

Literature Review:  
Toward Developing Best Practices in Virtual Education

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### Abstract

Virtual education is expanding to meet the varied needs of families with elementary and secondary students. As virtual enrollment increases, the need for high quality virtual instructors increases. This paper is a review of literature related to virtual teachers and schools. A synthesis of virtual teacher perceptions and effectiveness suggests online teachers rely on a variety of means to build trust and to purposely communicate and connect with students and to manage the online course. Demographic information collected concerning virtual teachers points implies virtual teachers tend to be highly qualified, with, on average, more years teaching experience than their brick and mortar peers, and oftentimes more advanced degrees. Research seems to indicate a need for increased professional development and teacher training, specific for the virtual environment, for current and future online teachers, including pre-service training at the undergraduate level. As there is relatively little research in this area, with more research concentrated at the high school level, literature points toward a need for further research in K – 8 virtual schools, specifically in the areas of effective practices, the effect of prior teacher experience, and appropriate training.

*Keywords:* Professional Development For Online, Distance Education NOT Higher Education NOT Library, Online Learning AND Professional Development, Virtual Teach\* AND Professional Development, Virtual Classrooms, Teacher Effectiveness AND Online Learning, Online Teach\* AND Professional Development, Online Teach\* AND Teacher Effectiveness, Teacher Effectiveness AND Distance Education, Online Education AND Teacher Effectiveness

### Literature Review: Toward Developing Best Practices in Virtual Education

This literature review began with a desire to determine the qualities that characterize effective K – 8 virtual teachers. As a virtual middle school teacher, I wanted to discover traits that would help me to become a superlative virtual teacher, so I could support my virtual families in a greater way. An inspiration for my teaching career has been, “Whatever you do, work at it with all your heart, as working for the Lord, not for human masters.” (Colossians 3:23 New International Version) This verse has encouraged me to do my best in all that I do. With a lack of research in the area of K – 8 online learning, For this analysis, I began with the following questions: What are the pedagogical practices used by K – 8 virtual teachers, and why do virtual teachers utilize these practices? What training components are essential for virtual educators and what college coursework is appropriate for virtual teacher training? In what types of school sponsored professional development and training do K – 8 virtual teachers participate and how does this training influence K – 8 virtual teacher pedagogical practices? How does prior classroom experience impact transition to successful virtual education? I wanted to focus on online instructors at the kindergarten to 8<sup>th</sup> grade level (K – 8) who were “effective” – teachers who were considered successful in transitioning from the traditional “brick and mortar” setting to the virtual environment. A related factor influencing this review was a desire for longevity in my role as a virtual teacher. After seeing changes in the teaching staff composition at my virtual school, I proposed that there were factors that effective teachers had in common, factors that could help me to become a better virtual instructor. I was determined to discover traits that would help me continue in a teaching role I absolutely love. I hypothesized that there was a relationship between perceptions and practices of successful virtual teachers, teaching experience

and other demographic information concerning virtual teachers, and professional development and training for virtual teachers.

### **Discussion of key terms**

#### **Online Learning**

Online learning refers to learning that takes place in conjunction with the Internet. One purpose of online learning is to allow learning of material when the student and teacher are separated by time and place. Participants in online learning may be students in colleges or universities, high schools, middle school, or elementary schools. Currently, online learning includes a variety of technologies to complete synchronous and asynchronous learning activities. Synchronous activities involve activities during which the teacher and students are participating concurrently from various locations, such as web conferencing and phone conversations. Asynchronous activities are more flexible since the students are not required to be present simultaneously; they have access to the lessons and materials and can complete them according to their own timetable, often with school or teacher established deadlines. Students may be full-time or part-time online learners. Some students participate in a hybrid environment, learning in a blended version of both a traditional classroom and a virtual environment. According the United States Department of Education, forty-eight states “currently support online learning opportunities that range from supplementing classroom instruction on an occasional basis to enrolling students in full-time programs” (U. S. Department of Education, n. d., Virtual or online learning section, para. 1).

#### **Professional Development**

Professional development is used to enhance instruction and to affect change in schools (Rice & Dawley, 2009). It is related to skills and knowledge necessary for teachers to educate

students. Professional development may involve a new program to combat bullying, increase test scores, improve reading comprehension or writing skills, or a whole host of other topics.

### **Teacher Effectiveness**

Teacher effectiveness refers to the blending of teacher characteristics leading to student achievement. Among those characteristics are teaching experience, formal and informal preparation, lesson design, communication skills, and course management. Making connections and engaging students in the virtual world requires similar, yet differing techniques, as the traditional face-to-face setting.

### **Teacher Preparation**

Teacher preparation denotes undergraduate and graduate programs and coursework designed to train students to teach.

## **Review of the Literature Organized by Themes**

A review of the literature concerning K-8 virtual education reveals several emerging themes. Categories for these themes include perceptions and practices of successful online teachers, a “picture of the virtual teacher, and professional development and training for virtual teachers. These inter-related themes influence virtual teacher effectiveness and are discussed in more detail below.

### **Perceptions and Practices of Successful Online Teachers**

The central ideas concerning successful online teacher perceptions and practices align with Archambault’s research on “technological pedagogical content knowledge (TPACK)” (Archambault, 2011, p. 75). The TPACK framework, similar to the framework developed by Susan Patrick (Wicks, 2010), asserts there are multiple aspects and roles associated with being a virtual teacher that overlap and intertwine (Archambault, 2011). Virtual teachers are well-

prepared to teach their content areas and employ effective teaching methods; however, virtual teachers perceive their greatest challenge is tackling the technology necessary for this environment (Archambault, 2011). Hewett and Powers (2007) suggest knowledge of the latest technology is not as important as knowing how students react and learn in the online setting. DiPietro's research (2010) supports the TPACK research as it proposes there are five beliefs that lead to successful online instruction: utilizing clear, timely communication, building a sense of caring community with students, maintaining high expectations with rigorous content, supporting student success through scaffolding, and coordinating knowledge of content, pedagogy, and technology. Schulte's research (2010) also supports TPACK in suggesting virtual instructors view technology as a vehicle for delivering content to students over a distance rather than allowing the content to determine how to teach the course. Schulte (2010) substantiates teacher perceptions that effective, timely communication and course management are essential to success in the virtual classroom. Ferdig, Cavanaugh, DiPietro, Black, and Dawson (2009) propose the various overlapping roles of the virtual teacher challenge online teachers in ways much different from traditional school teachers due to necessity to merge content, pedagogy, and technology.

Teacher effectiveness is an important part of Archambault's writing (2011), and it is receiving much attention with various agencies developing standards for online teaching, such as the "National Standards for Quality Online Teaching" as published by the International Association for K-12 Online Learning (2010). Research by Ferdig, Cavanaugh, DiPietro, Black, and Dawson (2009) and by Smith (2009) examines teacher perceptions of online teaching standards; both articles indicate a need for further realistic alignment of online teaching standards with true roles of virtual teachers.

### **A "Picture" of the Virtual Teacher**

According to the research gathered by Archambault and Crippen (2009), virtual teachers, on average, have more years of teaching experience and more advanced degrees than their brick and mortar counterparts. Dawley, Rice, and Hinck (2010) report that over half of their participants have between six and fifteen years teaching experience and more than 60% of participants have a Master's degree. According to Rice and Dawley's research (2009), virtual teachers tend to be highly qualified in their field with more than 60% having over five years teaching experience, yet this same study reports over 90% of virtual teachers have less than five years teaching in the virtual environment.

Pedagogy and content are areas in which virtual teachers suggest they are most equipped (Archambault, 2011), while technology expertise in virtual schools is changing. Rice and Dawley's report (2009) reflects teachers' grasp of technology as a weakness, yet the 2010 study by Dawley, Rice, and Hinck reports over 90% of participants affirmed having technology training as part of their professional development program. Nevertheless, the teachers in Archambault's research (2011) continue to note technology as a weak area.

### **Professional Development and Teacher Preparation**

Research suggests professional development continues to be a necessity in the online environment. Smith's (2009) work indicates experienced virtual instructors consider professional development important, especially in the area of technology, while Dawley, Rice, and Hinck (2010) report 25% new virtual teachers received no training to prepare them for online teaching. Smith further suggests a need for preparation for administrators in the virtual environment (2009). The research of Repetto, Cavanaugh, Wayer, and Feng (2010) calls for an increase in professional development relating to supporting special education students.

An overwhelming number of articles point to the need for professional development for current and new virtual instructors, preferably before beginning online instruction (Archambault, 2011; Archambault, & Crippen, 2009; Barbour, Kinsella, Wicks, & Toker, 2009; Dawley, Rice, & Hinck, 2010; DiPietro, 2010; Ferdig, Cavanaugh, DiPietro, Black, & Dawson, 2009; Hewett & Powers, 2007; Oliver, Osborne, Patel, & Kleiman, 2009; Rice & Dawley, 2009; Smith, 2009; Wicks, 2010). Furthermore, many of these same articles (Archambault, 2011; Archambault, & Crippen, 2009; Barbour, Kinsella, Wicks, & Toker, 2009; Dawley, Rice, & Hinck, 2010; DiPietro, 2010; Hewett & Powers, 2007; Smith, 2009) suggest a need for change in teacher preparation programs to include an integration of more technology, citing the growth of virtual schools will lead to an increased need for online instructors, possibly newly certified teachers with little or no face to face teaching experience.

### **Summary**

There are three major themes in the literature reviewed concerning virtual education: perceptions and practices of successful online teachers, a “picture of the virtual teacher, and professional development and training for virtual teachers. These themes are interconnected and influence the effectiveness of virtual instructors.

Research indicates that effective virtual teachers regularly self-reflect to improve instruction and incorporate these five beliefs to enhance their efficacy: utilizing clear, timely communication, building a sense of caring community with students, maintaining high expectations with rigorous content, supporting student success through scaffolding, and coordinating knowledge of content, pedagogy, and technology (DiPietro, 2010).

A snapshot of the average virtual teacher reflects more years of prior teaching experience and more advanced degrees than their “brick and mortar” counterparts in traditional classrooms.

Nevertheless, virtual teacher self-reflection reflects a desire for more professional development and training, especially related to required technology.

Research indicates a continued need for professional development for virtual instructors, geared toward the virtual environment. Specifically, research recommends virtual schools provide training and professional development to online instructors prior to the beginning of online teaching and continuing after the initial year of online teaching. Researchers suggest as need for teacher preparation programs to modify coursework to plan for an increased need for virtual instructors; integration of technology into existing coursework, rather than new courses, is the typical recommendation.

Overwhelmingly, many of the articles address the need for additional research in the field of online instruction. Research in this field is increasing, yet past research reflects types of programs and comparisons of existing programs to traditional school programs. There is a growing body of research concerning successful virtual teacher characteristics and the impact of prior teaching experience on successful virtual instruction; nonetheless, research tends to be at the secondary or college level. Consequently, there is an emerging need to study virtual instruction at the K – 8 levels, as there may be significant differences due to content and pedagogy at those levels. Proverbs 12:1 tells us, “If you love learning, you love the discipline that goes with it— how shortsighted to refuse correction!” (The Message) Further study of effective K – 8 online programs and teachers should increase core knowledge of research-based methods; more knowledge leads to correction of improper teaching methods. It would be thoughtless of us to deny the information we need to improve virtual education which, in turn, could benefit present and upcoming elementary and middle school virtual teachers as they strive for the best learning environment for all concerned.

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