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CEP 815
Assignment 5 - Learning-Technology Initiative

Part 1.

I teach in a private high school in Shanghai, China in which most students come from the Chinese local schools. Our school uses the British CIE system with A-level and IGCSE tests to assess student achievement. The Chinese students tend to do well in this system (compared to IB or AP) because of the strong emphasis on remembering content and testing well. In the Chinese system, testing is the beginning and the end goal. From first grade through high school graduation, the main focus is rote memorization and test preparation. The positive result of this is that students are very disciplined and good at reciting content. The negative results include stress, lack of application knowledge, lack of innovation and creativity, boredom, and very few critical thinking skills. Many students come to our school because they and their parents want out of the Chinese system. They want to study abroad in better quality high schools and universities, and our school prepares them for that.

The problem is that our system, while incorporating Western teaching methods and philosophies, still places much emphasis on the CIE test results. Pushing for higher test results in the short term makes our students, parents, and administration happy. Additionally, our students have good test-taking skills and know how to adequately memorize information. So the result is that many teachers teach to the tests, focusing on content-driven lectures and practice tests for their lessons. Students remain bored and largely unengaged with the subject matter. They are still not learning skills of critical thinking and developing their creativity. Worse, they are not seeing the implications of this subject matter on their lives as they are not applying what they learn to real life.

One of the best ways I can think of to encourage teachers to ameliorate this problem is by advocating more project-based learning (PBL). PBL is an instructional approach built upon authentic learning activities that engage student interest and motivation. Students are tasked with solving a complex problem by working in groups or independently in a way that requires them to research and learn the subject content much more in-depth. Moreover, the skills that they learn and practice in PBL include critical thinking, collaboration, and communication. They also grow in personal responsibility as they have to organize their time and resources. The process involves self-assessment and peer-assessment as well as reflection, which helps students think more deeply about the learning process.

For my learning-technology initiative, I plan to create a suite of pedagogical and technological trainings to implement PBL in teachers' classrooms. I will encourage teachers to work on these projects with other teachers in their departments and even potentially across departments. I will create a series of short communication pieces,

perhaps vodcasts, to cast vision for PBL and describe some of the important elements required to implement PBL in their classrooms. These vodcasts can then be discussed in weekly department meetings for teachers to discuss how they might consider adding PBL into their lesson plans. After that, the Technology Committee, which I chair, will create a series of trainings on the technological tools that are most helpful in implementing PBL. Some of these tools might include creating a website to post project information or relevant content, using electronic discussion boards to allow and track student groups' discussion, teaching students how to use graphic organizers to better organize their research and project work, equipping students with presentation and communication skills such as video, vodcast, or podcast creation, or simply using a powerpoint presentation more effectively. These trainings might be face-to-face trainings in a classroom or computer lab, or they might be screencasts or vodcasts we create or find. Throughout the technology trainings, we will place an emphasis on how to apply this technology skill to project-based learning, as well as other potential uses in the classroom.

Teachers should be equipped with the pedagogical and technological tools necessary to implement project-based learning. They can have autonomy to discern what kind of projects to assign, including the goals, the content, the length, the requirements, etc. But my job as coordinator will be to give them the vision and the necessary tools to accomplish the goal of implementing PBL. I hope that relationships within departments will also help spur on this initiative. Outside of my technology committee (five teachers in three different academic departments), I also hope to locate key advocates of PBL that can inspire others around them to integrate PBL into their curriculum. Using large group meetings, department meetings, leadership directives, emails, technology trainings, and informal encouragement and help, I believe this initiative has a high probability of making a huge difference in the quality of learning in my school.

Part 2.

Category	Description	Requisite Knowledge
PK	Knowledge about pedagogy and instructional strategies	how to use PBL...how to craft a complex and authentic problem that engages students and covers major content concepts...how to coach and guide students through projects...how to assess PBL
CK	Knowledge about content in teachers' curriculum	what aspects of the curriculum best lend themselves to PBL...what are central concepts that can best be learned through PBL....what are areas of overlap within or outside of the discipline

TK	Knowledge about technology and how to use specific technological tools	post content to the web...manage electronic discussion boards...graphic organizers...presentation multimedia skills
TPK	Knowledge about how to teach with specific technologies	how to use the web to teach...creating podcasts, vodcasts to share lectures or other content online...how to assign a project using a website as a home base for project resources and communication...using graphic organizers in teaching organization skills and idea and resource management
TCK	Knowledge about how technology aligns to various curricular content or concepts	how to best post subject content to the web...what kind of technology tools and resources are most helpful for students in learning the content...what technologies best display and demonstrate specific content or concepts
PCK	Knowledge about how to teach specific curricular content or concepts	how to setup the project and teach the necessary content to get students started...what kind of questions/problems to give them to work on in PBL...how to coach students and groups through their projects...what curriculum goals should they give students in the projects
TPACK	Synthesized knowledge about how to use technology and instructional strategies to teach specific concepts as well as about how the use of technology changes our understanding of the content and of how to teach the content	which technologies best lend themselves to sharing resources for better research and learning in PBL...how to use online discussion boards to get students thinking deeply about the subject content and their project.....what kinds of communication skills are necessary for students to demonstrate their learning and what technologies could aid them in this communication/presentation