grasp these concepts well, if at all, through the usual didactic methods. These students need different approaches to exploring area and perimeter in order to develop an understanding of these concepts and to see why they are important.

There are many ways to support students’ understanding of these concepts through the Entry Points Framework. For example, the teacher could develop an experiential/hands-on approach: “Design a new playground that would fit within the current playground space, and be able to contain a new playhouse big enough to fit six students.” Interpersonal and aesthetic entry points could be included: “You are an architect, hired by the school to develop a new playground. As part of your planning process, it’s important to interview people around the school to understand what they like about the existing playground and what they would like to change. Write up what you’ve learned from others about how to improve the playground. Then, draw a plan for the new playground that incorporates students’ and teachers’ suggestions. Calculate the perimeter and area of your design. Can your new design be incorporated into the existing playground space?” As students grapple with questions of the design’s dimensions or making the new playground fit within the space of the existing one, there are many opportunities for teachers and students to engage the existential/foundational entry point: “What’s the purpose of considering area and perimeter? What roles do these mathematical concepts play in the world we live in?”

Strive for Substantive Engagement

Depending on the topic, the Entry Points Framework may not allow every student’s strongest intelligence to be used. For instance, in the unit on area and perimeter a student who has keen musical intelligence may not have an opportunity to draw on this strength in a substantive way. (It’s true that in this and in many other units, such a student could invent a song. While this exercise allows the student to use his or her musical strengths, it is not clear that it will build their understanding of the topic.) Instead, this unit engages a variety of the student’s other intelligences, some relatively strong, others less so, in order to provide a variety of opportunities to develop an understanding of the concepts of area and perimeter.

It’s important to strike a balance between always engaging a student through his or her strongest intelligences and tackling what’s to be learned in a substantive way. We argue that the balance should be tilted to allow students’ strengths to be engaged substantively, rather than superficially, in the learning at hand. If there is not an opportunity for substantive engagement of an intelligence in a particular unit, this can be offset with opportunities in other units. Social studies or language arts oftentimes allow greater opportunities for music to be incorporated and used within the aesthetic entry point. By balancing entry points across different units and different subject
areas, students can have opportunities to use their strengths and to do so in substantive ways, that is, in ways that really build their understanding.

Using the Entry Points Framework opens up the curriculum to students with different profiles of intelligence. By engaging different learners and having them grapple with several entry points, students' understanding is more likely to expand. Yet, the process of advancing all students' achievement extends beyond work with individual students' profiles of intelligence and the curriculum. This process also encompasses organizational practice. A sound set of organizational practices can help teachers to sustain and develop the good work that they do in their own classrooms. Such practices can also enable teachers throughout a school to build knowledge and skills across a wide range of learners. Therefore, in addition to a tool for understanding individual learners' strengths and a tool for building curriculum, we need a tool for organizational practice. The next section introduces a new tool developed through our research into schools that use MI.

COMPASS POINT PRACTICES: A TOOL FOR DEVELOPING ORGANIZATIONAL PRACTICES ACROSS CLASSROOMS AND THE SCHOOL

Background

Another tool, one that complements the two we've just discussed, is Compass Point Practices. These are practices found in schools that use MI and that associate the theory with benefits for students. They can guide you toward developing schools and classrooms that support students who learn in many different ways. The Compass Point Practices provide a tool for thinking systematically about classrooms and schools, for identifying areas of practice that are strong and those that can be made stronger.

The Compass Point Practices stem from the work of a three-and-a-half-year research investigation based at Project Zero, called the Project on Schools Using MI Theory or SUMIT. SUMIT was funded by the Schwab Foundation for Learning and the Geraldine R. Dodge Foundation. Its aim was to identify, document, and disseminate practices that are employed in schools that link MI with benefits for students.

To identify and document these practices, SUMIT researchers carried out two investigations. The first was aimed at understanding the big picture, and focused on this question: What are the practices in place across schools that use MI and associate the theory with positive outcomes for students? To answer this question, we conducted telephone interviews with educators at forty-one such schools, nearly all of which had been employing MI for three or more years. (The Appendix provides a brief description of each school.)

While a conceptual tool like the Compass Point Practices is useful by itself, it becomes much more powerful when complemented by vivid, concrete illustrations. To provide such illustrations, SUMIT's second investigation focused on documenting rich examples that incorporated the practices identified through our earlier telephone interviews. To develop these examples, we visited eight schools. There we had in-depth conversations with teachers and administrators. We observed classrooms in action and
gathered examples of teachers' and students' work. We also spoke with students about their work, classrooms, and schools. In Part II of this book, we document exceptional practices at five schools and include detailed examples of six curriculum units. Together, the Compass Point Practices described below and the examples from Part II provide powerful ways for you to think about and develop your own work.

WHAT'S GOING ON IN SCHOOLS THAT USE MI AND THAT ASSOCIATE POSITIVE OUTCOMES FOR STUDENTS WITH THE THEORY?

To get a broad picture of the practices in place in schools that use MI and that associate the theory with improvements for students, we conducted forty-one interviews with educators from many different kinds of schools. The schools were from eighteen different states and one Canadian province. All but seven were elementary schools, reflecting the fact that the theory
was first and most frequently adopted by educators of younger students. Thirty-nine were public schools. None was a charter school. Across the schools, there were many different kinds of student populations, ranging from all affluent to all poor, all students of color to all white. By looking at schools with many different kinds of student populations in many different parts of the country, we hoped to identify practices that could be useful to educators in a great range of schools and classrooms.

In these interviews, we asked educators about their school’s history, their student population, and their community. We asked about how MI was implemented in their schools, and about the schools’ organizational, curriculum, and assessment practices. We also asked educators about outcomes or improvements that had taken place in the school and whether the educators associated these with MI or other interventions.

In analyzing transcribed interviews, we first looked at what educators told us about outcomes. This revealed that across the schools we studied, educators reported that MI contributes to improvements in test scores, student discipline, parent participation, and the schooling of students with learning disabilities.

OUTCOMES ASSOCIATED WITH USING MULTIPLE INTELLIGENCES

Standardized Test Outcomes

Nearly four-fifths of the schools in our survey reported improvements in standardized test scores. At nearly half of the schools, educators associated these improvements with MI. For example, Shirley Atkinson, the principal at the Moore Alternative School, an elementary school in Winston-Salem, North Carolina, reported, “a significant increase in achievement as measured by the California Achievement Test... for Grade 2 to Grade 3 to Grade 4.” Continued gains in scores as children moved up the grades was an important indicator to this principal that the school was engaging students over the long term and increasing their capacities. “You know, to me that’s

FIGURE 1.3
Standardized Test Outcomes Reported by Educators in Schools Participating in SUMIT

- Schools that associate improved scores with MI (49%)
- Schools with improved scores not associated with MI (29%)
- Schools with no reported outcomes (20%)

N = 41 Schools
powerful," she said. A teacher at the West Boylston Middle School in West Boylston, Massachusetts, made clear the connection between MI and achievement gains in her school: "Our achievement has been increased on a positive note. I think children have more opportunities to achieve better, to reach higher grades, to reach higher performances, because they have different modalities and different ways to express themselves." It is reasonable to think that when MI influences instruction, teachers present material in ways that engage more students and enable them to grasp it.

Student Discipline

Educators in more than four-fifths of the schools in our survey reported improvements in student discipline. In more than half of the schools, educators associated this improvement with the implementation of multiple intelligences. Educators spoke enthusiastically about these improvements. For example, Mr. Les Anderson, the principal at the Russell School in Lexington, Kentucky, stated that, "this year, our in-school suspension referrals are down 50 percent when we weren’t doing anything else except incorporating MI." Carmen Hadrias, the principal of the Madrona Non-Graded School in Edmonds, Washington, noted that, with MI "there is a humongous difference at this school. Kids are able to resolve their conflicts on their own, and teachers can deal with the students’ conflicts much better than they ever have before. So the teachers and the students have the skills to resolve the conflict. In theory, rarely does anybody come in the office and I have to do anything to them. Mostly, I just sit there while they solve their problems."

Our analysis of interviews and our school site visits indicate that improvements in discipline occur partly because schools that use MI find ways to engage a very broad range of learners. Students with strengths in areas that schools traditionally prize (logical-mathematical and linguistic intelligences) as well as students whose strengths reside in other areas are constructively involved in learning. Because students can be constructively engaged, fewer students act out. As we’ll discuss in more detail a bit later,
discipline problems are also reduced because MI helps to foster respect for a variety of strengths and to build an appreciation for the fact that everyone has areas in which to improve. In an engaging and respectful environment, students have fewer reasons to misbehave.

Parent Participation

Parental involvement in education is important because it has long been associated with increased student achievement. In 80 percent of the schools SUMIT studied, educators reported improvements in parent participation. Sixty percent of the schools associated improved parent participation with MI theory.

One reason that MI seems to foster greater parent participation is that the theory validates the thinking and skills found across a wide range of real-world roles and occupations. In the schools we studied, skill in community work, the arts, trades, as well as academics and the professions were valued. As a result, parents with a wide range of abilities and occupations—and not only parents who had time or who had experienced success in school—felt comfortable in their children’s schools and wanted to participate in school activities. The diversity of real-world roles was often incorporated into the curriculum (in Part II, see Schneider’s Ink and the Archaeology Dig, two curriculum units that build on real-world roles).

Douglas Lockwood, the principal at the Searsport Elementary School in rural, Searsport, Maine, reported that the influence of MI on parent participation “has been unbelievable. We have twenty-two regular people who come in every single day. I mean, that’s amazing. MI has given us real reasons to have parent volunteers.” This was true in part because parent volunteers at Searsport were encouraged to share their knowledge of local history and culture.

Dr. Chris Mann, the principal at the Jesse Wowk School, in British Columbia, Canada, indicated yet another reason why MI might be linked to improved parent participation. As part of the process of implementing new
ideas in the school, the schools often reached out to parents. As this principal remarked, “We brought the parents on gently with us and, right from the beginning, we told them what we were doing, and we were doing it because we felt that it was good for kids and good for their children. The nice thing about MI theory is that it makes sense. . . . Each child has strengths in certain areas, and we want to expose them to a variety of ways to do things. They [parents] say, ‘Oh that makes sense.’”

**Students with Learning Differences or Disabilities**

Educators in nearly four-fifths of the schools associated MI with improvements for students with learning differences. Valerie Gardner, the principal of Champlain Valley High School in Hinesburg, Vermont, asserted, “I would say that without a doubt it [MI] makes a huge difference. . . . They [students with learning differences] feel good about being able to choose and play on strengths, while they’re also working on weaknesses in other areas so that they can become effective.” In our visits to schools, we observed—and teachers reported—that youngsters with learning disabilities worked constructively within regular classrooms and generally could not be distinguished from other students who had not been diagnosed (see Part II, Schneider’s Ink, for a detailed example of such a classroom).

When we realized just what a powerful tool MI seemed to be for students with learning differences, we sought to understand how educators were using the theory with these students. But time and again, the principals and teachers we spoke with said that they were not devising MI-influenced practices specifically for these youngsters. Instead, they told us their efforts to incorporate MI supported a wide-range of learners, including those with learning disabilities.

Once we uncovered this outcome and those concerning parent participation, student behavior, and test scores, we set out to identify in our interview data the kinds of practices that tapped multiple intelligences and that were widely shared across these schools. These are the Compass Point Practices that we highlight next.

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**FIGURE 1.6**

*Improvements for Students with Learning Disabilities*

- Schools with improvement for LD students not associated with MI (2%)
- Schools with improvement for LD students associated with MI (78%)
- Schools with no reported improvement for LD students (20%)

*N = 41 Schools*
THE COMPASS POINT PRACTICES

Rather than putting forth strict rules or guidelines for using MI, our project uses the metaphor of “Compass Points.” These are practices worth steering toward to engage students’ multiple intelligences in ways associated with student learning. Our interviews and later site visits underscore the importance of six Compass Point Practices.

1. Culture

The cultures of the schools we studied—their prevailing values, beliefs, and attitudes—share several themes. Among these are deeply held views that all children have strengths and can learn; that care and respect among people in the school is essential; that learning should be exciting; and that hard work, especially by adults in the school, is necessary to sustain such an environment.

A belief in children’s strengths and potential Educators in the schools using MI express beliefs that all children can learn, all children can succeed, and all children have strengths. Children bring their particular array of strengths to school, and it is the educators’ job to enable these strengths to be fully realized. For example, Chris Mann, the head of the Jessie Wowk School, commented that, with MI, “the underlying attitude and underlying frame of reference that we all have is actually quite remarkably different” than those found in other settings. We are “not thinking of any child as a loser, but rather thinking of them all as successful and [our task is] finding ways for each of them to represent their learning…” Patrick Cawley, principal of the Freeman School in Phillipsburg, New Jersey, said, “I consider all of them gifted. We just have to find out what the gift is.” He went on to explain that, prior to implementing MI in his school, “there weren’t experiences in the content of the classrooms that would allow anyone but the language- and the math-oriented child to shine. . . . By providing an array of experiences, a number of other kids have now come forward.” Marilyn Davenport, principal of the Governor Bent School, in Albuquerque, New Mexico, emphasized, “We want every child who comes to our school to be successful. That’s why we go about meeting their needs, and the framework of MI allows us to do that.”

Advocacy of care and respect Most of the schools advocate values of care and respect among all members of the school community. Marilyn Davenport noted that, “I can’t go anywhere without [getting] fifty hugs. They just love me, and I love them. They know that. They know they’re valued. They know they’re respected.” Sheryl Harner, principal of Glenridge Elementary in Renton, Washington, highlighted the connection between seeing children’s potential and a culture of respect and care: “I think kids really have a respect for each other and an empathy for each other, because they realize that they have strengths and weaknesses.” Chris Mann expressed the same idea: “MI theory has only helped to augment something good that was begun and make it that much stronger: The kids are respectful toward one another.” In part because of such values across the great majority of schools in the study, discipline problems were either minimal or had been greatly reduced.
Educators noted that a culture of care and respect entails not only efforts to meet students' needs but also providing them with opportunities to contribute to the school and the wider community. Marilyn Davenport commented that, "Children need to feel that they belong and that they are competent." She noted that many of her students can survive the harsh circumstances they face "as long as there is kindness and there are opportunities for them to give." Opportunities to contribute come in many forms across these schools. In some schools, students participate in projects that serve the elderly, disabled, and homeless. Schools also ask older students to work with younger students in reading, writing, and other curricular areas. For example, there is a program for "reading buddies" at the McHenry School in Pittsburgh, Pennsylvania. As Sheryl Harmer of Glenridge Elementary, put it, "We've tried very strongly to make sure that students have lots of different ways to feel like they are contributing members of this group."

A belief that learning is exciting. Adults and youngsters in many of the schools maintained that learning in their schools is "exciting," "an adventure," and something undertaken with "enthusiasm." A parent at the Governor Bent School noted that her son's teacher, Carolyn Chadwell (whose "Math Labs" is highlighted in Chapter 5), "has an ability to bring out the joy in learning for every child. She does this by actively engaging them, by delighting all of their senses, by building a community of respect for diverse learners with special needs and talents, and by challenging them to be their best..." Her son, on his first afternoon at the school, offered this
comparison: “In my other school I’d be on my eighteenth ditto by now.” Kathy Carr, the principal of the Dover School, near Dover, Florida, reported that “we are a very, very enthusiastic school.” At the county’s Science Olympics, where Dover students win many gold medals, Carr noted with delight that participants from other schools “always know we’re there. I guess you could say we’re loud, but we just say we’re enthusiastic!” McCleary School students’ enthusiasm is obvious to visitors. “Visitors come into the rooms and they can’t believe that children will go right up to them and start talking about their work.” We experienced this for ourselves in our site visit. A youngster spontaneously came up to us with her topographical map of the Arctic, and exclaimed: “Did you know that there are seven countries in the Arctic?” Similarly, after a child at the Governor Bent School showed us his poster of hurricanes and tornadoes, he volunteered to “get back to us” with more information about the differences between these two kinds of storms.

**Educators work hard.** The persistence and dedication manifested by youngsters at many of the schools is modeled for them by their teachers. Teachers and administrators in the schools we investigated work hard to enable a broad range of students to learn. However, the work for most of them appears to be worth it. Sheryl Harmer of Glenridge Elementary said, “I think the acknowledgment needs to be there that it [using MI] does take extra effort. It takes time in preparation and extra dedication, and unless you really believe fundamentally that this is worthwhile and that children are going to benefit from that effort, you won’t go that extra mile.” Tom Hoerr, the director of the New City School, in St. Louis, Missouri, expressed the same view: “Using MI requires a great deal of work and energy. There is no doubt that our teachers are working longer hours and harder than they were before this. From my perspective, there’s got to be a return for the investment. There clearly is or we wouldn’t be doing it.” Hoerr’s “return” is “that our kids use more different routes to learn and to demonstrate their understanding. I’d argue that that increases quality.” In addition, “they know more about themselves as people.” The return for teachers and administrators at McCleary Elementary comes from seeing students, most of whom are severely at-risk, view themselves as learners and to perform better in the middle school than students from the other five feeder schools.

Educators’ emphasis on the hard work entailed in implementing MI makes it clear that the theory does not provide quick and easy solutions. Instead, for many educators, the theory of multiple intelligences opens up new possibilities, which yield successes with energy, time, and dedication. This effort, alongside the belief in students’ potential, a sense of joy in learning, and values of care and respect yield a culture that supports the development of skills and knowledge for a wide range of students.

2. Readiness: Preparing people to work with multiple intelligence and other new ideas

Success in applying the theory of multiple intelligences, and other new ideas, appears to be related to when and how the teaching staff is introduced to it. “Timing is everything,” said Natalie McKenna, the principal of the John F. Kennedy School in Brewster, New York. Principals emphasized
the importance of building teachers’ awareness of the different kinds of learners as a precursor to implementation. They employed many different approaches to building this awareness.

In some schools, there was a history of educational philosophies and practices in place that complemented MI. For instance, at the Briarcliff School in Shoreham, New York, teachers had many years’ experience with “constructivist learning.” This entailed building youngsters’ understanding through diverse kinds of explorations and materials. In addition, for a number of years before learning of MI, the staff had devised activities that built on youngsters’ different cognitive levels. Alongside this history of appreciating each learner’s starting place, the school and surrounding district had a strong arts curriculum. Therefore, the staff was comfortable with incorporating musical and artistic activities. Given all this, the teachers felt a natural readiness for MI, and their task became figuring out how to draw on the theory wisely.

However, in the vast majority of schools, readiness for using MI wasn’t quite so effortless. The process typically took a year or more. For example, the McCleary School was started by a team of teachers who developed its design. The design incorporated multiple intelligences and museum learning, the arts, and community involvement. The team won a grant that allowed its members a year to study various school reforms, visit other schools, and refine their design. Only after this extended process did the school open and begin its work with students.

In most other schools, the implementation of MI occurred while the school was up and running. For example, at Edgemont Montessori, a public elementary school in Montclair, New Jersey, the teachers were addressing the whole child with the materials and child-centered philosophy that are common to Montessori schools. However, the new principal, Adunni Anderson, wanted the teachers to extend the frameworks they use to examine their practice. “Of course, I took it easy. I was the new person on the block... [But] I said to them, ‘we have to be about educating all children and responding to all the learning needs of kids.’” To help address the learning needs and development of all children, the principal gave “gifts” of articles about MI to the teachers. She also occasionally used the time before everyone was assembled for staff meetings for a “sponge activity.” For example, she asked teachers to think back on their day to see how they’d drawn on a particular intelligence in their classroom. The teachers would then share their experiences, jot down ideas in their journal, and then move on to the formal part of the meeting.

In other schools, such as the Wheeler School in Louisville, Kentucky, building awareness entailed more formal learning opportunities. Several educators from this school attended a conference at which Howard Gardner spoke. They then shared the information with the staff: Wheeler’s Judy Hummel described how readiness for MI grew in her school: “As staff became more and more aware of MI and understood, and read more and more research on it, we developed our own interest in it.” At this school, and many others, teachers had opportunities to visit schools in which the theory was being applied and to ask questions of their colleagues at other schools. Many schools also hired consultants or staff developers who specialize in MI to do workshops to explore how the theory might be put into practice.
Alongside building awareness of the theory among the school staff, principals fostered readiness by encouraging teachers to apply the theory at a rate that felt sensible to them—perhaps in one or two units or projects—rather than plunging in all at once. Most principals noted that teachers were applying the theory at varying paces, and that their teachers were at varying points along a continuum of experience with the theory.

In short, while teachers at Briarcliff felt that applying MI was “just like breathing,” educators elsewhere needed support, preparation, and time to adopt and use the theory. MI, like most other tools, only began to feel comfortable as teachers gained familiarity and experience with it.

Just as teachers were supported to take on MI, in the schools we visited students were helped to develop readiness for new work. Curriculum examples in Part II of this book, such as Schneider’s Ink (Chapter 8) and the Heritage/Traditions Unit (Chapter 10), show that students and their parents were given materials in advance of these projects in order to help them get ready for undertaking new work. To build readiness for new undertakings, teachers in these classrooms and schools engaged in a substantial process of preparing students.

In essence, in these schools new ideas aren’t just “delivered” to teachers or students with the expectation that they will be done. Instead, students and teachers are helped to get ready for new ideas and new work. This period of preparation supports teachers and students to successfully tackle complex new assignments.

3. Tool: MI is used as a means to foster high-quality work

Our interviews reveal a common pattern in the implementation of MI. When educators begin using MI, they often try to adapt their work to the theory. For example, curriculum, school periods, classroom learning centers, and even students might be labeled with the different intelligences. Within a couple of years of applying the theory, most educators rethink this approach. Ultimately, schools that use the theory effectively “keep the cart before the horse.” They clearly use MI as a means to help students acquire knowledge and skills in the disciplines. MI does not replace those things. Sandra Kase, the principal of the Claremont School in New York, expressed this idea clearly, “[We use] MI to support what we need to do for kids; [rather than] manipulating what we do with kids to support MI.”

The use of MI as a tool takes a variety of forms. In Briarcliff Elementary, the teachers used the terminology of the intelligences as a tool in their own thinking and in their communication with each other. MI was not explicitly mentioned to the students. At Briarcliff, even students who struggled in their learning, and who were helped to find areas of competence, were not taught the theory. Rather they, and their parents, were helped to see that they were, for example, capable artists or good at interacting with other children. Instead of using the vocabulary of MI with students, the teachers used everyday language to help children appreciate and develop their abilities.

At other schools, for example the Russell School and the New City School, children were introduced to the theory. In both schools, there was an emphasis on intrapersonal intelligence. This emphasis was aimed at helping children to know their own strengths, to appreciate their strengths, and to deploy them in their learning.
The Archaeology Dig at Searsport Elementary School substantively engages almost all the intelligences. At this and other schools studied by SUMIT, educators avoided superficially incorporating every intelligence in every unit.

Another way that MI serves as a means of learning is by helping teachers to open up the curriculum. While many teachers reported that they initially started using MI by teaching everything in seven ways, most schools were, as Searsport’s Doug Lockwood described it, “way over that kind of thinking.” That initial practice was transformed into efforts to draw on several, rather than all, intelligences in substantive ways during a curriculum unit. For instance, at Searsport Elementary, in Maine, children learned about the local town history in part through an archaeological project (highlighted in Part II). This included opportunities to draw on many, but not all of the intelligences. In this project, children, with the help of amateur archaeologists and a local museum curator, carried out an excavation of one of the town’s abandoned outdoor shipyards. They researched the finds from each of their dig sites, organized their finds into collections, and prepared them to be exhibited in the local museum. In this effort, all but musical intelligence were exploited to a significant degree. Music was not added simply to tap all seven. There were other opportunities in the school day and week to draw on that intelligence in a more authentic fashion.

In sum, across these schools—whether the theory was explicitly taught or not—educators used MI to develop knowledge and skills that are broadly recognized and to help students carry out work of high quality. MI was used much more as a means than as an end in and of itself. While it is possible to teach all topics in seven or eight ways, there is a wide consensus across these schools that it is better to draw on the intelligences
in ways that substantively contribute to, rather than distract from, the learning at hand.


Educators, like all other people, have their own profiles of strengths. Yet, they are responsible for creating learning environments that serve a wide range of students. To develop classrooms and schools that foster knowledge and skills among many different kinds of learners, teachers in the schools we studied sought to complement their own areas of strength by drawing on the knowledge and strengths of their colleagues. Through informal and formal collaborations, teachers were better able to develop the strengths and skills of their students.

An example of informal collaboration comes from the McCleary School in Pittsburgh, Pennsylvania, in which nearly every student is considered at-risk. During a study of the city’s rivers (see Chapter 3), one classroom teacher, Chimene Brandt, realized then that it would be helpful if her second and third graders were equipped with some new skills to document what they observed on their river field trip. Through a brief conversation, she and Nancy Fralic, the school’s part-time art teacher, brainstormed lessons for the class. One lesson entailed conveying the techniques for sketching. As the art teacher explained it, students tend to record the details of their observations, but in sketching, they need to draw broader outlines and fill in the details later. When the students returned from their field trip, Fralic provided a second lesson on blending colored chalk to create backgrounds and using wet chalk to create a more detailed foreground. The result of this informal collaboration was that students gained new drawing skills with which they could represent what they had seen.

The success of this informal collaboration was shared at a larger group meeting in the school’s “Elegant Room” (the teachers’ wicker-furnished

An informal collaboration between the classroom and art teacher at the McCleary Elementary School enabled students to skillfully represent their observations of Pittsburgh’s rivers.
lounge that had been largely ceded to the youngsters). The collaboration was also documented on paper in order to share it with other teachers in the school. Both the classroom teacher and the art teacher emphasized how powerful such informal collaborations can be in engaging students and equipping them with skills to carry out a particular piece of work.

One example of formal collaboration comes from the Dover School in Dover, Florida. This elementary school serves a population with a large Spanish-speaking minority, and many of the students are children of migrant workers. The school has two full-time music teachers and two full-time art teachers. Throughout the curriculum, teachers encourage children to use spatial and musical strengths, and abilities in other arts areas, to learn and to express their understanding. To enable teachers to draw on the youngsters’ different strengths, teachers receive one full day a month to work in teams to develop rich curriculum units.

Another example of formal collaboration comes from the John F. Kennedy School (highlighted in Chapter 7), where several classrooms are paired, so that two teachers work with a large group of students throughout the day. In addition, special services are “pushed in” to support full inclusion of all students. At any point in time, any teacher in the room—ranging from the regular classroom teacher, to the speech therapist, to the reading teacher—can be leading instruction.

In sum, collaborations among teachers can bring the range of expertise and strengths available across the school staff. Such collaborations in turn help engage diverse students’ strengths and improve their opportunities to learn.

5. Choice: Meaningful curriculum and assessment options

The educators we spoke with find that applying MI requires providing students with meaningful choices for learning and for demonstrating their knowledge. Meaningful choices are ones that are of interest both to the student and to the wider society (not just to one or the other). It is important to note that these choices are guided or controlled. Alan McCloud, principal of the McWayne Elementary School in Batavia, Illinois, described it this way: “We honor children’s choices. But we also control that. We tell students, the last four times you did a project, you have done a visual representation. Let’s see if we can’t have you do something in another format. So that we try to build confidence in other areas...”

The project-based curriculum used by the Briarcliff School highlights one route to achieving both choice and high-quality student work. In each of the school’s classrooms, a long-term investigation of a topic was underway. Children explore the topic in various substantive ways. For example, in one classroom in which spiders were the topic, children could make large models of spiders, create computer drawings of spiders, develop a spider game based on spider facts, and survey classmates about their attitudes toward spiders and graph the results.

These choices allowed children to draw on a range of intelligences to build their understanding. Youngsters, even those identified as having learning disabilities, were extremely engaged in their learning. Many spontaneously came to us to explain what they had done and why their arachnids looked and behaved as they did.
In the Rivers Study at the McCleary School, students visited, observed, and sketched rivers. Their classrooms included collections of artwork involving rivers. The teachers encouraged students to generate hypotheses about how rivers flow and to test these using sand and water in a stream table. In addition, the students could build river and bridge structures, and they could read about rivers. Although about 20 percent of the school’s youngsters are considered learning disabled, the choices teachers offered allowed nearly every child to become involved and to learn. The youngsters were also able to use these different choices to help demonstrate their understanding of how rivers formed and the role of rivers in the water cycle. For example, a drawing of a rainy day scene was used to prompt one youngster to give a detailed explanation of the water cycle. The stream table activity was used by the teacher to elicit information from students about how rivers form and change.

The use of choices applies not only to project–like curricula, but also to fundamental curricular areas. For example, at the West Boylston Middle School, some teachers used to assign the same reading to all students. Sharon Bouvier, a teacher at the school, explained, “Seven years ago, I would have passed out the same novel to every single child and said, ‘By Friday, you have to have pages 1 through 20 read. Next Wednesday, you have to have up to page 40 read.’” But once she began drawing on MI, she thought differently about how to organize reading assignments. “Now I try to get novels that all focus around the same theme, but there are books that would appeal to different intelligences. . . . The kids have a choice. They would all be reading a biography, but they have a choice. They might want to read a biography about a sports character, or a musician, or someone in government, or a ballerina. . . . I can plug in things that they are more interested in and by giving them a choice, they respond better.”

Providing controlled choices enables a wide range of learners to become constructively involved. Through controlled choice—choices that make sense not only to the student but to adults—students can draw on a wider range of intelligences to gain new knowledge and skills.

6. Arts: A significant role in the school

The arts play a vital role in nearly all the schools we have studied. A significant role for the arts makes sense in these schools, because MI theory specifies that musical intelligence and spatial intelligence (which is used extensively in the visual arts) are fundamental ways of solving problems.

Many of the schools in our study reported that they had an extensive arts curriculum. For example, the Russell Elementary School offered classes in Suzuki violin, band, art, and dance. The school also produced an original opera, using a script that the children wrote, sets that they designed and painted, and music that they developed and were helped to record. Similarly, art, general music, instrumental music, and elective Suzuki classes were offered at the Briarcliff Elementary School.

While many schools emphasized the arts as “ends in and of themselves,” most schools also employed the arts as a means for expanding children’s knowledge and understanding in other curricular areas. For example, in one art class for second and third graders at Russell, the children were asked to paint a watercolor to illustrate the song, “America, the Beautiful.” However,
the children—city youngsters, most of whom came from poverty—had difficulty representing the song’s lyrics. Therefore, the art teacher used most of the art lesson to help the students grasp the meaning of “amber,” and metaphors such as “waves of grain.” Through debate, and discussion of the concepts of “foreground” and “background,” she also enabled students to envision “purple mountains.” The class’s exploration of lyrics left only eight

Watercolors produced by second- and third-grade students at the Russell Elementary School reflect an understanding of “America, the Beautiful.”
At the McCleary School, a student used his group’s rainy day mural to explain the water cycle.

minutes for the actual watercolor paintings. Yet, as the children’s paintings demonstrate, the youngsters now understood the vocabulary and imagery of the song.

In the River Study at the McCleary School, the murals that children drew in one second- and third-grade classroom reflected not only what they had seen at the river, but advanced their conceptual understanding of the water cycle. When three boys were asked about the large chalk mural they had drawn, they began by talking about the concrete objects depicted: the tall houses, streets, and the gray sky full of rain. But when asked about how their mural fit with the river murals generated by their classmates, one of the boys (pictured at the far left) provided an extended explanation. He noted that rain forms from evaporation of water on the earth’s surface, that condensation of water vapor yields clouds, that smaller raindrops collide and become larger ones, and that that made the rain that was falling on the houses and streets in his picture.

In some years, the Governor Bent School had no art teacher. Nevertheless, the arts pervaded the classrooms. For instance, in a number of classrooms (including one highlighted in Chapter 6), teachers used spiral-bound “squiggle books” to inspire an interplay of creative writing and imaginative drawing. In the example on the next page, a second grader has created both an elaborate Halloween illustration and a story rich with detail.

In our interviews as well as our site visits, learning experiences involving the arts powerfully engage students. The students, even those with learning disabilities, participate eagerly and enthusiastically. As the brief examples from the Governor Bent, McCleary, and Russell schools illustrate, the arts in these schools supported the development of children’s knowledge and skills across many curricular areas.
One dark, gloomy halloween night, the mouse kids were trick-or-treating. Many of them were dressed as “Supermouse.” But when the superheroes were trying to fly, they landed all over Mouse Village. Three of them landed in the grasses out of town! They landed with a big THUMP!

“Could you stop landing with capital letters?” exclaimed Eddy. “It messes up the page.” “How are we going to get back to town?” questioned Freddy. Meanwhile, back in Mouse Village, the rocket expedition to the moon for cheese was taking off...

Squiggle books are used extensively at the Governor Bent School. They combine detailed artwork and detailed stories.
NAVIGATING FARThER

Together, these six Compass Point Practices engage students' multiple intelligences and help teachers to foster knowledge and skills across a range of students. You can think of the Compass Point Practices as directions that schools and classrooms ought to steer toward to effectively engage the many ways that students learn. We invite you to begin this journey by exploring Part II. There we provide extended examples from a diverse set of public elementary schools in which these practices are prominent.

BOX 1.1 THE COMPASS POINT PRACTICES

Culture: a supportive environment for educating diverse learners.

- The school environment is notable for a belief in students' strengths and potential, care and respect, joy in learning, and educators' hard work.

Readiness: awareness building before implementation

- There are efforts to introduce and explore MI and other new ideas prior to calls for implementing them in classrooms.

Tool: MI is a means to foster high-quality student work

- MI is used as a route to promote students' skills and understanding of curriculum, rather than as an end in itself or as an additional piece of the curriculum.

Collaboration: informal and formal exchanges

- In informal and formal exchanges, educators readily share ideas, provide constructive suggestions, and complement their own areas of strength by drawing on the knowledge and strengths of others.

Controlled Choice: meaningful curriculum and assessment options

- Educators provide students with options for learning and for demonstrating their knowledge that are meaningful both to the student and in the wider society.

Arts: a significant role in the life of the school

- The arts are used to develop students' skills and understanding within and across disciplines.