Multiple Intelligence and the Essential Academic Learning Requirements:

Can They Work Together?

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As thesis advisor for Amy Stein,

I have read this paper and find it satisfactory.

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In Washington's classrooms there are two main streams of thought: reaching out to all students' learning styles and having students meet the Essential Academic Learning Requirements. One supports that every student is different with special needs of their own, while the other states that all students must meet the same standards. What I pose is that the Multiple Intelligence Theory and the Essential Academic Learning Requirements can work together to create a learning environment where students are motivated and want to achieve, as well as meet the state standards by allowing them to learn in their own ways. First, we will look at Howard Gardner's Multiple Intelligence theory; second, at standards and the Essential Academic Learning Requirements; and third, at how the two can work together.

**Multiple Intelligence Theory**

Howard Gardner developed the theory of Multiple Intelligences (MI). According to Gardner, he was influenced by what happened to people who suffered from brain damage and from strokes. He saw that people who suffered damage to their brain would lose some abilities, but retain others. People who were once great singers could still talk, but could no longer sing. Gardner saw that people could lose one ability while others were spared, which led him to believe that there were multiple intelligences (Checkley, 13).

For years Gardner researched his findings and pondered how best to publish them, and what to call them. He eventually decided on the word intelligence, which he defined as "a biopsychological potential to process information that can be activated in a cultural
setting to solve problems or create products that are of value in a culture” (Gardner, 33-34). They are not things that can be seen or counted, but are instead activated through cultural stimulation. His theory radically changed how people thought about intelligence.

There are four key points to Gardner’s MI theory. One, everyone possesses a combination of all nine or more intelligences. This random assortment of strengths and weaknesses makes each person unique and fills a classroom with diversity of thought. Two, everyone can develop his or her intelligences to adequate levels. Through encouragement, enrichment, and proper instruction, any student or person can raise their intelligences. Three, intelligences work together; they are always interacting with each other. Four, no intelligence can exist by itself. Even when people have the same intelligences they are different. One person may be a great reader and another a writer, yet they are both strong in the Linguistic intelligence (Armstrong, 11-12). As stated by Armstrong, “MI theory emphasizes the rich diversity of ways in which people show their gifts within intelligences as well as between intelligences (Armstrong, 12).

To develop his theory, Gardner set up a series of eight criterion. They were:

1) The potential of isolation by brain damage
2) An evolutionary history and evolutionary plausibility
3) An identifiable core operation or set of operations
4) Susceptibility to encoding in a symbol system
5) A distinct developmental history, along with a definable set of experts ‘end-state’ performances.
6) The existence of idiot savants, prodigies, and
He began with intelligences related to things such as sight and sound and touch and then expanded to look at music and relationships between people. If a proposed intelligence failed to meet the criterion, it was either thrown aside or looked at in a different manner.

The Linguistic intelligence relates to “sensitivity to spoken and written language, the ability to learn languages, and the capacity to use language to accomplish certain goals” (Gardner, 41). People who are Linguistic are word smart. They usually enjoy reading books and love giving speeches. They also like to write. The Mathematical-Logical intelligence “involves the capacity to analyze problems logically, carry out mathematical operations, and investigate issues scientifically” (Gardner, 42). People who are Mathematical-Logical are number or logic smart. They enjoy math and sciences such as physics. The Linguistic and Mathematical-Logical intelligences are what are normally used in a traditional classroom, and are also what the SAT focuses on.

The Musical-Rhythmic intelligence “entails skill in the performance, composition, and, appreciation of musical patterning” (Gardner, 42). People who are Musical-Rhythmic are music smart. They enjoy listening to music, writing music, singing, and playing musical instruments. The Bodily-Kinesthetic intelligence “entails the potential of using one’s whole body or parts of the body (like the hand or the mouth) to solve problems or fashion products” (Gardner, 42). People who are Bodily-Kinesthetic are body, sports, or hand smart. They usually enjoy sports or they may enjoy making things with their hands such as LEGO structures. The Visual-Spatial intelligence “features the potential to
other exceptional people

7) Support from experimental psychological tests

8) Support from psychometric findings (Gardner, 36-40).

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recognize and manipulate the patterns of wide space as well as the patterns of more
confined areas” (Gardner, 42). People who are Visual-Spatial are picture smart. They
usually enjoy drawing, can picture scenes in their heads, or enjoy watching videos and
playing video games.

The Intrapersonal intelligence “involves the capacity to understand oneself, to have
an effective working model of oneself-including one’s own desires, fears, and capacities-
and to use such information effectively in regulating one’s own life” (Gardner, 43).
People who are Intrapersonal are self smart. They understand how they feel about their
own feelings and are introspective. They are usually very quiet and like to spend time by
themselves thinking. The Interpersonal intelligence “denotes a person’s capacity to
understand intentions, motivations, and desires of other people and, consequently, to work
effectively with others” (Gardner, 43). People who are Interpersonal are people smart.
They usually have many friends and love working in groups. They also can make great
leaders.

Gardner had recently identified two new intelligences. The Naturalist intelligence
“demonstrates expertise in the recognition and classification of the numerous species-the
flora and the fauna-of his or her environment” (Gardner, 48). These people would enjoy
biology or going for a walk in the woods to look for specific plants and animals. The
Existential intelligence is another recently identified intelligence. The Existential
intelligence is “the capacity to locate oneself with respect to the furthest reaches of the
cosmos-the infinite and the infinitesimal-and the related capacity to locate oneself with
respect to such existential features of the human condition as the significance of life, the
meaning of death, the ultimate fate of the physical and the psychological worlds, and such
profound experiences as love of another person or total immersion in a work of art” (Gardner, 60).

A positive note about MI is its flexibility. MI can be used to respond to different situations and different school settings. There is no specific approach when it comes to MI, and teachers have the freedom to design their own curriculum that suits their classroom. MI does not have to be used in the whole school. It can be implemented classroom by classroom to accent what is already being done in a particular school (Campbell, 91-92). Goal setting is a positive aspect of MI. Students can set goals related to all of the multiple intelligences. Some may want to look into their feelings for Intrapersonal, make new friends for Interpersonal, read for Linguistic, become good in math for Mathematical-Logical, paint for Visual-Spatial, become good in biology for Naturalist, run faster for Bodily-Kinesthetic, or practice their instrument for Musical. Goal setting help parents to respect their children’s increasing abilities and helps the teachers in assessing student performance. Teachers are able to see the diversity among their students and to look at their areas of growth in particular intelligences (Ellison, 69-72).

Another positive aspect of MI is authentic learning. Authentic learning “maximize[s] people’s understanding of why they’re doing things-by giving them opportunities to try things out in new ways” (Brandt, 6). Through authentic learning, students relate knowledge to themselves and make it their own. They are able to apply what they learn to settings outside the classroom and therefore learn even more. Authentic learning works well with MI because students can approach topics in a variety of ways and this allows the students to look at problems in their own way.
MI requires teachers to expand how they teach in the classroom. They need to use new techniques, develop new ways of assessment, and to get beyond using only the Linguistic and Mathematical-Logical intelligences used in traditional schools. By doing this, a teacher will remedy a classroom that may have become one-sided and stimulate the students. This concept of teaching is known as metamodal teaching. It requires teaching beyond the textbook and incorporating all nine or more of the intelligences in the classroom at different times. Through this, teachers reach a larger range of the students and recognize student diversity of mind.

In a MI classroom the focus is continuously shifting from intelligence to intelligence and the classroom will be very hands on and interactive. The students will also take part in self-reflection exercises and do some self-paced projects while linking what they know to what they learn. Overall, MI shows that there is not a set teaching strategy to use in the classroom. One teaching strategy may be successful with one group of students, but not with another, which supports the idea of varying strategies from day to day. Through this, every students will have their particular needs met throughout a day or week allowing them to be actively involved in the learning process (Armstrong, 48-65).

MI can be used in a history classroom. History is usually taught in a linguistic manner through the use of lectures, however, by using videos, community service, projects, role-playing, portfolios, and group work MI can be incorporated to make history appealing to a wider range of students. By using the different intelligences, history becomes an active part of the students’ minds instead of just the “past.” Through the use of MI, material does not have to be repeated as often, and students get to look at history in relation to their own intelligences. They become more competent in their knowledge
and participate more in the classroom (Emig, 47-49). MI can be used to design a variety of projects in a history classroom. Students can pick a project from a list of ten or fifteen, each of which incorporates a combination of intelligences. The students can also work either individually or in small groups depending on if they want to work alone or work with a group of people who would have a wider variety of intelligences to offer to the project. The students would learn from the projects and also from their classmates. Through this, they can discover new abilities they did not know they possessed and can begin thinking metacognitively (Lambert, 53-54).

MI can be used to motivate underachieving students because they will have choices and they will be able to focus on what interests them. MI gives students the opportunity to become involved in their learning and assignments, and when they become actively involved in what they are learning they will have pride in what they have accomplished. Because of the ability to choose, teachers expect higher quality from their students and that in turn motivates the students to succeed (Campbell, 65-72). MI gives students the opportunity to excel in what they do well in, and through that they become confident and begin to enjoy learning. The students become active participants in the classroom and can see connections that they may not have seen before. Teachers also get the added bonus of seeing what their students are learning and what they like (Emig, 49).

**Standards/EALRs**

Another train of thought in education involves standards. Standards have become an integral part of education. During the last twenty years there has been a push to define a set of standards for the education of American children at both the state and national level. This set of standards was to include benchmarks to be met by each and every
student. The emergence of standards occurred in part due to "A Nation at Risk: The Imperative for Educational Reform," a report done by the National Commission on Excellence in Education in 1983 (Doolan and Honigsfeld, 274). "A Nation at Risk" indicated that the performance of students in American schools was drastically below those of students in other countries. The schools did not have high expectations for their students and so a push began to establish national goals to provide all students with high expectations to meet.

In 1994 Congress passed Goals 2000: Educate America Act, which is a set of standards that had originally been proposed by President George H. Bush, and was in turn endorsed by President Clinton. Goals 2000 set national goals into law, supported the certification of voluntary national education standards and national skill standards, and encouraged states to develop their own standards. The emphasis on standards was to focus attention on the need to improve schools, and raising education standards is one way to do that (Jennings, 14). Though many of the goals have not yet been met, Goals 2000 did inspire states and schools to adopt goals of their own.

Beginning in 1993, Washington State began using its own set of standards. These standards are known as the Essential Academic Learning Requirements (EALRs). Designed by the Commission on Student Learning, the EALRs are to "update and elevate the standards of academic achievement and improve students' performance in Washington State to prepare young people for living, learning, and working successfully in the 21st Century" (EALR technical manual). The EALRs are a series of standards and benchmarks to be met by all students and have at their core four goals.
Goal 1: Read with comprehension, write with skill, and communicate effectively and responsibly in a variety of ways and settings.

Goal 2: Know and apply the core concepts and principles of mathematics; social, physical, and life sciences; civics and history; geography; arts; and health and fitness.

Goal 3: Think analytically, logically, and creatively, and to integrate experiences and knowledge to form reasoned judgments and solve problems.

Goal 4: Understand the importance of work and how performance, effort, and decisions directly affect career and educational opportunities (OSPI Website).

Every subject area has its own EALRs with benchmarks to be met at different times throughout the students’ education. The EALRs are assessed with the Washington Assessment of Student Learning (WASL). The WASL currently requires students to demonstrate skills in reading, writing, communication, and mathematics with additional testing sections to be added later for science, social studies, arts, and health and fitness. The WASL is criterion based and is administered in the 4th, 7th, and 10th grades with additional testing periods to be added later for other subject areas. The WASL consists of selected response, short constructed response, and extended constructed response assessment. There are also some performance assessments being researched (OSPI Website).

The WASL is untimed, which allows students to go slowly and work to their greatest ability. There are also accommodations available for students with special needs. Questions for the WASL are pulled from a pool created by classroom teachers and curriculum specialists. Beginning in 2008, students graduating from high school will be
required to pass the 10th grade WASL and receive a Certificate of Mastery (OSPI Website).

The creation of the EALRs and the WASL is only part of the trend that has swept the nation and Washington State. Educators and schools are pushing for students to meet Goals 2000 as well as goals established within each state. The implementation of standards has caused educators and the community alike to look at what is being taught in the classroom and what the students are really learning. The students will be expected to relate the four goals of the EALRs to their education and their everyday lives. Because schools will have standards in common, they will begin to experience a clear and shared focus; high standards and expectations for all students; effective school leadership; high levels of collaboration and communication; curriculum, instruction, and assessment aligned with standards; frequent monitoring of learning and teaching; focused professional development; supportive learning environment; and a high level of family and community involvement (OSPI Website).

With the implementation of standards, more teachers are being held accountable for what they teach in the classroom. Therefore, teachers must learn to cope with the standards in their classrooms. One way in which teachers can cope is to study the standards. They can look at the tests and assessments and determine what standards are essential to their subject area and also look at which standards are emphasized on the tests. Those standards that are to be tested can be considered the mastery benchmarks, and those that are not can be enrichment benchmarks. By emphasizing the mastery standards, but also including the enrichment, the teachers will provide a more rounded education (Fontana and Glatthorn, 137).
Once this is established the teachers can look at what information they already have planned for their units and the skill levels of their students to determine what they need to teach in the classroom to help each and every student master the standards. One way in which this can be done is to set up a semester plan of what they want to cover and when they want to cover it. Doing so allows for there to be structure within the classroom, but also allows for enrichment to be added. Having the calendar allows teachers to see when they need to have the students meet standards before a test is administrated (Fontana and Glatthorn, 138).

**MI and the EALRs**

With this high emphasis on standards some people fear that some students will fall through the cracks. That is where MI comes into play. Teachers can help students to meet the National and State standards while allowing the students the room to express themselves in ways in which they are comfortable. This is most personified with the following statement, “if we set standards for what children should know and be able to do, but do nothing else to change the education system, we will be courting disaster” (Doolan and Honigsfeld, 276).

By using MI or another learning theory in the classroom, teachers are making our students as important as the standards that they want them to meet. With so much focus based on receiving high test scores on tests such as the WASL, students may begin to believe that that is all their teachers care about (Perini, Silver, and Strong, 56-58). No two students have the same brains and by enforcing standards upon children it appears that teachers are assuming that they all learn the same way when they do not. Having a classroom based on both MI and the EALRs allows for a teacher to tailor classroom
activity and delivery to meet students’ needs while also being in accord with the standards (Doolan and Honigsfeld, 276).

In a classroom, students are expected to meet the standards, and the standards do not take into consideration that each student learns in his or her own way. Therefore, a classroom that is based on the standards, including assessment and practice, but also includes aspects of a learning theory such as MI, will help the students to meet the standards. Teachers and students alike are pressured by the standards. A teacher HAS to include the standards within lesson plans and the students must meet the standards or there will be consequences for the school and/or the teacher. More importantly, there are consequences for the students. On the other hand, students also feel a great deal of pressure to pass the WASL and to master the EALRs. Having the classroom focused upon the EALRs, but at the same time employing MI methods and strategies greatly reduces the pressure put on both the students and the teachers because there is room for flexibility (Doolan and Honigsfeld, 276).

Another aspect of employing both the use of the EALRs and MI in the classroom is reduced student frustration. When a child does not understand what is being taught he or she becomes frustrated or disinterested. Some students will decide that they do not care or become upset when they see their peers mastering a subject. This lack of interest and anger can lead to behavior problems and the belief that school is stupid. By using MI in the classroom, a teacher can tailor each lesson to a combination of intelligences. In doing so, the teacher will reach a wider range of students (Doolan and Honigsfeld, 276).

To be able to reach each and every student in the classroom, teachers must be able to observe and accurately document the ways in which their students learn. Using a MI
inventory checklist is one way in which a teacher can see where his or her students’ weaknesses and strengths lie. Once that is done, projects, assignments, activities, and lessons can be designed around the EALRs and a variety of intelligences (Doolan and Honigsfeld, 276).

Aligning the curriculum with the EALRs and MI will take a lot of work. Student needs as well as resources allotted must be taken into account. Having an outline for the school year before it begins, and then giving the students the MI inventory checklist at the beginning of the school year, will help to establish what will be taught in each class and the way in which the subject will be taught. The EALRs and Goals 2000 each have a set of goals to be met by the students and the teachers. Using MI in the classroom allows the teacher to reach each student’s mind. “When children do not learn in the way we teach them, the we must teach them the way they learn” (Doolan and Honigsfeld, 277).

Using MI in the classroom would also change how teachers arranged their lesson plans and how they thought about what they were going to teach. In their lesson planning, they would need to identify which intelligences they were going to address during they day and how those intelligences would help the students to meet the EALRs. MI would also require teachers to study how they taught. Are they reaching all of the students? Did they focus on more than just the Linguistic and Mathematical intelligences? Incorporating MI would require a lot of work on the teachers part in planning not just what was going to be taught, but how they were going to teach it. They would need to adapt their assessments to insure that all students would be able to succeed. One way is to provide choices for the students. This would require that the teachers researched how their class thought, and then use that research to put together multiple projects for the students to choose from.
The teachers might have a paper, a presentation, a video, a play, an art project, or an original composition.

Now a more in depth look at how the EALRs and MI can work together. These observations are my own thoughts and opinions resulting from the research I have done, and what I have experienced in my education and history courses. The EALRs for history are as follows.

Hist 1: The student examines and understands major ideas, eras, themes, developments, turning points, chronology, and cause-effect relationships in United States, World, and Washington State history.

1.1: Understand and analyze historical time and chronology
1.2: Understand events, trends, individuals, and movements shaping the United States, World, and Washington State history.
1.3: Examine the influence of culture on United States, World, and Washington State history.

Hist 2: The student understands the origin and impact of ideas and technological developments on history.

2.1: Compare and contrast ideas in different places, time periods, and cultures, and examine the interrelationships between ideas, change, and conflict.
2.2: Understand how ideas and technological developments influence people, culture, and environment.

To meet Standard 1, the students must master three benchmarks. Each benchmark can be met by the students using different combinations of intelligences. Benchmark 1.1
deals with the analyzation of historical time and chronology. The Mathematical intelligence could easily be used in the classroom to meet this benchmark. The students would be looking at dates and chronology, which works well with the numbers of mathematics. They would also be looking for patterns in the timelines which is a major part of the study of mathematics.

Another intelligence that could be used to meet Benchmark 1.1 is the Visual-Spatial intelligence. By using this intelligence the students would be seeing the “whole picture” and how chronology and historical time come into play throughout history. I could have my students create a timeline as a class that included dates and pictures. The timeline could be constructed to go around the whole top of the room allowing the students to see when events occurred. The students could also use the Bodily-Kinesthetic intelligence by acting out different events that occurred along the timeline.

Benchmark 1.2 can also be met through the use of the Visual-Spatial intelligence. To meet 1.2, the students need to understand how events, trends, individuals, and movements shaped history. Once again, the students would be looking at seeing the “whole picture” of history and its effects on time, which would be the Visual-Spatial intelligence. I could have my students watch a historical documentary or a historical movie. In doing so, they would see history happening and how it affected people and places. Then they could write a paper or do a presentation analyzing what they had seen on the video and what they had learned in class to create a picture in their minds of what had occurred.

Another way to look at 1.2 would be through the Naturalist intelligence. The students could study the effects that events, trends, individuals, and movements
throughout history had on the environments and the different organisms that live on the earth. If we were studying local history, I would get my students out into the community. They would study the effects of people on the environment, and they would also be connecting with the community in which they lived. Using the Linguistic intelligence would allow the students to study what has affected history and time by looking at actual accounts or primary sources, and then discussing verbally or through written word what they have discovered. Primary sources can give students firsthand accounts of history. They describe what was really occurring at a given moment in time and will give the students a different perspective in which to study history.

Benchmark 1.3 deals with culture and how it influences history. Religion oftentimes plays a large part in an area’s culture. Religion is part of the Existential intelligence. However, religion is difficult to teach in school because of the diversity of students that I may have in a classroom. To really teach about spirituality and religion I, as a teacher, would need to have an extremely good background in all of the major world religions. Using the Linguistic intelligence would be another way to study culture. Areas of the same country will have different dialects as well as written and oral histories to be studied. Studying the history of place and its people through the written and oral histories that it had would help the students to understand that area’s culture and why it is the way it is.

Music is also an important part of an area’s culture so by tapping into the Musical intelligence, the students would be able to see another way to look at the areas they are studying. Everyone has likes different styles and genres of music. I could have my students research where specific styles and genres of music originated and how they
culture of that place affected the music. One such example would be jazz coming out of New Orleans and the South. Jazz is heavily affected by gospel and music sung by African-Americans before and after the Civil War. By researching jazz, the students could see how the slave culture affected the African-Americans and also how some of the music incorporated themes from the slave tribes of Africa.

Benchmark 2.1 requires comparing and contrasting ideas and interrelationships among different countries and time periods. The Intrapersonal intelligence would be quite useful in the classroom to meet this benchmark. By using this intelligence in the classroom, the students would be able to compare and contrast specifically how time periods, places, and cultures relate to them as an individual, making what they learn more personalized to them. Using September 11 as an example, I could have the students look at how it affected them and how they view their safety. Looking at this benchmark using a Visual-Spatial perspective would also work well as comparing and contrasting requires a degree of visualization and being able to see the “big picture.”

Benchmark 2.2 would work well with the Mathematical intelligence in the classroom because of its high focus on technology. Most technology is tied to mathematics in one way or another. Math also plays a large role in science which is becoming more and more infused with advanced technology. Using the Interpersonal intelligence would let the students study how technology has effected communication and also technology’s effects on people (ergonomics). By using the Intrapersonal intelligence the students would be evaluating how technology and ideas have affected each of them individually as well as how technology has influenced people, culture, and the
environment. Such would be studying how the World Wide Web has effected communication amongst people. People are more likely to send e-mails rather than sending a letter. The consequences of this will be fewer primary sources to study in the future because most people do not print off or save their e-mails.

In conclusion, I highly support the use of the Multiple Intelligence theory in the classroom in alignment with standards such as the EALRs. Using both MI and the EALRs in the classroom will ensure that the students are receiving a well-rounded education where they are made the centers of their own learning. This in turn will lead to student motivation through the proper methods of assessment, which look at both the students’ learning styles and skills and are also based on the EALRs. Motivated students will want to reach high levels of achievement which in turn should be reflected in higher scores on the WASL.

However, not everyone will want to use MI. Because there are so many learning style theories, every teacher who wishes to address learning styles will have his/her choice of which theory or combinations of theories he/she would like to use in his/her classroom that reflects the style in which he/she teaches. Thus, not only do the students get to have choices in how they learn, but the teachers also will be able to have flexibility in how they teach in their classroom. Through this, there will be a higher likelihood that all or most of the students will be learning in the classroom and the teachers will be able to teach in ways which suits their own style of learning.


<http://www.k12.wa.us>.