

Running Head: MULTIPLE INTELLIGENCES

Multiple Intelligences: Deep in Thought
Abigail Bacon
Rutgers University

Abstract:

The theory of Multiple Intelligences posited by Howard Gardner innovates a new understanding of the term intelligence. With a focus on student's natural abilities and interests, as opposed to the American school system's emphasis on performance and achievement, this theory could have great impact on a school's orientation and curriculum. This paper reviews the concept of Multiple Intelligence Theory as well as the conceptual criticisms about it, and discusses the bearings of this dispute on implementation within the school library system.

Abigail Bacon
 Learning Theory
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 Professor S. Ballard
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Multiple Intelligences: Deep in Thought

Howard Gardner's theory of Multiple Intelligences (MI) elicited much attention when it was proposed a quarter of a century ago. It is as much an issue of debate today as it was then, as we focus on school reforms and improving the quality of America's education. Gardner's theory is based on empirical evidence, but those who oppose him argue that because Gardner has not conducted experimentation to bolster the theory, MI's unquantifiable nature discredits its validity. Gardner himself, and educators alike, have said that the theory's lack of empirical support is not as significant as the fact that MI theory as applied to the classroom framework appears to be working- even a quarter of a century later. This paper will examine sources assessing whether MI does in fact have validity, and where its place may be in the school library.

The term "intelligence" is classically applied to the idea that humans have the ability to reason with, manipulate, and store information within their working memory (Waterhouse, 2006). This concept of intelligence is assessed or quantified using measures such as an IQ test or the SAT's. Multiple Intelligence Theory which was first posited in 1983 by Gardner, suggests that there is a more differentiated view of intelligence. Gardner (2006) defines intelligence as "a biopsychological potential to process information that can be activated in a cultural setting to solve problems or to create products that are of value in a culture" (p. 227). In other words, in addition to the "problem solving" component that typically represents intelligence, Gardner values equally the ability to create something of worth. This conception translates practically into eight kinds of intelligence which meet certain neurological and anthropological criteria in addition to complying with the above definition. These intelligences are: Linguistic, Logical-Mathematical, Spatial, Musical, Body-Kinesthetic, Interpersonal, Intrapersonal, and Naturalist. The first three intelligences comprise what is generally understood as "intelligence." The last five intelligences have until now been considered talents or abilities.

The intelligences can be explained briefly as:

Linguistic- the ability to comprehend and manipulate spoken and written language

Logical-Mathematical- the ability to make calculations and understand numerical or logical symbols

Spatial- the ability to conceive and use three dimensional space

Musical- the ability to recognize patterns of music and use rhythm, pitch, and tone

Body-Kinesthetic- the ability to move the body effectively through physical coordination

Interpersonal- the ability to interpret and interact with other people

Intrapersonal- the ability to recognize personal strengths and limitations, and understand oneself

Naturalist- the ability to classify and recognize things in nature

While this idea is intriguing and “feels” true to many teachers, some researchers argue that MI lacks a sound conceptual basis. Klein (1997) writes that the way Gardner defines the intelligences makes them “trivial.” As we stated above, the concept of “intelligence” is generally defined as a function of the processes of the working memory. However, Gardner’s definition of body-kinesthetic intelligence, for example, is in short, the ability to move the body well. This idea defines the term but does not explain the way that this “intelligence” operates. In fact, because each of Gardner’s last five intelligences are not quantifiable, it is difficult to understand what it even means to “move the body well.”

Klein (and also Waterhouse) further argue that the idea of separating these seven categories of functioning into different intelligences, claiming that they each operate independently of each other and without a central processing unit, is also problematic. Klein notes certain activities, like dancing, involve several areas at once (in this case spatial, body-kinesthetic, and musical abilities). It is difficult to understand how Gardner can claim the distinctness of each “module” and deny their ability to interact via an executive commander (which ends up in fact as the element described by others as “intelligence”).

The question we are left with, is given the soundness of the criticisms of Gardner’s theory (and there are many more which cite more empirical problems, see Klein for more examples) how should we look at Gardner’s theory in the educational system? Gardner himself seems to say that the success of many MI programs speaks for itself. There is in fact an entire school called the Key School in Indianapolis constructed around his theory (Kunkel, 2007) which is producing thriving students. Sternberg (1994) takes such implementations to task, saying that this radical theory should not be translated into educational practice before it has been sufficiently validated. Waterhouse explains that the success of such reform programs is more likely due to the novelty and excitement generated by a new perspective than the utility of MI theory.

Perhaps more troubling, is that according to Klein, this perspective on intelligence could do more harm than good. Currently, the school system places great emphasis on performance and achievement while Gardner’s theory of intelligence emphasizes natural strengths and capacities. Klein writes of studies that show that a student with an MI orientation will become unmotivated in subjects that are not fluid with their intelligence profile. If they feel like they are failing in a given type of intelligence, they will attribute it to their natural makeup. However, failing students in the traditional system are expected to put in more effort and are challenged to do something about their learning. Students whose emphasis is on *effort* as opposed to *ability* are more likely to persevere when “the going gets tough.”

Still, Gardner says that such reforms were never his intention, rather he had “indicated some general implications” that came out of his theory (2006). However, he goes on to say that it is up to educators whether or not to implement any reforms based in MI theory. Or, stated differently, that the conceptual and empirical challenges to his theory should not have negative bearing on educational decisions.

Though we have Gardner’s permission to ignore criticism of his theory, we still must ascertain if his theory is in fact worthy of generating either small reforms or a system overhaul.

A “system overhaul” implies a transformation of what that system values. As reflected by the current emphases on reading, writing, and math in the school system, American society most values the type of general intelligence which is embodied by reasoning skills. Gardner’s theory, in effect, is asking our society to look broadly at the world and to what its cultures find significant and expand our definition of intelligence- and thereby our values (Checkley, 1997). The question of changing values is a question which cannot be determined by one individual or even by a set of empirical evidence. Such matters were originally decided unconsciously by the preceding generations of Americans, and it will take a strong will and determination to revolutionize the entire American people’s thinking. The educational system is in a position to instrument such a change, but it will still be up to each school how they will assess their value system.

If the educators decide they do not want to change their values to equate athletic ability with reading comprehension, they are still free to implement those ideas Gardner suggested which are in consonance with MI Theory. Two such ideas to evaluate are “entry points” and “teamwork” (Moran, Kornhaber & Gardner, 2006). The idea of entry points is that students, with their varied strengths and weaknesses in each intelligence, have preferences for the way they are motivated to learn (Gardner, 1993). Some students who excel in musical abilities will be more motivated to learn about the musical aspects of a given topic. Or a student with logical-mathematical abilities may favor learning about the statistics related to that same topic. Gardner does not favor the idea of preparing a lesson in eight different ways, but rather lessons should be “media rich” (Moran, Kornhaber & Gardner). This means that a topic should have a few entry points which stimulate different types of learners in the ways most appealing to them.

As an innovation to motivate and engage children to learn, it seems to be effective to create media rich lessons (Ozdemir, Guneyusu & Tekkya, 2006). When a child learns the same thing in different ways, he is more apt to integrate the content and learn it in a lasting way. As Klein points out though, learning the statistics relating to the American Revolution (this author’s example) is not the same as learning about the musical pieces relevant to or composed at that time. Care must be taken that school standards are set, and that if a school system decides that there is greater value in knowing the mathematical aspects of the Revolution than the musical aspects, that what is “important” does not get overwhelmed by “enriching” material.

The idea of teamwork takes on a new role with an appreciation of MI Theory (Moran, Kornhaber & Gardner). When teachers know the intelligence profiles of their students, they can group them based on these intelligences. At times, they may choose to group together students with the same strengths so that students can make presentations of the material that show a deeper level of understanding, or that are more effectively communicated. Teachers may also choose to group students in a way that their strengths and weaknesses balance out or compensate for one another. In this case the students would each be able to contribute to the project in the capacity that best suits them, giving a more well-rounded presentation.

Our discussion until now has brought to light a few points. MI theory, as presented by Gardner in 1983 as an alternate view of human capability, places new value on otherwise marginalized skills. This theory has been criticized by many on a conceptual basis and Gardner’s research methodology has been challenged empirically as well. Furthermore, critics find the

implementation of this theory problematic despite seeming successes. However, techniques suggested by Gardner which are part of the educational framework already, but are strongly emphasized by Gardner for their compatibility with MI, merit exploration and development.

The school library provides a special kind of environment, in that its modern conception is a “media center”. In that sense, school libraries are very well suited to cater to children’s diverse interests and abilities- whether or not one calls these extra abilities “intelligences.” Practically, this would mean providing resources to teachers who want to enrich their lessons with multiple entry points. It would also mean having books, audio, visual, and perhaps tactile equipment that would stimulate and motivate all kinds of children to learn and discover. A California Public Library has created this type of multisensory learning environment (Williams, 2002). The children’s area is outfitted with an authentic replica of a T. Rex, a lighthouse, a rainforest, and a space shuttle. Overhead there is a skydome mimicking changing weather conditions and nighttime constellations, and nearby there is a “green screen” which allows children to interact with fictional characters from the books they love.

One of the main goals of a school library is to create independent learners who are self-motivated. It is in the hands of librarians to give children the skills they need to give them the confidence and comfort with varied resources which will help foster self-motivation. With children whose interests or intelligences fall outside the linguistic/mathematical profile this is especially important. When children have special interests or abilities the librarian can use these as a springboard to get them involved with materials relating to what is being taught in the regular classroom, or materials that are extra-curricular. By filling in what these students are not understanding or truly learning in the classroom, librarians play a major role in the education of children that may otherwise be underachieving.

Another technique highlighted by Gardner is the idea of teamwork. Teamwork is a learning strategy that works especially well with the constructivist framework. Teamwork is about students pooling their skills collectively and using each others resources to accomplish more than they would on their own. But it is also about the students trying to build something together and grappling with the information they need in order to put together a complete project. Libraries are very conducive to this kind of team effort. As we said above, creating self-motivated and independent learners is very crucial to the library’s mission. These students who are effective learners will bring more to the team and not slow down the group’s work due to either their lack of skills or because of an apathy towards learning projects.

The modern librarian must value flexibility above all other traits in order to be successful. We have examined only one of the many issues of reform which are under question. Multiple Intelligences seems thus far to be an incomplete theory which needs to be further substantiated. Evidence to support MI may be brought to light and the theory further developed, and it would be appropriate for librarians to stay current with these research developments. The school library, which is unique in that it presents a more informal learning setting, is a wonderful place to experiment with different learning strategies. These strategies may be created and developed through a librarian’s own understanding of the distinctive learning environment where they work, or they may be faithful strategies which are brought to new light by challenging and revolutionary theories.

Information Search Process

In the Initiation stage of the assignment, we students were to choose from a list of topics presented to us. At this stage, people usually feel overwhelmed with questions of uncertainty, trying to determine the nature of the assignment and what is expected of them. The answers to these questions were not fully understood, but I embarked on the search process, initially just attempting to get a shallow understanding of the topic with the hope that the content of the research and further clarification from the Instructor would form a cohesive picture later on.

Having little familiarity with current issues in the school system, I had a somewhat easier job selecting a topic, as it was chosen simply based on a minimal comprehension of the notion of Multiple Intelligences. In this second stage of Selection, I did not have a developed “information need” but rather a very loose desire to know where the direction of this assignment would go.

The Exploration stage of the search entailed earmarking articles and websites that lent a deeper understanding of the MI theory as well as its criticisms. Encountering criticisms so early on was surprising, and actually made the concept of the assignment more clear. Until this point, the “curriculum issue or problem” aspect of the assignment was elusive. Once the criticism presented itself, it became clear that the “problem” was if this not-yet-validated theory should be represented in a school’s curriculum. It was during this stage that I began to feel quite overwhelmed having bitten off more than could be chewed. This curriculum problem did not simply question social norms and budgeting concerns but required a more complex understanding of cognitive science. Fortunately, I brought to the table an undergraduate degree in psychology and so the topic was not as totally incomprehensible as it would have been otherwise.

Kuhlthau (1995) notes that strategies for Exploration and Collection are often confused, and this is in fact what happened, though somewhat intentionally. I had a small, partially developed focus in mind, and therefore was going through a mini collection phase – trying to concretize which materials would conclusively be used for the paper- during the exploration phase. This in actuality confused things and made the next phase, formulation, significantly more difficult for me. Interestingly, the incompatible and contradictory information expected to be found during Exploration did not present itself. This is partially due to the fact that I had almost no preconceived ideas about how the topic or paper would take shape. It also may have to do with the fact that the assignment did not require an extremely in depth analysis of the subject matter. Alternatively, I may be misreporting the events and my feelings associated with them, as this is being written with hindsight.

In the Formulation stage, a focus and sense of clarity is expected to emerge. In reality, the process did not unfold in such a straight forward manner. Instead, a temporary focus was constructed, along the lines of “what are the most salient articles written about this topic?” Instead, the precise focus was developed during the Presentation stage. Interest in the topic was not at its peak at this point in the process, but rather a feeling of anxiousness was experienced. This anxiety could be explained by my lack of clarity regarding the expectations for the

assignment, or the lack of personal experience in a school system which would lend a personal perspective to the information gathered.

“Weeding” was the most significant task in the Collection stage. Specifically, there were countless in depth criticisms of Gardner’s theory, and it was my decision to include the critiques that were made on a conceptual basis and leave out those which were more empirical. The empirical criticisms were left out for a number of reasons. These included their very detailed nature which was not conducive to a paper of short length and these arguments’ lack of personal relevance to most school teachers.

Because the focus was not fully formed in the Formulation stage, Collection actually extended into the Presentation stage as well. As I would construct a new point that needed to be substantiated by comments from Gardner himself or other researchers, it was necessary to delve into databases and unearth supporting material. A sense of “ownership” was never accrued during this phase of the project, but I did feel like I had a good hold on what material was out there in case I needed to explore further (which I often did during the Presentation stage).

The Presentation stage involved forming the research into a comprehensible whole for not only an Instructor who would have prior knowledge of the topic and would be grading the work, but for the less critical and less informed classmates as well. These considerations greatly impacted the treatment of the material collected, and made the task both more difficult and more simplified.

As the challenge of this assignment waxed and waned, so did my feelings of contentment. I evaluated my experience during this Assessment phase, and found the experience to be rewarding in an overall way. A feeling of satisfaction is inherent in any job completed, and that is how I felt as I neared conclusion. I feel the greatest amount of satisfaction regarding the focus that was developed and the conclusions that were drawn. Still, I do not feel completely at ease with the paper because there are “uncertainties”. Something not emphatically addressed in the ISP model is teacher expectations. Gathering research that has personal significance is nice, but the researcher knows that the teacher figure is expecting to see specific information addressed. This is an especially relevant issue in our “information saturated” environment, where what is considered essential may be well buried.

The good news is that now that I am more consciously aware of the workings of ISP, I will be able to force myself to concretely follow its stages as necessary. Furthermore, I see how much anxiety was generated due to my lack of clarity, and I will do as much as possible in the future to determine all elements of an assignment before I commence working on it.

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