Too many of our brightest and most capable students are sometimes caught in a system that places too much emphasis on linguistic, word smart intelligence or mathematical, number smart intelligence. Students at all levels of academic readiness—from developmental to honors—are affected by the rigidity of this way of thinking. Focusing solely on these types of learning strategies has in some cases encouraged rote memory teaching strategies that may foster little or no connection to material, low motivation, and poor performance. Memorization-regurgitation is the name of the game for many students; not much value is placed on learning or remembering the material, let alone understanding it. The Multiple Intelligences/Learning for Understanding (MI/LfU) initiative at Glendale Community College is one approach to learning and creative assessment a dedicated group of faculty, administrators, and students have been involved in for the past 9 years. Incorporating MI theory across the curriculum, provided students with a variety of creative, imaginative learning options. Students became miniexperts and cofacilitators of learning as they gave “performances of understanding” of the academic content studied. Assessment for understanding was completed using a creative grading/diagnostic rubric. Reflective student and faculty evaluation provided invaluable insight into the learning and teaching process. Providing a forum for the exchange and dialogue of ideas, innovations, perceptions, and pedagogies is essential in the transformation of education and crucial in the dynamics and evolution of change.

What began as an experimental Multiple Intelligences/Learning for Understanding (MI/LfU) pilot study (Díaz-Lefebvre, 1997) in the Glendale Community College psychology department from 1994 to 1996, has evolved into an effective, interdisciplinary approach to learning, teaching, and creative assessment. MI theory, created by Harvard cognitive psychologist Howard Gardner, asserts that when it comes to being smart, differences count. The theory takes human differences seriously, elevating the dignity and giftedness of each individual. Awareness among educators...
about MI theory has grown steadily over the past 20 years since the publication of Gardner’s now classic *Frames of Mind: The Theory of Multiple Intelligences* (1983). Educators have applied MI concepts to a wide range of settings from early childhood programs (Merrefield, 1997) to centers for homeless adults (Taylor-King, 1997).

**MI THEORY APPLIED IN A COMMUNITY COLLEGE SETTING**

Higher education, deeply ingrained in the mindset of paper-and-pencil testing and a lecture-delivery system of thinking, was ripe for change. Too many of our brightest and most capable students are sometimes caught in a system that places too much emphasis on linguistic, word-smart intelligence or mathematical, number-smart intelligence. Students at all levels of academic readiness—from developmental to honors—are affected by the rigidity of this way of thinking. Focusing solely on these types of learning strategies has in some cases encouraged rote-memory teaching strategies that may foster little connection to material, low motivation, and poor performance. Therefore, the motivation for many students is to take the test and get it over with. Not much value is placed on learning or remembering the material, let alone understanding it. One of the major findings of cognitive science over the last 30–40 years is how difficult it is to get students to understand. To understand simply means that a person can take something learned—concepts, theories, knowledge—and apply it appropriately in new situations. Within a college setting, the challenge becomes the student’s ability to demonstrate an understanding of terms, concepts and knowledge as they are applied to the real world outside of the classroom setting. Many students thought to be lazy are actually bored and frustrated because; even though they are “smart,” they crave multiple methods of stimulation. Providing various methods of intellectual stimulation may be more effective in helping them master new material.

**THE CHARGE FOR CHANGE**

Various community college leaders, including Terry O’Banion, former president and CEO of the League for Innovation in the Community College, have been proponents of the learning college (O’Banion, 1995). Other practitioners and researchers have led the charge for change. Reynolds and Werner (1998) present learner-centered psychological principles and assumptions and offer community college suggestions on applying learning theory when making the transition from teaching to learning centered institutions. In my own work, I have attempted to explain how MI theory applied to a community college setting can be an effective
assessment tool to measure student learning (Díaz-Lefebvre & Finnegan, 1997).

Concern for individual differences, also seen in O'Banion's (1997) belief that a learning college must create as many learning options for students as possible, provides the basic foundation for the Multiple Intelligences/Learning for Understanding initiative at Glendale Community College.

DEMONSTRATION OF STUDENT LEARNING

Effective assessment of student learning outcomes has been a major issue for higher education for a number of years. Commissions have issued reports, position papers have appeared routinely at assessment gatherings held across the country, and there has been an increase in assessment literature. Other issues come and go in community colleges, yet the assessment movement seems to be gaining speed again. Accrediting agencies have incorporated suggestive criteria for what constitutes an effective assessment activity. Some states have mandated various forms of assessment evaluation ranging from high-stakes testing to the creation of portfolios. Data is collected and made available using traditional measures of student academic performance and progress. A decade of rhetoric and effort has generated a minimal amount of effective change in student performance assessment (Alfred et al., 1999).

It is appropriate and timely that the theme of this year's AERA meeting is titled Accountability for Educational Quality: Shared Responsibility. It is the belief of shared responsibility between learner and teacher that sets the tone of the MI/LfU approach used at Glendale Community College.

THE LEARNING OPTION

Developed during the initial pilot study, the learning options incorporate various intelligences proposed in MI theory. The purpose of the learning option is to provide students with guidance and an opportunity of learning academic material in a different way. By learning material in a way that makes sense for the student, students can achieve understanding. The basic premise of the learning option is as follows:

- Not all students learn or understand material in the same way. Yet for many, paper-and-pencil testing is the only method used in assessing how they are smart.

The teacher is the content expert and makes the decision on what terms, concepts, and topics students need to know and be exposed to. The teacher
provides the guidance (key terms and concepts), and the student chooses which concepts will be incorporated in the learning option.

- The purpose of the learning option is to provide choices and creative options accentuating the different intelligences. Creativity and use of one's imagination is highly encouraged and rewarded. The written and reflective component of the learning option format is an integral part of the student's learning experience.

The learning option provides the opportunity to reinforce material covered in class, outside reading assignments, and material that may appear on a test. The learning option becomes a good review exercise for students.

- Students are provided the opportunity to explore various ways of learning, get out comfort zones, be creative, and have fun. Faculty provides encouragement, support, and confidence in the student's ability to succeed. Ultimately, the student is challenged to become accountable for his or her own learning and behavior.

Over 2,400 students have completed courses where MI/LfU Learning Options are available. Disciplines that have participated in the program include biology, Spanish, music, nursing, chemistry, mathematics (calculus, college algebra, trigonometry, basic math), anthropology, psychology (all courses), child/family studies, and English (developmental, literature, freshman English). The learning options include acting/role playing, creative dance, collage, mime, book report, poetry, drawing/sketching/painting, computer simulation, sculpture, interview, creative journal writing, musical/rhythmic application, and traditional tests. Students demonstrate their understanding of academic material through a performance of understanding. Students appear before their classmates and review what they have learned and accomplished by completing the learning option. In essence, they have the potential of becoming miniexperts on a subject, topic, or area and then teach this to their peers. Using a creative grading rubric completes student assessment and evaluation.

THE ASSESSMENT MAZE

With so much information available today on assessment, student learning outcomes, data collection, and the dissemination of results, is it any wonder why many at community colleges find themselves in a dizzying whirlwind of activities as they attempt to justify how and why assessment is taking place at their campuses? Should assessment focus on improvement of student learning or should assessment focus on student accountability and the
quality of learning produced? Should we look at standardized test scores, portfolios, grades, projects, exit interviews? In addition to exploring the nuts and bolts of the assessment process, it is equally important to ensure that the use of assessment methods are as fair as possible in assessing whether they (students) are getting it. According to Lam (1995), a fair assessment is one in which students are given equitable opportunities to demonstrate what they know. Suskie (2000) suggests there are steps that can be taken to make assessment as fair as possible including using as many different measures and many different kinds of measures and engaging and encouraging students to do their best.

The performance of field-dependent students, those who tend to think more holistically than analytically, is greatly influenced by faculty expressions of confidence in their ability (Anderson 1998). New tools such as rubrics, computer simulations and electronic portfolios are providing alternatives to a one size fits all way of thinking. Rubrics have been used at the elementary level of education for quite some time. The use of rubrics at the college level is a relatively recent phenomenon. A rubric is a set of guidelines for comparing students' work. Rubrics provide descriptors for varying levels of performance, and rubrics answer these questions: By what criteria is performance judged? What does the range in the quality of the performance look like? How are the different levels of quality described and distinguished from one another? The grading rubric developed in the MI/Lfu program assesses student completion of the learning option and evaluates progress in the following criteria: Creativity/Imagination; Demonstration/Performance; Organization/Format; Reflection/Metacognition; and Evidence of Understanding. Assessment for understanding helps the teacher and student to set standards, create instructional pathways, motivate performance, provide diagnostic feedback, evaluate progress, and communicate progress to others (Dias-Lefebvre, 1999).

ASK THEM AND THEY WILL TELL YOU

At the end of the semester, students complete the program form “Reflections on Learning.” In general, the evaluation asks students to comment on, assess, and reflect on the educational and personal impact of using the MI/Lfu approach within the curriculum. During the 2002-2003 school year, 92% of students rated their understanding level of academic material at the satisfied to excellent range after completing a MI/Lfu course. Students indicated that having the option of choosing how one demonstrates learning is very important. All students agreed on this question. Eighty-five percent (85%) of students believe being allowed and encouraged to use imagination and creativity enhances and adds excitement to learning.
When asked if the MI/LfU approach could be used in other disciplines, 88% indicated MI/LfU could be effective in other disciplines and gave suggestions on the disciplines. When asked what type of student might benefit from taking MI/LfU classes, an 18-year-old offered this advice:

I think the type of student that would benefit would be the one that usually doesn't want to participate, the one that is just sick of regular school, you know, it's never ending, it's always paperwork and book work. And they don't try and so they do badly on tests and stuff like that. But this gives them an opportunity to do something completely on their own. And like I saw with everybody in my algebra class that did the learning options, they all worked hard. None of them slacked off. So I think the kids in the back of the classroom that would usually never participate are given an opportunity to okay, if you don't enjoy learning this way, you have your own choice. Then they are trying harder in learning the material and then they feel better about themselves as far as you know, they can excel in class. It's just that they get into a slump with the old style of teaching.

A 32-year-old student offers her observation after completing a chemistry class.

I think that sometimes there is a misperception of what MI/LfU is. Before I could give my performance of understanding in reference to the poem I wrote, I had to really understand the terms and concepts I included in my poem on polymers. I had to read and reread the chapter to make sure I understood the concepts. I then went and visited my teacher to brainstorm and clarify ideas I had on composing the poem. Then I had to determine how I was going to include 18 key terms and concepts in the poem. I am pleased with the results. I could tell that my classmates were really getting into the poem as I thought it was important to make it fun and humorous. It took a lot of work, but I know I will never forget what I have learned from the experience. It even helped me get a good grade on the test!

FACULTY ASSESSMENT AND EVALUATION

Faculty also complete an evaluation form, “Reflections on Teaching and Learning.” In general, the evaluation asks faculty to comment on, assess, and reflect on the educational value, impact, and instructional effectiveness of using the MI/LfU approach in the curriculum. When asked about the instructional benefits of offering the MI/LfU approach to learning and
assessment as compared to more traditional methods, a biology instructor offers the following:

Students need to take charge of their own learning, they need to participate in active learning, and they need to be exposed to learning in different ways. By doing MI/LfU learning options, we have helped in this process. I make students do research on the topic beyond the text or my notes, and then the students have to convince me that they understand the material. Often a student does a learning option and even though they just give an overview to the class in 5 minutes or less, many times the members of the class will see the information in a different way. My students do not learn the way I learned and do not see things the way I do. By having their peers do learning options, some of the students may see the information in a way that makes more sense to them.

A college algebra teacher offers the following:

Before a student can engage in a performance of understanding, the student must clearly understand the mathematical concepts. When a student empowers himself in this type of learning, other students become enthusiastic about learning.

When asked about the importance of understanding academic material, a psychology teacher explains:

Understanding is the key to my approach to teaching and key to the learning option. It is worth 60% of the 50 points given for each learning option. I feel confident that my students have truly learned the material that they have covered in the learning option. Most of the content parts of the written papers show a clear understanding of the material; there is no question of this, but on the other hand, this is hard to quantify.

A chemistry teacher offers his view on the importance of understanding:

The major way that I assess understanding is in the application of theory and terms/concepts. If the student can explain how the content of class relates to her or him in their own personal life, I believe the student understands the material. If they can explain how they make these connections to others, I am further convinced about their understanding. My favorite is when they can use something abstract to demonstrate their understanding of material.
Comments from an English instructor emphasize the importance of the written material turned in: "I look at the written portion of the learning option and can tell if they truly understand or have just thrown something together. The majority of students who follow the guidelines go above and beyond a minimal explanation of the concepts to prove to me that they understand." Eighteen members of the faculty have participated in the MI/LfU Program since its inception in 1994. Currently, 13 members of the faculty participate in the program.

WHAT LIES AHEAD

In 2000, the Multiple Intelligences/Learning for Understanding project became a recognized academic program at Glendale Community College. The program participates in the college budget process and is making significant contributions to the college assessment and institutional effectiveness program. A MI/LfU High School Institute is planned for Fall 2003 bringing together 150 high school teachers from the Phoenix area. The goal of the institute is to begin an important dialogue between high school and community college faculty to explore the possibility of incorporating the MI/LfU approach in the high schools. Like many states, Arizona is challenged with the implementing a state-mandated, one size fits all high school graduation test. Exploring various methods of assessing student learning will be addressed at the institute. The concepts and practices of learning by leveraging multiple intelligences, with an emphasis on learning for understanding is one approach that a group of GCC faculty and students will continue to explore as a viable tool to make learning more effective for today’s college student. Recognized for making significant contributions in the area of learning, teaching, student motivation, and alternative assessment, the MI/LfU program continues to receive national and international attention. Providing a forum for the exchange and dialogue of ideas, innovations, perceptions, and pedagogies is essential in the transformation of education and crucial in the dynamics and evolution of change.

References


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