Chapter 23
Teacher Education with simSchool

David Gibson
Curveshift, USA

ABSTRACT

This chapter introduces an innovative online learning platform for the preparation of teachers through simulations, which addresses some of the systemic challenges of teacher education in the US. The chapter contrasts traditional course-based online learning experiences with a simulation approach to four areas of teacher preparation: conceptions of teaching & learning, the organization of knowledge, assessment practices and results, and the engagement of communities of practice. The chapter outlines a rationale for the new approach based in self-direction and personal validation in a complex but repeatable practice environment, supported by emergent interdisciplinary knowledge concerning the unique affordances of digital media assessment and social media. The online simulation simSchool is used as an example model that embodies the new paradigm.

INTRODUCTION

The plan of the chapter is to briefly outline some of the key problems with teacher education in the U.S., including preparing teachers in both traditional face-to-face and online courses and programs. Then the narrative presents the characteristics of a new model of self-directed teacher

education supported in a game-like simulation context. The plan is to demonstrate that such a context has unique affordances compared with the alternatives, which entails describing how such an environment teaches as well as how it offers evidence for assessing whether someone has learned anything. The chapter is supported by a concrete example – simSchool - a flight simulator for teachers.

Some Problems with Teacher Education

About Half of All New Teachers Quit by the End of their Third Year

The National Commission on Teaching and America's Future (NCTAF) estimates that the national cost of public school teacher turnover could be over $7.3 billion a year. In addition to the nation losing billions of dollars, the constant churn of teachers drains resources, diminishes teaching quality, and undermines our ability to close global and even local student achievement gaps (Carroll, 2007). In 2004 most U.S. teachers were 52 years old and the average age was 43, but by 2008 most teachers were 28 years old (Carroll & Foster, 2010). This dramatic change in the demographics of teaching in the U.S. implies two things: 1) there is a need to prepare, mentor and support a much larger percentage of the teaching workforce for a longer period of time than at any other time in history and longer than formal education has traditionally been prepared to address, and 2) the current teaching workforce has grown up in an environment where technology, including access to the Internet and digital games, has been ubiquitous, informal and embedded in their lives (Beck & Wade, 2004). These implications help make a case for the potential value of a scalable, informal online support environment that is available at all times to augment human performance in education. How are the current formal and informal teacher education systems set up to accept, respond to and deliver this capability? To examine the situation, we'll briefly review gaps in formal program quality, policies and online learning.

Quality of Programs and Experiences (and thus the Teachers Produced) Varies Widely

When Title 2 (Sections 205 through 208) of the Higher Education Opportunity Act was passed in 2008, reauthorizing the Higher Education Act of 1965, it required institutional and state report cards on teacher preparation quality as well as reforms that included "implementing teacher preparation program curriculum changes that improve, evaluate, and assess how well all prospective and new teachers develop teaching skills." (Higher Education Opportunity Act, 2008, Section 202). Among the data reported each year are the pass rates of programs and the number of teachers working without certification in each state. The pass rates generally fall between 80% to 100% of students who achieve certification, while the states report that in certain areas such as special education, up to 20% of teachers are working on waivers, meaning that they are not certified for the area they are teaching.

This data indicates that in spite of the self-reported high pass rates, the actual quality and effectiveness of programs for ensuring the quality of teaching to meet existing needs varies widely, putting students at risk in various ways depending on where they live. Formal teacher preparation programs have come under attacks for many years and are seen as unprotected by the higher education establishment because, according to some analysts, they are "basement" offerings that were fit historically for lower status women, and are seen as cash cows at most institutions (Maher, 2002). Until fundamental changes in the status of teaching take hold, for example, with changes in incentives, career opportunities, school resource availability in low-income locations, and the cessation of waiver-based policies, the wide variance in teacher quality is likely to continue in the U.S. As these problems have been evident for much

Related Content

Online Language Learning: Understanding and Supporting the Contemporary Digital Multilingual Learner
Anastasia Olga Tzirides (2020). *Handbook of Research on Digital Learning (pp. 140-159).*
www.irma-international.org/chapter/online-language-learning/238716

Innovation in Education through Web-Based Instruction: Digital and Cross-Platform Storytelling
Roberta Levittand Joseph M. Piro (2016). *Revolutionizing Education through Web-Based Instruction (pp. 131-144).*
www.irma-international.org/chapter/innovation-in-education-through-web-based-instruction/146937

Online Learning with the Use of WebVT Vista
Alina M. Zapalskaand Dallas Brozik (2010). *Web-Based Education: Concepts, Methodologies, Tools and Applications (pp. 738-745).*
www.irma-international.org/chapter/online-learning-use-webvt-vista/41376

CAT-MD: Computerized Adaptive Testing on Mobile Devices
Evangelos Triantafillou, Elissavet Georgiadouand Anastasios A. Economides (2008). *International Journal of Web-Based Learning and Teaching Technologies (pp. 13-20).*
www.irma-international.org/article/cat-computerized-adaptive-testing-mobile/2996

Research on Musical Tone Recognition Method Based on Improved RNN for Vocal Music Teaching Network Courses
Kaiyi Long (2023). *International Journal of Web-Based Learning and Teaching Technologies (pp. 1-18).*
www.irma-international.org/article/research-on-musical-tone-recognition-method-based-on-improved-rnn-for-vocal-music-teaching-network-courses/327948