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Teaching Philosophy

"Those who know, do. Those that understand, teach."
– Aristotle

I believe that a teacher's purpose is far greater than the conveyance of knowledge. It goes beyond a mere preparation for their chosen profession. Teachers have the chance to aid students in the discovery and growth of their skills and the formation of their character. We have the opportunity, if not duty, to help students reach their full potential as critical thinkers, life-long learners, and engaged citizens. Our purpose is to prepare students for every aspect of their life outside of academia.

Thus, I do not believe in treating students as mere receptacles of information. We must go beyond lecturing *at* students in hopes that they will be able to understand and apply the knowledge that we are presenting. I aim to return the agency of learning to students. I believe that, if given the choice of what and how to study, students become more engaged with the material of a class. Moreover, their increased sense of agency will result in an increased sense of responsibility, which in turn leads to continued engagement with the material. Furthermore, I think that challenging students with complex real-world problems is important. These problems can improve students' interest in the topics taught while, at the same time, helps prepare them better for what they will encounter in the real world. I also believe that students should engage with each other to solve problems collaboratively instead of relying on help from me as a teacher. Through their collaboration, students learn vital communication skills as well as social competency. I see my role in the classroom not as a "sage on the stage", but rather as a "guide in the wild".

I believe that structuring classes around a single, complex, group-based project can address these issues for the following reasons: By requiring students to implement a generic, reusable application framework, covering a large array of topics can be achieved. Furthermore, if students are allowed to pick the final deliverable to be implemented, they are more likely to become invested in the outcome of the project. This investment in the project is likely to lead to more active search for information for the problems students encounter during implementation. As students are not given solutions to their problems, they have to continuously engage with their project, which requires them to integrate their knowledge of the class material before they can move on. By picking their own deadlines and penalties for missing them, students learn about time management. Structuring the project as a group project allows students to develop their inter-personal skills. Moreover, the involvement of multiple students in a group introduces students to issues of labor division and code revision control. Requiring students to submit project documentation along with their implementation teaches students valuable presentation skills. Thus, as a result of such a class, students will have not only learned the class material, but also have acquired valuable skills for their future careers. Furthermore, they have expanded their portfolio with the project documents and have gained access to a reusable application framework for future use.

I have used parts of this approach for an introductory Graphics and GUI class. In this class, students were required to implement large parts of a generic graphical framework, which they then

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used to implement a 3D board game. The project was structured into four parts that built on top of each other. Neither the final application nor the deliverables and their deadlines were chosen by the students. Like in a real-world environment, students were not given the solutions for parts that they submitted, but rather could continue working on the parts they could not solve by the deadlines. Judging by their feedback, students found this class to be both challenging and rewarding. Students negatively commented on the amount of work to be performed on their own and the shortness of the deadlines. Therefore, I plan on giving students more agency in the choice of both their final deliverable and their deadlines in the future. Furthermore, I will require them to work in teams of at least four students and to document their progress thoroughly through a project website. Despite these shortcomings, students remarked positively on both the amount of new skills they acquired and their ability to apply this knowledge to future projects.

In conclusion, I am dedicated to helping students re-discover their joy of learning by challenging them with complex problems and preparing them for their future roles as skilled professionals and engaged citizens.

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