Group article summary
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**Extended Time and Progressive Vision for the Development of Technology-Using Teachers**

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**Introduction**

In this paper Dr. Pierson proposes “an extended-time, three-course technology Integration model that allows pre-service teachers adequate time to absorb, reflect about, connect with, and be supported by technology.” She says technology can be used in teaching and learning. In her opinion there should be an infusion model in which technology instruction is delivered throughout the entire teacher preparation curriculum.

Students who were entering the teaching profession didn’t have the necessary skills using technology and knowledge about how to use technology to effectively enhance learning.

The article was informing readers of a plan the University of Houston put together to better prepare teachers to integrate technology into their teaching. In the past, the university would offer one 3-hour technology class that students would take during their last semester. The University felt this was unsuccessful because it was too much information to absorb in such a short time and not enough time to practice with it. They then implemented this plan to stretch the 3-hour class into 3 separate 1-hour courses beginning during the student’s junior year.
Main Points

Section #1:

“An Expanded Instructional Technology Experience”

This section highlighted the idea, that to make teacher technology coursework effective, it needs to be taken over an extended period of time. By learning how to integrate technology over many semesters, students would have time to move beyond learning how to use the technology, to figuring out how to actually integrate technology into their instruction. Teaching future teachers how to collaborate with others and integrating technology successfully would be a shift that would lead towards greater understanding.

Section #2:

“Through Time Came the Development of Vision”

This section discussed how each of the three classes students would take should build off one another. The courses would introduce students to the concept of teaching with technology through three stages that were establishing, negotiating, and seeking vision of effective technology use.

Section #3:

“Introduction and Development: Establishing Vision”

The third section talked about the break down of the three different areas of focus for teachers in training. It began by stating that new teachers expect to use technology as a tool for teaching, in terms of writing lesson plans and doing research, but they are not grounded in the idea of integrating technology into instruction. The importance of supporting teaching as they learn to integrate technology was also addressed.
Taken during the junior year, the first course in the series would focus on using technology to communicate and create educational materials. Students would use and critique samples prior to designing their own to gain experience. This is believed to have resulted in higher quality end products. It was the perfect time to start because most of the students were in the “methods” portion of their classes.

This first course was described as a way of getting new teachers to begin to use technology for productivity and exposing them to national technology standards, as well as exposing them to a variety of different ideas and samples. The class dealt with using different technology tools.

**Section #4:**

*Evaluation and Integration: Negotiating Vision*

This section talked about the second course in the series where students focused on collaboration with educational professionals in developing cross-curricular technology planning that would comply with state standards. Taken just prior to student teaching-students would focus on integrating technology into standards-based curriculum in order to meet planned student needs. The course emphasized finding and evaluating materials instead of time-consuming creation of new materials with each unit in order to surpass a technology integration roadblock-*Time*. The second course included teaching students to modify online materials that are already available. This is a very important and practical tool for future teachers to learn, because customizing something that is already in existence can save them time and improve the quality of their instruction.
Section #5:

"Implementation and Assessment: Seeking Vision"

The third and final course in the series focused on the idea of students reflecting on technology during their first field-based methods course. Students could share experiences of what other students found in their schools. This would be a great learning tool to expose students to the variety of differences found in America’s elementary schools. The rationales for why districts choose to spend their technology budgets in different ways would also be very interesting for students to discover during this section.

Students also engaged in two research projects where they, 1. Performed a technology survey of a local school to determine the technology infrastructure. 2. They performed a needs based assessment on one student to determine what a student would need to be an active technology user in the future.

Finally, the students designed a technology integration lesson that they could use. All of this information was shared via the class discussion boards.

Conclusion

The article concludes by highlighting five things that this extended technology teacher course work would include the following, which are paraphrased below:

- Give students time to understand the goals of technology in education
- Give students time for their conception of technology in education to evolve
- Give students time to understand the importance and value of support
- Give students time to find the many places technology is used in education
- Give students time to understand and apply integration into their coursework, both foundations and methods.
1. The inadequacies of the single technology class in preparing future teachers in the use of technology are apparent. Learning takes place over too short a period of time. Not only is there not enough time to absorb and retain the material there is an insufficient platform for transferring knowledge into application.

2. The obvious remedy is to introduce education majors to teaching with technology by teaching them with technology. The pressures encountered with trying to move college professors to incorporate technology into their classrooms are understandable but somewhat unacceptable as an excuse. The comparison can be made with experienced teachers in public education who did much hand-wringing over those "wicked" online grade books and attendance programs. It may have been a struggle, but we have yet to hear of a principal or superintendent who excused those teachers from using the new systems.

3. The three course approach by the University of Houston is a much needed step in the right direction. The three course approach addresses the inadequacies of the single course current standard. It spreads learning over time and allows application along with peer interaction and feedback. It does not, however, go to the next level of teacher preparation.

Teachers who began their careers before the technology revolution are well aware of the massive amount of time required to "catch up." One reason for this is that these teachers have no model for teaching with technology. It is important to experience technology from both sides of education, the teacher's AND the student's. The insight gained from being a student in a
class that is not ABOUT technology but instead USES technology as a teaching tool is irreplaceable.

It should, therefore, be the goal of colleges and universities to prepare teachers through coursework and by example. The three course approach designed at the University of Houston is adequate preparation for instruction in technology and, hopefully, will become the new standard. However, higher learning institutions need to continue to encourage students and offer classes, which are models of teaching with technology.

If technology is to be integrated into education and not just a SPECIAL thing we do for motivation, shouldn't it be integrated into the education of the educators? We can't tell you how many times we have heard fellow teachers say, "well, I teach ... this way, because that was how I learned it." Using technology should be in the teacher's comfort zone.
References


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