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## Deeper Learning, Metacognition, and Presentations of Learning

By Contributing Blogger on February 4, 2016 4:55 PM | [No comments](#)

*This post is by Mike Amarillas, a 12th Grade Engineering teacher at High Tech High North County.*

Last week I experienced my first round of student-led conferences (SLCs) at High Tech High North County. In these meetings, students reflect on their own educational progress with a small audience of teachers and family members. SLCs are a staple of the High Tech system from middle school onwards, so for many of my seniors this was their thirteenth SLC. The format of these meetings is strikingly different from anything I had participated in before. I now have a clearer impression of the 21st century skills students stand to gain from a progressive, project-based education. These teenagers were unexpectedly articulate about their experiences, aspirations, strengths, and weaknesses.

Students on my team were prompted with the following questions for their SLCs (courtesy of my teaching partner, Carlee Hollenbeck):

- *Reflect on your fall semester. Describe your strengths and weaknesses in each of your classes. What are you proud of so far this semester? What would you like to improve over the rest of the semester?*
- *Describe where you are with the college/university application process. Is your Naviance (college application website) updated completely? What are you writing your personal statement about? What questions do you have about next steps for the application process?*
- *Looking ahead, what are you excited for in the future? What are you excited for about college/university?*

I didn't know exactly what to expect from SLCs in terms of quality of responses, but my assumption about students' reflective abilities was that the quality of insights would be correlated to academic performance of the student. On my first day of facilitation, a series of three SLCs proved my assumption incorrect.

These three particular SLCs were for three very different students. The first student had extraordinary scores, vast extracurricular experiences, and strong chances of admission to any top university. The second student had decent scores, some passion for a particular field, and high hopes of being accepted to several four-year universities. The third student had multiple disadvantages, low scores, and no identified prospects for a four-year education.

Had I encountered these students in my previous position, teaching physics at a large comprehensive school, I might have made certain predictions based on their academic achievement: The high-achieving student is likely to be thoughtful and reflective, but the others are likely to struggle or flounder when prompted to reflect on their own situation. I have witnessed multiple teenagers clam up when pressed about their abilities and aspirations. After all, even adults find it challenging to speak about themselves in the context of a performance review or job interview.

Yet all three of the students I met with that afternoon exceeded my highest expectations. The first student had accurate insights about his strengths in academic conversation, and shared specific preferences for a university environment that fosters dynamic debate. He conveyed a humble but satisfied sense of how limitless his options were. The second student shared her enthusiasm for the act of learning itself, and offered a detailed description of the happenings in all her courses and how they compared to her ideal classroom experience. She expressed a more nuanced view of the mechanics of teaching than some professional educators. The third student, with no identified prospects for college, had impressive insights about his difficulties with reading. He recounted how he must pause after nearly every sentence to "imagine" things because he cannot simultaneously read text and visualize the content. I was surprised that the two students with lower numerical scores had equal metacognitive ability. In fact, across all twenty-two of the SLCs I facilitated, my twelfth graders reflected insightfully about their own competencies, personal preferences, performance in classes, and future path after high school. Time and again, students showed a clear grasp of what things were working well for them academically and what things needed improvement.

These SLCs showcased the metacognitive skills that students develop in an integrative, project-based model. Teachers press their students not only to do quality work but also to reflect on their experiences, analyze their work, and assess their own progress. Students regularly think about their own thinking. They come to learn deep truths not only about the content of their projects, but also about their own inner constitution. Insightful metacognition is a skill to be mastered and as with all skills it improves through practice. My seniors have been practicing, and it shows. Their experience with deeper learning has given them insights into their own self that better enable them to chart a successful path in life.

The 21st century economy is in many ways predicated on specialization--complex marketplaces and complex technologies necessitate

2/5/2016

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collaboration by disparate groups. If our students are to be specialists, then they must be armed with precise knowledge about their own abilities. For an individual student to understand if a certain role is a good fit, she must understand both the role and herself. We must prepare our students to recognize their personal challenges and particular gifts. We must give them the metacognitive tools to position themselves in a complicated world. My first SLCs have shown me that we can give all students these tools, regardless of their self-perceived academic ability.

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