

### Giving Students Ownership Through Choices

Educators are constantly looking for ways to reform the curriculum and adapt their pedagogy to better motivate their students. Maybe the answer doesn't lie within the confines of their personal lesson plans, but rather in the confines of their classroom. Teachers have valuable resources at their fingertips that are often overlooked- the students. If you want to improve the look of a homeowner's kitchen, ask the homeowner. If you need a suggestion about how to encourage young citizens to partake in the voting process, ask young voters. It only makes sense then if a teacher is looking for a way to engage and motivate their students that they should seek the advice and opinions of the students themselves. In a recent publication of *Educational Leadership*, put forward by the Association for Supervision and Curriculum Development, authors discuss how giving students ownership of learning is done through engagement and accountability. This article will focus on how to facilitate engagement. It is not an open-ended strategy where free reign is turned over to students, but rather a level of refinement is needed in order to be successful. Marge Scherer (2008) points out that "We must balance freedom with responsibility if we are to encourage the self-directed learners that the modern world demands" (p. 7).

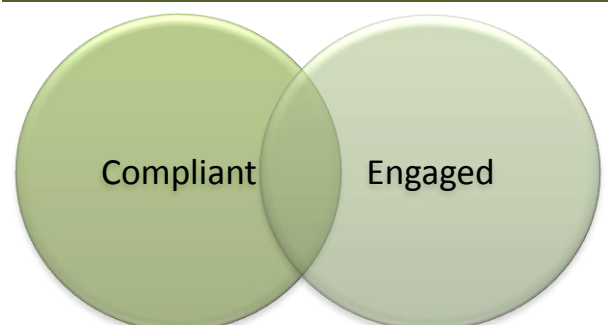
Putting aside the mile long, inch deep curriculum that needs to be covered and the various learner characteristics that need to be considered, teachers are increasingly confronted by students that 'pretend attend' school. Boredom and disinterest with the educational process has become so prevalent that very little time is being spent doing any actual thinking. This is particularly disturbing for the science discipline as "observing, thinking, experimenting and validating" (AAAS, 2008) are the foundational principles upon which the nature of science is built. As a result students have developed a sense of compliance that restricts their capacity to make connections, see the bigger picture, and function at higher cognitive levels.

Parenthetically, I feel that compliant learners are not necessarily something that needs to be shied away from entirely. Similarly to the balance needed between freedom and responsibility,

there should be a balance amongst the compliant and engaged attitudes

of students. Compliant students have the ability to follow directions when necessary, complete given assignments in a realistic time frame and perform relevant procedures. Unfortunately, this is not enough to produce a science literate student.

Fig.1- A balance of compliant and engaged students depicts the desired learning environment.



Engaged students are needed to think beyond meeting teacher expectations to sustain a better understanding of the discipline. Some characteristics of engaged learners are their ability to formulate more questions from an original problem, to question validity, evaluate feedback, and create connections (Zmuda, 2008, p. 38). The very nature of an engaged student correlates with scientific inquiry and the need to blend logic with imagination.

Where do these choices come from? What about state standards? How is assessment formulated? All very valid questions. Following is an example of a model that was developed and implemented called “The Democratic Differentiated Classroom”, which allows students the opportunity to express their opinions and choose what they want to do. Waterman (2008) explains a specific strategy within this classroom that is known as “Student-Led Unit Planning” (p. 37). The teacher provides a list of topics from a curriculum guide for example, then the students debate and vote on their choice of study. Following this decision, the students and teacher work together in developing a KWL chart (what students **K**now, what they **W**ant to know, and *how* they want to **L**earn the topic). Waterman (2008) suggests setting some deadlines throughout the process to eliminate potential problems (p.39). This is where it’s beneficial to have compliant students. Once a learning foundation is established, the class as a whole can then decide on accurate assessments that depict learning has occurred including a consensus rubric (Waterman, 2008, p.39). This is just one example of how to involve students with the decision-making process in the classroom. It becomes the teacher’s responsibility to use the creativity and ingenuity that they hope to foster within their students to develop and implement a model that works them.

#### Findings from "Democratic Differentiation Model"

- When students get to choose what they learn, they do more work
- Students know how to choose what they want to learn
- Students generally need help to determine what constitutes a quality solution to a complex problem
- Parents embrace the idea of teachers allowing their children to have choices and responsibilities for what they learn
- Students are comfortable with the idea of choosing what they learn
- Office referrals for behavioral issues are rare

*As cited from Waterman, 2008, p. 37*

As a student teacher, I sought to find other teaching implications through the use of my own action research project entitled, “Giving Students Choices in the Science Classroom: Impact on Student Performance and Attitude”. It was my belief that giving students choices would motivate them to perform by allowing them to take a more active role in their education. I performed this study using two 7<sup>th</sup> grade Life Science classes– one acting as the control and the other as the treatment group. Both classes usually consisted of a sample size of 24 students on a daily basis. Given the limited time that I had allotted in the classroom, I conducted this study over a ten week period focusing on one aspect of instruction using choices, assessment of student performance. Following a unit on the Nature of Science, as well as, Ecology, the students were given projects that would serve as their formative assessment. The control group was provided mandatory restrictions that they had to follow while the treatment group was given more freedom in how they opted to demonstrate their knowledge. For the Ecology unit, I utilized a menu–style choice that was taken from Laurie Westphal’s book entitled, “Differentiating Instruction Using Menus”, the middle school science edition. Both groups were given the same rubrics by which their final products would be graded. In order to study the effects on student engagement, motivation, and content knowledge I triangulated my data using pre and post surveys, a reflective journal, and student interviews with standardized questions. After analyzing the data, I was able to verify my hypothesis while developing subsequent research questions to pursue based on my findings.

Comparison of Survey Averages* (N=24)						
Statement	Control			Treatment		
	Pre	Post	Difference	Pre	Post	Difference
I like science	3.2	3.0	↓ 0.2	3.1	3.3	↑ 0.2
I complete my science assignments	4.3	3.9	↓ 0.4	4.0	3.9	↓ 0.1
I think science class is interesting	3.1	3.0	↓ 0.1	3.4	3.8	↑ 0.4
I’m allowed to take an active role in my science education	3.2	4.0	↑ 0.8	3.0	4.1	↑ 1.1
** My average science quiz/exam grades are:	4.0	4.0	N/A	4.0	4.0	N/A

\* Compiled from individual answers based on a scale of 1-5 (Never → Always)  
 \*\* Statement result was reported based on mode of answer: 4.0 = (81-90)

Fig. 2- Compiled quantitative data from pre and post survey responses given by students as a class average.

The surveys that I distributed showed a decrease in satisfaction with science class, as well as, work completion for the control group. The treatment group showed just the opposite with every aspect increasing with the exception of work completion, which declined by only 0.1 in average student response. The most significant change was the student’s reaction to the

statement, “I am allowed to take an active role in my science education”. While both groups increased in this area, the treatment group went from 21% of the class responding at the highest level on the scale of ‘Always’ to 54% of the class after the study.

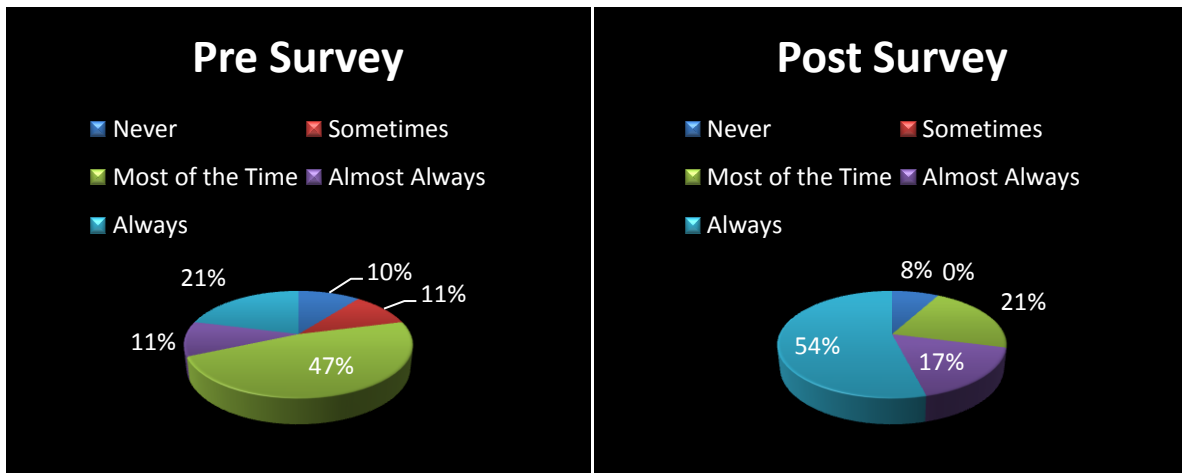


Fig 3- Shift in student mode of response as noted from the pre and post surveys from the treatment group regarding the statement, “I am allowed to take an active role in my science education.

This statistic alone seems to support the notion that by giving students the ability to make choices, they feel empowered to be active in their education. In addition to the quantitative data, I experienced things that could not be seen on the survey sheets. One student who was part of the control group had asked if she could complete a movie about her scientist that she was researching as opposed to the mandatory report because a friend of hers was doing so in my treatment class. I explained that she was given a different assignment and needed to do the written report for a grade. After careful consideration, she agreed to do the paper, but asked if she could do a movie in addition to the assigned work and eventually share it with the class. Interestingly, the prospect of exhibiting her knowledge in a method that compelled her was motivation to do twice the work. In addition to this spontaneous interaction with a student, I also interviewed several students to gain their perspective on having choices in the science classroom. One student stated that, “I like having choices. It gave me options and I could use my imagination to come up with my own ideas”. Another said, “Instead of just studying what you learned [in class], you’ve gotten to the point where you’re using textbooks and you’re using the internet and you’re using newspapers to find new information that maybe a teacher didn’t tell you.” All of this data has lead me to conclude that using choices is a simple, yet powerful way to engage students through ownership while allowing them to express their creativity and originality as they learn the content.

While doing this project I made a number of incidental discoveries that I feel are worth noting. There was one particular student in the treatment group that was repeating in my class. He had an IEP and suffered failure as a result of not completing or turning in work. He had expressed that his only interest in passing was so he could graduate and work for his dad in the family farming business. Through the use of choices, this student was able to focus every component of his project around farming, whether it was invasive species affecting crops or modern sustainable methods and equipment. He turned in work of extremely high quality in presentation and content. Everything was on time and he verbalized his enjoyment in doing this particular assignment. Consequently, I feel that choices have a potential impact on students with accommodations by allowing for differentiation in learning affecting all students.

The benefits of involving students in making choices about course content, lesson planning and assessment are very real. However, equally real are some potential disasters should the process not be approached with some finesse. As the facilitator, a teacher must maintain their position of authority through certain boundaries and guidelines. We're not looking for complete learner autonomy, but rather shared decision-making. The process might be as unsettling for some students to forego the rules and routines they're used to as it is for educators to relinquish their complete control over the classroom. It may take some time for both parties to find comfort within this open-ended system. Loosening the reins and allowing room for shared leadership is a learning process in itself.

Having ownership over their education is one of the most powerful tools we can extend to students. It serves two purposes: engagement and accountability. Giving students the chance to make choices about their learning will result in increased motivation and performance. Aside from that it produces a number of beneficial outcomes, including reduced behavioral problems, parent appreciation, and production of refreshing, new ideas. Toddler, teenager, and adult perform optimally when self-motivated through making their own decisions about their individual success. Every end result may not be what you had originally hoped for, but through failure we can find success. Everything is a learning process. We expect our students to learn the content, but equally important is their ability to learn how to make independent decisions and choices as positive, contributing members in society through use of their scientific literacy. In order to cultivate functioning citizens, we need to first extend that opportunity to our students within the confines of our classroom while offering constructive support and guidance. As John Dewey, one of the original thinkers regarding democracy and education states, "The conception of education as a social process and function has no definite meaning until we define the kind of society we have in mind" (Dewey, 1916/1930, p. 112).

## References

- American Association for the Advancement of Science. (2008). Science for all Americans online. Retrieved: November 26, 2008, from: [www.project2061.org/default.htm](http://www.project2061.org/default.htm)
- Dewey, J. (1930). *Democracy and education: An introduction to the philosophy of education*. New York: The Macmillan Company. (Original work published 1926)
- Scherer, M. (2008). Learning: Whose job is it? *Educational Leadership*, 66 (3), 7.
- Waterman, S.E. (2008). Using choices and differentiated practices that inspire student achievement: The democratic differentiated classroom. *ERS Spectrum*, 26 (2), 35-43.
- Westphal, L.E. (2009). *Middle school edition: Differentiating Instruction with Menus (Science)*. Waco, TX: Prufrock Press Inc.
- Zmuda, A. (2008). Spring into active learning. *Educational Leadership*, 66 (3), 38-42.