MISSING EXPERIENCES IN EDUCATION: HOW CODEVA CAN IMPROVE THE EDUCATIONAL MODEL

REPAIRING THE SPECIALIZATION OF TECHNOLOGY

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SOCIOTECHNICAL SYNTHESIS

Lectures and compartmentalization, the hallmarks of the modern American educational system, do not properly prepare students for solving problems in the real world. The technical research report examines the teaching practices of CodeVA, a non-profit organization based in Richmond, and compares it the more standard practices of Human Computer Interactions (HCI) at the University of Virginia (UVA). The emphasis of project-based learning and student-centered education provides valuable insight on how to remedy the deficiencies that come with compartmentalizing related topics into distinct units and classes. The STS research topic examines how engineers and legislators suffer from the compartmentalization present in most educational systems. Promoting technological literacy to relate technical topics to social situations as CodeVA does will help bridge the gap and give new engineers and legislators better tools to solve real world issues.

CodeVA is an organization whose sole purpose is to educate young students about various forms of technology and how it is used. It tries to connect to students so that they may find an intrinsic drive to create and innovate, all while learning about the subject material and understanding how it works. To explore how this can be implemented in the current educational system, the research looks at HCI's teaching practices and how it could be improved by CodeVA's emphasis on project-based learning over lectures. HCI attempts to center project-based learning, but it still relies on lectures as the main form of teaching information to students.

If CodeVA's teaching model is implemented into the traditional classroom, students will absorb the information through experience and will have the creative skills to apply what was learned in class to new problems. This is crucial for new engineers as they need to apply technical information to chaotic and variable social situations.

Specialization and compartmentalization of subjects is widely used in most educational systems. Technical topics and social topics tend to be separated from each other as a student moves from middle school to high school and higher levels of education, and leads to a poor understanding of the interconnectedness of these topics in the real world. Using the Diffusion of Innovations (Rogers, 1962) model to map how engineers and legislators alike react to technological issues, the STS research paper will point to technological literacy as a way to improve their responses and mitigate technological issues quickly.

Technological literacy provides a sound basis for educational systems, because in order to be technologically literate, you need to understand the relationship between society and technology. This helps engineers and legislators alike resolve socio-technical issues before they affect a significant amount of people. Organizations like CodeVA provide the proper educational space to learn technological literacy, and it is simply a matter of integrating it into school systems at all levels to see its results on a wide scale.

The educational system that most students go through today is based on the idea of specialization, and separating topics into distinct categories. This is outdated and not representative of the real world. Implementing project-based learning and prioritizing technological literacy in the classroom will help unify technology and society and empower new engineers and legislators to resolve social and technical issues quickly.

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