

Core Concept: Role of Society in Technological Development

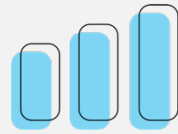
Engineering Literacy Dimension: Engineering Practices

Practice: Professionalism

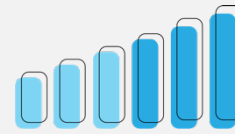
Overview: The *Role of Society in Technological Development* involves humanity's input in the decisions regarding the creation and implementation of technologies based on the predicted outcomes of its applications as well as the evaluation of its unpredicted outcomes. This core concept includes knowledge related to (a) *society's needs and desires*, (b) *designing for sustainability*, (c) *cultural influences*, (d) *appropriate technology applications*, (e) *inclusion and accessibility*, (f) *public participation in decision making*, and (g) *scaling technology*. The Role of Society in Technological Development is important to Professionalism as technology by itself, is neutral and does not affect people or the environment. However, it is the way in which people develop and use technology that determines if it is helpful or harmful. As such, engineering professionals must work along with communities to address their needs and develop appropriate engineering solutions.

Performance Goal for High School Learners

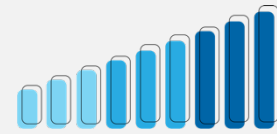
I can successfully evaluate the interactions between engineering activities and society in order to create solutions to engineering problems that consider the voice, culture, needs, and desires of the people in which the solution touches.



Basic



Proficient



Advanced

SOCIETAL NEEDS & DESIRES

I can identify design criteria or constraints related to societal needs and desire.

I can evaluate a given engineering solution in terms of societal needs and desires.

I can develop and justify a solution in the consideration of a certain societal need or desire.

DESIGNING FOR SUSTAINABILITY

I can identify design criteria or constraints related to design sustainability.

I can evaluate a given engineering solution in terms of design sustainability.

I can develop and justify a solution in the consideration of design sustainability.

CULTURAL INFLUENCES

I can identify design criteria or constraints related to cultures.

I can evaluate a given engineering solution in terms of cultures potentially influencing on the solution.

I can develop and justify a solution in the consideration of a certain culture potentially influencing on the solution.

APPROPRIATE TECHNOLOGY APPLICATIONS

I can define appropriate technology and identify criteria for it.

I can evaluate a given engineering solution in terms of appropriate technology.

I can develop and justify a solution in the consideration of appropriate technology.