

Helping Students Say How They Know What They Know

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From 1995 to 1997, I taught in a bilingual school in El Salvador while conducting research for a master's thesis. My primary interest was finding ways for teachers to help students take control of their own learning. I believed that through reflective writing in the target language, students could become more independent learners. The theoretical framework for this research was based on multiple intelligence theory (Gardner 1983; Lazear 1991) and learning style theory (Dunn, Dunn, and Price 1975; Dunn and Dunn 1993). One of my goals was to help students discover their preferred learning styles and dominant intelligences so that they could put to use learning strategies that worked for them. The subjects for my research were tenth-grade students in a survey English literature course at Escuela Americana in San Salvador. They ranged from fully bilingual and/or native speakers of English to Spanish speakers studying English as a foreign language. Students were in heterogeneous classes of linguistic backgrounds and ability levels.

Topics for Learning Statements

Learning statements, assigned throughout the school year on various learning topics, provided a student-written record and description of individual experiences learning in the target language, as well as experiences with group and solo class activities. Students were asked to respond in English to a variety of questions about their learning. The statements provided the springboard for discussions about multiple intelligences and learning styles, to promote students' inductive, unbiased declarations of their learner identities.

The written exercises were dynamic and became increasingly specific during the school year. The first learning statements targeted general outcomes; for

example, "Who or what has been particularly important to you in your growth as a thinker and a learner, and why?", and "What is working for you in this class? What needs to change?" Later questions became more pointed, starting the process of more specific thinking about learning: "State two or three things that you have learned recently. What activities, class discussions, or assignments helped you to learn these things? How do you know you learned them (how was mastery proved)?" Other topics asked students for more precision in describing how they studied for quizzes or in comparing and contrasting two different class activities to learn the same material. This led to questions asking students to predict test content: "Predict the format and content of the [X] test. Do you feel well prepared? If so, what has been helpful? If not, why not? What type of review would you like to have? How can you make the review effective?"

Before students looked at a Learning Styles Inventory at year's end, they wrote reflective responses about a time when trying to learn something new and difficult was frustrating for them. They then hypothesized why learning did not take place. That was a prelude to self-identification and self-discovery with the Learning Styles Inventory.

The Reflective Process

Answering the question, What kind of learner am I? is the first step on the path to autonomous learning. Learners vary greatly in both multiple intelligences and learning styles, and it behooves teachers to be familiar with their students' learner identities through reflective writing in the classroom.

If students are to be self-guided in the language-learning process, they must record what they think

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about as they learn. *Metacognition* refers to the learner's knowledge of and control over his or her cognitive processes and includes strategies that incorporate "planning for learning, thinking about the learning process as it is taking place, monitoring of one's production or comprehension, and evaluating learning after an activity is completed" (Brown 1987, 94). Educators and educational researchers acknowledge the importance of helping learners define their learning styles and identify strategies for improving the application of their learning skills. According to Wittrock (1986), "The teaching of learning strategies . . . has been found also to be effective in educational settings to facilitate attention, motivation, learning, memory, and comprehension, as well as to remediate some learning disabilities" (310). In addition to cultivating achievement in subject matter, teaching students how best to learn can promote their self-sufficiency and motivation.

Matsumoto (1996) found that Japanese college students studying in the United States responded positively to writing about their learning experiences in English. Matsumoto states that through writing, "students need to be exposed to alternative learning strategies so that they will be led to approach classroom second language learning more flexibly and efficiently, and ultimately to become autonomous language learners" (147). Writing can help make learners aware of processes facilitating or hampering their learning.

Reflective writing that helps students answer metacognitive questions will eventually help them "prove" their learning, stating how they know that they have learned something. Once students prove learning, their awareness of both their dominant intelligences and their preferential learning styles is easier to articulate and thus to remember. That leads, in turn, to increased confidence. Students can declare their strengths to the teacher, along with their needs for activities and tasks that foster those strengths. Students' self-sufficiency then increases; they are able to learn more efficiently on their own. Hence, the classroom becomes more student-centered, and teachers fine-tune and enrich their repertoire of teaching tools. Teachers then participate in the excitement that comes from students' discovery that they have control over their learning.

Learning Statement Examples for Multiple Intelligences

Gardner's (1983) theory of multiple intelligences claims that there are seven autonomous brain systems that work together in complex ways; no intelligence exists by itself. Gardner maintains that rather than assessing only two intelligences (verbal and mathematical) as do most standard psychological measures, tests should evaluate the "multiple intelligences" of which

the mind is capable. According to Gardner, we all have the ability to develop one, some, or all of them to a relatively high degree. Intelligence is a dynamic, not static, construct; it can be developed and nurtured. This premise runs contrary to what has been traditionally thought about intelligence. For example, in the Stanford-Binet Intelligence Test, the idea of intelligence is as a single construct. In this framework, the measurement given at age ten is the same as the measurement given later in life.

I wish to expand readers' view of learner intelligence beyond the boundaries of the verbal-linguistic domain, particularly for foreign language learners. Knowledge of multiple intelligences helps language instructors to find ways to enhance the interplay of all of the intelligences. Students at Escuela Americana were able to advance and augment the expression and integration of their different intelligences by writing learning statements, as demonstrated in the following examples.

High intrapersonal intelligence is evident in learners who understand their own strengths, weaknesses, moods, desires, goals, and objectives. Such individuals can reason on higher levels, evaluate their own thinking, concentrate, and understand themselves in relation to others. They draw on those feelings and abilities to guide their own behavior. These learners are more likely to achieve when working alone pursuing self-defined interests, and they best absorb new information when projects are individual and self-paced.

Pepe described his growing level of intrapersonal intelligence when he said, "Through *Caesar*, I am improving my knowledge of the classical Roman history. I am also improving my understanding of human thought, growing in my own understanding of my motives for the things I do."

Learners with high visual-spatial intelligence perceive the visual-spatial world accurately, showing sensitivity to form, space, color, line, and shape, and can represent graphically visual or spatial ideas. Such learners enjoy drawing, designing, and viewing pictures, slides, and videos. They are proficient at imagining things, solving puzzles, and reading charts and maps.

Victor, another student, commented, "Making character maps made an end to my questions on certain characters. By this I was able to get a better idea of what was happening and prepare myself more efficiently for the quiz." Victor excels at visually perceiving relationships. Mapping the characters was for him an easy activity that helped him develop his capability for abstraction in organizing the characters from the novel we were reading.

High logical-mathematical intelligence also indicates an ability to recognize and perceive abstractions. Learners with this type of intelligence can easily sense logical or numerical patterns, handle long chains of reasoning, reason both inductively and deductively,

and discern relationships and connections. They are analysts with scientific minds and a capacity for classification and problem solving. They figure things out by asking questions, exploring, and experimenting.

Alba is confident about her analytical approach to the reading. She said, "By analyzing the characters, I find out how Shakespeare portrayed them. As I analyze the events I learn how events relate to the main idea. Also, the reading makes a clear example of cause and effect." Her use of the term "cause and effect" shows a sequential mindset. Learners with high levels of logical-mathematical intelligence learn best when given opportunities to classify, categorize, and work with abstractions and their relationships to one another.

Learners with high interpersonal intelligence easily manage and maintain relationships among people. They can see things from others' perspectives, notice distinctions among others, cooperate within a group, and socialize readily. Leading others is an obvious skill for these learners, as are organizing, mediating, communicating, and understanding people and how to work well with them. As readers, they can often sense the characters' and the authors' moods, feelings, motivations, and intentions, as shown by Sara's learning statement about *Julius Caesar*:

I've learned that sometimes people can be cowards. An example was Cassius. When Cassius knew they were not going to win the war he preferred that someone he knew kill him rather than see the moment when they lose the war. I've also learned that *Julius Caesar* is ironic because the same sword that killed Caesar was the one used to kill Cassius. Now, I understand Cassius's role better. I don't feel anger at him; instead I feel compassion, because he will never be a happy person for having jealousy.

Sara's empathic response to a character's behavior indicates a high degree of interpersonal intelligence, and through writing she shows that she is capable of explaining why a character might behave the way he does. This shows a sound understanding of the assigned reading.

Learners with high bodily-kinesthetic intelligence can skillfully control their body movements and handle objects. Their abilities include coordination, flexibility, speed, and balance. People who touch while talking and use their bodies to express ideas often have high levels of this intelligence. This type of learner needs a kinetic component to taking on new and difficult material; he or she must interact with space in some way so as to process, and remember, the new information through the body.

Marta is a student with a mobility-based or "learn-by-doing" learning style. She wrote the following about a unit that included various dramatic skits and activities during the reading of a Shakespearean play: "I understood the material more acting out the play. It

was fun and I could remember what each character did because I remembered who played each part. I could think, 'Oh, so-and-so did this' and remember. Reading aloud and reciting the play was effective." Reading from the play and taking on the roles of each character was a useful exercise for everyone, but it especially served those with a kinesthetic learning style because they did not simply read; they became the characters. Students who were most enthusiastic were those, like Marta, for whom it felt natural to learn by doing.

Those who are always listening to music, singing in the shower, or humming along with the radio display high musical intelligence. They can produce and appreciate the forms of musical expressiveness. These learners sense tonal qualities and are sensitive to sounds, and they likely play a musical instrument. They remember melodies, notice the rhythms of life, and keep perfect time.

Luis wrote, "I think I'm learning how it was very important to have a correct use of iambic pentameter. The rhythms of the poetry make it easier to understand." Luis is a learner who gets new information by way of melodies, musical notation, or rhythm.

Verbal-linguistic intelligence is characterized by sensitivity to the attributes of words and functions of language. Learners with a high linguistic intelligence love to read or write and are good at expressing themselves. This intelligence is reflected by the ability to analyze one's own use of language, remember things, use humor, explain and teach things, speak persuasively, and understand and talk about syntax and the meanings of words.

At the beginning I thought this story would be the most boring thing, but I'll have to admit it isn't so bad. I don't really like the plot, what I like is Shakespeare's language. I love the way he writes, and I wish I could speak that way. At the beginning, I didn't understand a thing, but now, after three weeks, I have gotten used to the language and I understand and like it better.

A learning statement like the one above, Elisa's, shows the actual growth of this kind of intelligence from one point in a unit to another. She can state what she likes about the reading, and she integrates a musical appreciation for Shakespearean language with the linguistic growth she is experiencing. Some students stated that they knew that they had learned something when they were able to explain it to others. These students are applying their verbal-linguistic intelligence in ways that will lead them to be more self-guided and more autonomous.

Learning Statement Examples for Learning Styles

Preferences and characteristics that distinguish one individual learner from another are learning styles. An individual learning style is the setting in which one

prefers to be when learning new and difficult information. Unlike multiple intelligences, which are said to be fluid and can develop and grow under different circumstances, learning styles are said to be part of our personality type, indicating an inclination or bias towards doing new and different things in an individualized way. Research conducted by Dunn and Dunn (1993) has shown that students who are trying to learn new and difficult material will automatically revert to their preferred learning style. The Dunns' research model includes four stimulus categories: environmental, emotional, sociological, and physical. Examples below highlight learning statements revealing these elements of students' learning styles. Language learners who know and can state their different learning styles are more likely to become independent learners who can identify appropriate strategies for improving their classroom performance.

Environmental elements of learning style such as sound, light, temperature, and design affect the way that a learner takes in new and difficult information. For some, finding a "quiet" place to study means sitting in a room with the radio playing. For others, complete silence is necessary to assimilate new and difficult material. Xavier wrote, "I am very proud of my quiz performance! . . . I remember that on Tuesday I was really bored so I decided to just start studying. There was one chapter that I didn't really understand so I reread it. I memorized all of the vocabulary words. Now I am glad that I am not allowed to watch television on weekdays because it gives me one less distraction." Xavier would be unlikely to excel at learning vocabulary in a room where the television is on. His learning style requires a calm environment, and applying that by studying in a quiet room paid off.

Emotional elements of learning style such as motivation, persistence, responsibility, and structure vary between self-motivated learners, who enjoy learning and achieving, and learners for whom academic learning in a conventional classroom is not fulfilling. As always, motivation can depend on what is learned and how. Aldo said:

I basically was very disappointed with my achievement on this quiz. I proposed to myself that I was going to study and get a good grade and I didn't. The other thing I learned was that I am in a very competitive class. . . . this is good for me. This will encourage me to study more and get better grades.

Aldo did not do as well as he had hoped on the quiz, but he learned something from the experience. His analyzing what he did and being honest enough to write his observations in the learning statement come from the freedom to write in class. Obviously he feels that competition is a key consideration in his accomplishments.

Sociological elements of learning style determine

how students react to working alone, with an authority, in a pair, on a small team or group, on a large team or group, or in other varied circumstances. Some students' learning statements reveal clear preferences for certain degrees of "partnering" and "grouping," depending on the activity. Some students find group work difficult and prefer individual tasks because they tend to get more work done alone. On the other hand, there are learners who cannot seem to get started on their own and need a buddy (or two) to get their thoughts flowing. Still others need variety. Gabriel, a quiet, reserved young man, described his learning style preference of reading alone: "Reading and reviewing by myself helps me actually to use my time more efficiently. I feel a lot more comfortable reading silently so that I can go at my own pace. By reading alone, you can go back to parts or take notes as one decides. I'd rather read alone."

The physical elements of learning style are food and drink intake, time of day, mobility, and perceptual elements (visual, auditory, tactile, and kinesthetic preferences). Perceptual elements are of particular interest to teachers since they govern the reception and production of language. Some students feel that they need to have something to eat or drink while they are taking in new and difficult information; others cannot learn while eating or drinking. Some learners prefer learning new and difficult material early in the morning; others are stronger in the afternoon, evening, or late at night. For example, Clara wrote, "I consider myself a quick learner; I think this is one of my abilities that I like about myself. I am able to work more efficiently at this time of the day, fourth period, than during seventh period, for instance."

Implications for Teaching

In promoting self-directed learning, teachers must train students to become more reflective about their own learning. Part of that process is teachers' becoming more aware of various learning theories. As Brown writes, "Teachers and researchers have all too often dismissed certain theories of learning as irrelevant or useless because of the misperception that language learning consists of only one type of learning" (1987, 81). Language learning cannot be classified simply, and it is not just about advancing students' verbal-linguistic intelligence. Brown himself credits Gardner's multiple intelligences theory with the "fascinating" reading provided by *Frames of Mind* (Gardner 1983), and he writes that "the implications of his new sevenfold definition of intelligence for language learning are worth exploring seriously" (Brown 1987, 76). Even more helpful, there are now many such practical resources available to teachers, including Lazear's *Seven Ways of Teaching: The Artistry of Teaching with Multiple Intelligences* (1991) and Armstrong's *Multiple Intelligences in the Classroom* (1994).

In the classroom day to day, no teacher can take into account all of the learning styles of each individual student. However, by closely examining students' reflections, teachers can make their approach more comprehensive in its appeal to diverse styles. Students need to be shown how to identify and communicate their learning needs. When students recognize the importance of this, they have begun the process of becoming autonomous. Frequent reflective writing facilitates that autonomy. Language learners who know and can state their different intelligences and learning styles are more likely to become independent learners, identifying appropriate strategies for improving their performance in language study.

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