12th Grade Technology Studies Sequencing Rationale

The Technology Studies Unit Redesign is sequenced by an Internalization pattern. The

Unit is designed to present facts at the beginning and move out allowing students to

eventually problem solve and form their own opinions by forecasting a technological

trend and then defending why their opinion is correct. The unit closely follows Bloom's

Taxonomy.

The unit begins in a Knowledge section that introduces students to the definition of

technology. Students are asked to review multiple resources and then post their

definition of technology. Once the definition of technology is established students

expand their level of knowledge by entering into a Comprehension section. Within this

section students are asked what technology means for the future as well as explain some

potential benefits and consequences it may have. Students are also asked to review a

Slide Share presentation containing the steps to problem solving. Once students have

reviewed the steps taken to solve a problem they are asked in the Application section to

apply what they have previously learned by forming small groups, choosing a technology

trend of interest to them and then brainstorm how this trend might impact the future. In

the Analysis section, these groups are to identify a current problem and reverse engineer

a solution utilizing a current or future technology. In this section, students should also be

able to forecast how that technology will affect the future. Once students have a clear

forecast of how the technology will affect the future they will move onto the Synthesis

section. Here the small groups will have an opportunity to showcase what they have

learned so far by choosing an existing or current problem in the following fields: energy and power technologies, transportation technologies, manufacturing technologies, construction technologies, information and communication technologies, medical technologies and agricultural and related biotechnologies. Once the groups have selected their problem they will reverse engineer a solution that utilizes a modified existing technology or by creating a future technology that will address and solve the problem. The Evaluation section will include a formal presentation of the group's problem and the steps taken to hypothetically solve the problem. There will be a classroom discussion after each presentation that covers how the technology solution presented will positively and/or negatively affect the future. In this section groups are also to evaluate the quality of resources used, determine the accuracy of citations and adequacy of information being disseminated. Once the group presentations have been delivered the content will be posted on a public wiki. There, scholars and other educators can review the products of this semester long unit and evaluate the relevancy and value of the information. This will provide feedback to the instructor about what worked and what needs to be changed to make the learning experience more engaging.