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Assessing K12 Online Teachers Knowledge of Online Student Identities and Characteristics

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A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Education at Virginia Commonwealth University.

by

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#ChangeYourStars

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LIST OF ABBREVIATIONS

AI	Ambiguity Intolerant
AP	Advanced Placement (A Division of the College Board)
APA	American Psychological Association
EAL	English Acquisition Learners
ELL	English Language Learners
ESL	English as a Second Language
GPA	Grade Point Average
HLM	Hierarchical Linear Modeling
ICC	Intra Correlation Coefficient
ICT	Information & Communication Technologies
LMS	Learning Management System
MAKSS	Multicultural Awareness Knowledge & Skills Survey
MAKSS-CE	Multicultural Awareness Knowledge & Skills Survey Counselor Edition
MAKSS-T	Multicultural Awareness Knowledge & Skills Survey Teachers
MAR	Missing at Random
MCAR	Missing Completely at Random
NCES	National Center for Education Statistics
SES	Socioeconomic Status
TPACK	Technological Pedagogical Content Knowledge

Abstract

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As K12 online learning continues to grow across the nation, the population of online students, much like the population of face-to face students, continues to change. As the online student population becomes increasingly diverse, not only in terms of race, but in terms of religion, sexual orientation and socioeconomic status, research must be undertaken to assess the level of preparation that K12 online teachers have in terms of teaching this population. This dissertation intends to serve as a baseline analysis, providing information on K12 online teachers' knowledge of the types of student characteristics and identities that may be present in their online students, as well as their abilities to meet the needs of these increasingly diverse students. Using the

MAKSS-T survey measure and framed within the lens of Bourdieu's field theory, this study found that while K12 online teachers feel as if they have a "good" understanding of a number of possible characteristics and identities in their online students, that terms related to sexual orientation were not as well understood. Additionally, teachers felt "good" in terms of their skills in addressing the unique needs of these students. However, teachers felt weakest in their ability to critique multicultural research. Teachers also noted that they do not feel adequately prepared to handle this changing population and desire additional training in this area.

Chapter 1: An Introduction

Prologue: A Rude Awakening

I stood waiting in front of a Smartboard that no longer worked, yet, remained hung in the library to use as a whiteboard. To prepare, I had logged in to my instructor account on a computer, at least a decade old, running Windows Vista as the operating system. Suddenly, a bell rang in the distance; and as security guards emerged in the hallway, I heard the shouts of my students as they came down the hall…

"The computer teacher lady is here?!"

"Is she real???? Like an actual person??"

"I don't get why they put us on computers to learn Spanish. Ain't nobody Spanish around here!"

"Yeah, but we get to use the computers!"

"I don't care; I gotta computer at home."

"Well, I don't."

"Me neither. It's cuz your dad still has a job."

"It don't matter though, ain't no jobs for us that need this. I'm gonna join the Army anyway."

They were loud, boisterous; some flopping down at the computers as they arrived, others running up and hugging me, much to my surprise. The final bell rang and the class mentor came around the corner and shouted for the children to sit down and give me their attention. At her words, twenty sets of eyes stared up at me, eyes belonging to children taught in a rundown school, in a struggling community, forced to take an online class because their Spanish teacher walked out the first week of school over a budget dispute. Twenty sets of eyes stared at me for

answers, eyes of children who had been enrolled in my Spanish 1 course for over a month, brought in by an initiative to get online courses into “at-risk” schools, but had not successfully completed a single lesson. As they waited for me to speak, the class mentor spoke up, citing a laundry list of issues I was there to solve, some that I was already aware of from students that had figured out how the email function worked and asked themselves. Other complaints were a surprise, or confirmation of what I had attempted to decipher through unintelligible messages sent by the students as they tried to explain computer problems they lacked the vocabulary to articulate. Some students had even called me on the phone prior to my arrival, either swearing at me, or crying, clearly frustrated. So there I was, in one academic day consisting of four class periods, charged with “getting the students back on track.”

I would like to say that through my amazing instructional abilities these fledgling online students learned basic computer functions, including how to navigate the Learning Management System (LMS) and were able to submit their missing assignments.

That’s not what happened.

Instead, I spent the day running around in a corner of a mostly empty library, trying to aid students in navigating an online course that none of them had expected to take, on computers that crashed whenever a video began to play, in a school that could not maintain a stable internet connection. Besides these infrastructure issues, most of the students under my charge did not have knowledge of basic functions because they had never used a computer outside of typing a Word document in school.. Further, as students began to engage with the content, it became clear that it was presented in a manner that did not align with the way in which they learned. This course, a course that I developed, was designed for students to put on headphones, look at the screen and power through, with little to no interaction with their peers. This model was intended

to promote flexibility to meet the increasingly demanding lives of modern secondary students. However, these students, these twenty children seated in front of me, were used to working with others and engaging in discussions with their peers; talking things through was an important part of their learning process. There was a clear disconnect, and as I struggled to help these students understand even the most basic navigation, I had a profound realization. Despite my introductory "getting to know you activities," the emails sent to greet students and phone conversations I had with some of the students and their parents welcoming them to the class, that I had NO idea WHO they really were. I didn't understand their daily struggles of being a part of a community that was in crisis. I had no idea how their race and ethnicity might affect their learning and prior knowledge of both computer usage as well as the subject matter. As I stood there, with my students, I realized that despite my years of experience teaching both online and in the brick-and-mortar classroom, that I had no idea what I was doing in that moment. It changed the way I looked at teaching my increasingly diverse body of online students and made me question my own competence in online instruction.

What did I truly value in my online classes?

What did I think it took to be a "good" online student?

What about my colleagues? What did they think it took to be a "good" online student?

Did their opinions regarding the characteristics of a "good" online student influence their own classroom practice? If so, how?

Was I aware of the way in which these challenges would impact student success online?

In my eyes, and the eyes of a number of my colleagues, a "good" online student was computer savvy, logged in regularly, emailed me questions, actively participated in discussion boards, and used correct grammar and other conventions of "Netiquette." A "good" online student went in order through the modules, followed the course calendar, and attended live sessions in order to ask questions they may have on the material.

In my eyes, a "good" online student embodied other characteristics and possessed identities quite different from those of the very real the students sitting in front of me.

And I was DEAD wrong.

The students sitting there, looking to me for answers were kids, although different from the majority of students I had taught over the course of my online teaching career, were just as "good" as any other students. These students merely had different needs. They came from different backgrounds and had different learning habits and preferences. I realized as well that I was most likely not alone, and that, given my extensive work with my colleagues, they too were probably suffering the same disconnect.

From this experience, this study was born.

Context of the Study

K12 online learning continues to grow rapidly with millions of students nationwide enrolled in online coursework (Barbour & Unger, 2014). While exact numbers are unknown at present, national data collected for the 2009-2010 academic year reported that approximately 1.5 million public high school students were enrolled in at least one online course (National Center for Education Statistics, 2014). Further, national projections of future public school enrollment do not take into account online learning, therefore, numbers regarding enrollments of K12

students may show a significant increase when considering the data available on this burgeoning population (Hussar & Bailey, 2016).

Growth in the area of online K12 learning occurs through a variety of options available to K12 online students, ranging from Advanced Placement (AP) courses to credit recovery. In their report *Keeping Pace with K12 Digital Learning,* Gemin, Pape, Vashaw and Watson (2015) cite that the majority of these K12 online courses are created in response to a deficit: as a result of a shortage of teachers qualified to teach a specific subject area, often due to the geographic location of the school in need. As a result, advocates of online education contend that more and better online courses create greater learning opportunities for more students and that educational freedom of choice will allow students to better customize their educational experience (Barbour, 2011). However, while such innovation could be seen as a benefit to a number of students, for which students is online learning truly creating such opportunities and which students are being left behind (Lowrie & Jorgensen, 2012)?

Technology has been heralded as the great equalizer in education, bridging the gap between the rich and the poor. Yet, early critics of online learning proposed the existence of a "digital divide" (Hindman, 2000), the theory that many opportunities in online education are limited to certain populations due to access to both adequate computing devices as well as quality internet. Research into the digital divide has focused on low socioeconomic status (SES) communities, and how online education requirements and trends have created additional programs for these school systems (Philip & Garcia, 2013). Proponents have argued that by giving students from less affluent schools access (i.e. access to devices to which they had no access prior, through one-to-one technology initiatives) that these students will be able to attain the same technological knowledge and skills as their more affluent counterparts (Brown &

Czerniewicz, 2009; Callahan & Sandlin, 2007; Philip & Garcia, 2013). The reality, instead, is that regardless of a student's access to a certain technology, that some online students are perceived as more equal than others (Callahan & Sandlin, 2007; Lowrie & Jorgensen, 2012; Kim & Lee, 2011). The overall problem, therefore, may be deeper than the digital divide, involving a systematic absence of consideration of a number of additional factors that may affect a student's ability to succeed in an online course. Studies on diversity among the higher education online population suggest this perception of technology offering "neutrality" (Hannon & D'Netto, 2007) is a gross misconception, demonstrating that what may seem to be a neutral online platform is in fact exclusive of certain groups of students (Callahan & Sandlin, 2007; Philip & Garcia, 2013).

Yet, such research has yet to develop in the K12 online community, and, little demographic information has been collected on the K12 online population in the United States (Gemin, et. al, 2015). What data is available on the K12 online student population focuses on socioeconomic levels alone. The National Center for Education Statistics (2015) reports that in the area of technology-based distance education (online learning) 56% of K12 school districts with over 20% poverty reported enrolling students in online education, a number that has doubled since 2003. Therefore, through the limited information available, it is clear that the landscape of K12 online is changing in many of the ways that higher education has already experienced, and will continue to change as the student population increases.

Over thirty years after the implementation of the first computer-based courses (Mason, 2000) and over twenty years after the introduction of the first web browsers (Compton & Davis, 2010; Saba, 2005) online learning as a whole remains in its infancy in certain areas of research, including best practices and pedagogy (Siemens, Gasevic & Dawson, 2015). This lack of

research has impacted K12 online learning (Jackson, Barbour, Kennedy & Parks, 2017) which often benefits from discoveries in higher education. The focus of K12 online research has been almost entirely whether or not online learning is beneficial to K12 students (Morgan, 2015). This restrictive focus has taken away from the development of research in regards to online teacher knowledge of the characteristics and identities possessed by their online students, and how effective these online teachers feel that their pedagogy is at taking these characteristics into consideration. As studies into considerations of the value of student characteristics (gender, ethnicity, technological skills, etc.) in online higher education point to the need for online teachers to recognize and understand these specific characteristics of students in order to inform their pedagogy (Hannon & D'Netto, 2007; Tapanes, Smith & White, 2009); it seems logical that the same research be conducted in the field of K12 online learning. Therefore, it is imperative that the online K12 research community begin to develop a better understanding of not only their student population as a whole, but of teacher knowledge of online student identities in order to better inform teacher education for online teaching.

Research Background

Considerations of diversity and the role that these types of student characteristics and identities in the field of online education are especially important given the changing demographics of online learners (Gemin, et al., 2015), and there is currently little research in this area. In the literature that does explore these considerations of diversity, researchers find that not only does cultural knowledge matter in terms of student satisfaction in an online course (Hannon & D'Netto, 2007; Tapanes, Smith & White, 2009), but that considerations of cultural differences and the variety of identities that online students can bring to the online class can affect overall course outcomes, in particular student achievement and participation (Kim, 2012; Hannon &

D'Netto, 2007; Liao & Chou, 2012; Soroka and Rafaeli, 2006; Suppes, Liang, Macken and Flickinger, 2014; Kegel & Bus, 2012).

As early as 2000, Hindman spoke of the "rural penalty" in which persons who live in rural areas have greatly reduced access to technology and, as a result, online education, making student location (i.e. geographic characteristics) a factor of consideration in online learning. A 2017 study by Harris, Straker & Pollock found that students from low socioeconomic status (SES) neighborhoods used technology in disparate ways than their higher socioeconomic peers. For example, students from lower SES neighborhoods were more likely than students from higher SES neighborhoods to use technology for personal entertainment. Therefore, this suggests that SES, and the resulting behavioral characteristics of living in such an environment, can also be a factor in online learning. They contend that, as a result of their lower socio-economic status, that many African-Americans and Latinos have had limited access to both computers and internet, and as a result have developed considerably different habits than their Caucasian peers in terms of computer-usage, which have led to specific challenges in employing online learning with these students. This demonstrates that race[1], as well socio economic issues, might be a factor in how students learn online.

Research has also demonstrated that cultural background and native customs and language may impact online student learning. In 2007 Hannon and D'Netto found that online courses across the globe placed a greater value on the customs and learning styles of the English speaking world in both course design as well as student participation in the learning community.

[1] The term race used in both this study is utilized as a result of the use of the term in the survey measure MAKSS-T (D'Andrea, Daniels & Noonan, 2003). The researcher acknowledges that the term "race" is now recognized as a social construct (Sussman, 2014) however, exploration of the use of this term in the context of this survey measure is beyond the scope of this dissertation, but points to further analysis of both the survey measure and survey results.

Kim (2012) also argues that many online courses place a very high value on a student's English fluency level, thereby placing students who speak English as a second language at a disadvantage when understanding content or participating in the virtual learning community. In 2009, Tapanes, Smith & White explored whether collectivist/AI learners (learners who are members of close-knit communities where group dynamics take precedence over individualism) felt as if their online instructors had a clear understanding of their cultural background and how considerations of culture might impact their learning in an online course. Their study found that most students surveyed did not feel that their cultural heritage, and, as a result, their specific communication methods, were taken into consideration in the development of the learning community. Therefore, these students did not participate in ways typically deemed as having a "good" social presence (Garrison, Anderson & Archer, 2000), and were not active members of the online community.

Such cultural characteristics can affect a student's understanding of the course content and navigation as well. Lewthwaite, Knight and Lenoy (2015) explored the impact of cultural considerations in online learning utilizing Mishra and Koehler's (2009) Technological Pedagogical Content Knowledge (TPACK) framework seeks to understand the nuances of technology integration in terms of teacher knowledge. This study examined an online program for preparing preservice teachers from Aboriginal communities and found that while instructors did make cultural considerations in their teaching approaches, these considerations were only made within synchronous communications. The asynchronous components of the course remained in what is considered cultural "norms" for the English speaking world, causing confusion in terms of both navigation and content for students that spoke English as a second language. Hannon and D'Netto (2007) as well found that minority, international and English as a

Second Language (ESL) students found course organization and content presentation, due to the differences in the way they process information, to be a major hurdle in their online learning. These studies suggest that differences in student success in both technology-enhanced education as well as online instruction may be less on dependent on access to technology, and, instead, may depend on student life experiences and background. In addition, how online instructors use their knowledge of these unique student characteristics to increase engagement, satisfaction and overall achievement online may also contribute to learner outcomes.

Purpose of the Study

This study seeks to better understand K12 online teachers' ability to recognize the ways online students identify themselves and explores teachers' feelings of self-efficacy in meeting the needs of a diverse student population. Research into teacher knowledge of online student identities can lead to not only a better understanding of the K12 online student body, but also inform the developing body of literature on K12 teacher preparation for online teaching as to how such knowledge can affect online educational pedagogy. Just as teachers in the face-to-face setting serve as gatekeepers of knowledge in their classrooms (Murphy, Wilkinson & Soter, 2011), online teachers serve as similar gatekeepers in online courses, and therefore studies into teachers' perceived value of and knowledge of certain characteristics in their online students can positively impact student success. As numbers of minority students increase across the K12 online population, research assessing the impact of diversity on student success (Du, Zhou, Xu & Lei, 2016), and examining perceptions of teachers towards this diverse student population is warranted (Larson & Archambault, 2014).

The importance of online teacher knowledge of student characteristics and identities is highlighted in a study by Tapanes, Smith & White (2009) in which they found that approximately 30% of their sample of higher education online instructors were unaware of cultural differences among their students, despite 100% of the instructors reporting that they were aware of these differences. Given the literature citing the importance of such cultural knowledge, as well as considerations of student identity, in the field of face-to-face education, online instructor knowledge of these considerations is crucial to increase the inclusiveness of online education.

Theoretical Framework

The primary theoretical focus of this study is Bourdieusian field theory, and the consideration of the online classroom as its own field in the larger field of education. Bourdieu defined a field as a setting or a space in which actors and their social positions are placed (Schindel Dimick, 2015). Lowrie and Jorgensen (2012) explain that, for Bourdieu, a field both shapes the actions and behaviors in that field, but, as well, is shaped by those actions and behaviors. While much of Bourdieu's work in regards to fields was on a macro-scale (Alvermann, Friese, Beckmann & Rezak, 2011; Ferrare & Apple, 2015), the idea of the field as being both the shaper and the shaped has been applied to a number of studies in the area of education on a more micro level (Ferrare & Apple, 2015). Individuals in power within these fields serve as the architects of the field, in which participants compete for various positions of power within the structure (Colley, Chadderton & Nixon, 2014). In the case of schools in particular, school systems, school buildings as well as individual classes can all serve as fields or subfields in which participants (students) are competing for a position of power. Researchers in online education argue that the internet itself is also a unique field (Johnson, 2014), and that the

online classroom is a sub-field of this larger and very different field (Lowrie & Jorgensen, 2012; Rybad, 2007).

Three types of capital, in particular, stand out predominantly in Bourdieu's research: social capital, cultural capital and economic capital (Grenfell & James, 2004). Social capital can be seen as a participant's membership and rank in a particular social group (Collin, 2011), a result of the relationships formed in different social settings. Cultural capital can be understood as the various abilities, titles and other recognitions given to an individual by their cultural group, as a result of their overall understanding of the cultural expectations of that group. Economic capital can be thought of as material and financial resources afforded an individual. These three types of capital are deployed in a number of different ways within a field in as they alter a participant's position within that field.

Finally, as participants navigate their way through a given field, both accumulating and deploying capital, certain habitual actions are formed as a result of these navigations. These habitual actions complete Bourdieu's trivariate framework, comprising the habitus of an individual (Callahan & Sandlin, 2007; Cooper, 1998; Johnson, 2014), or, in other words, a person's habits for improvising in different ways. Habitus can have a profound effect on the success of an individual in a given field, as an individual's habitus may not align with the habitus needed to successfully navigate a field (Lowrie & Jorgenssen, 2014). When aligning habitus with field, it is important to remember that while habitus implies a habitual action, that this action is not automatic, but rather an action that is the result of an individual's choice to take a particular path as a result of their own experiences as opposed to a number of other options (Warwick, McCray & Board, 2017).

Together, these three elements, in turn, can explain (but not predict) an individual's actions (Cooper, 1998). O'Donoghue (2013) offers the following equation from Bourdieu (1984) to best demonstrate how these three components come together to affect action:

$$[(\text{habitus} + \text{capital}) + \text{field} = \text{practice}]$$

She cites that Bourdieu (1977) created this formula as a methodology, noting that it should be read from right (beginning with the practice) to left (practice being the culmination of the field and the combination of an individual's habitus and their capital).

While these theories have been applied extensively to the field of K12 face-to-face education (Alvermann, Friese, Beckmann & Rezak, 2011) as well as online higher education (Du, Zhou, Xu & Lei, 2016; Hannon & D'Netto, 2007; Lewthwaite, Knight, & Lenoy, 2015), few studies exist that explore K12 online education through a Bourdieusian lens, and none take into account the perspective of the online teacher. In fact, no basic demographic information exists to date on the K12 online community (Gemin, et. al, 2015), including both teachers and students. Such information would include vital knowledge on the racial, cultural, and economic background of the current K12 online population. Therefore, research in this field should begin with a basic understanding of the extent to which teachers value the characteristics that are translated into student capital in the field of the online classroom, their overall knowledge of the presence of these characteristics and identities in their students, as well as how they perceive their professional skills in addressing the needs of this community. Through this research, teachers, and those constructing teacher education programs, will be able to understand the distinct needs of these students.

Research Questions

The research questions guiding this study are as follows:

Research Question 1a: What is the distribution and central tendency of online teacher self-perceived knowledge of online student identities/characteristics in the field of online learning?

Research Question 1b: What is the distribution and central tendency of online teacher self-perceived skills in addressing the needs their diverse online students in the field of online learning?

Research Question 2a: What is the relationship between academic field and the level of online teacher self-perceived knowledge of online student identities/characteristics in the field of online learning?

Research Question 2b: What is the relationship between academic field and the level of online teacher self-perceived skills in addressing the needs their diverse online students in the field of online learning?

Research Question 3a: Is the relationship between academic field and the level online teacher self-perceived knowledge of online student identities/characteristics in the field of online learning moderated by faculty gender, age, grade level taught, total years of teaching experience or years of experience teaching online?

Research Question 3b: Is the relationship between academic field and the level

online teacher self-perceived skills in addressing the needs their diverse online students in the field of online learning moderated by faculty gender, age, grade level taught, total years of teaching experience or years of experience teaching online?

These research questions were devised to not only provide a basic descriptive overview of K12 online teacher self-perceived knowledge and skills in understanding and meeting these needs of their increasingly diverse online student population, but as well to discover if certain teacher characteristics moderate this knowledge or skills, as has been discovered to moderate such knowledge and skills in literature on online instruction for higher education. For example, Horvitz, Beach, Anderson and Xia (2014) found that, in the field of higher education, female faculty members demonstrated a greater self-efficacy in both teaching online and meeting the individual needs of students. Additionally, they discovered that online instructor feelings of comfort addressing student needs in an online course varied by content area. Lloyd, Byrne & McCoy (2012) in their study on higher education faculty barriers to online instruction, found that both older faculty, as well as those with greater teaching experience and, therefore, greater teaching responsibilities, found themselves to be too busy, with increased service and research loads, to engage in online instruction. Therefore, as these factors are evident in higher education research, it is important to explore the impact that these factors that they may have on K12 online teacher knowledge and skills in addresses these unique student needs.

Methods

This study employed a quantitative methodology in order to examine K12 online teacher self-perceived knowledge of student identities and characteristics in an online course and self-perceived effectiveness in addressing these characteristics. A quantitative approach is

appropriate for this study as it paints a broader picture of how K12 online teachers perceive their student population by providing a larger sample in order to increase this generalizability and provide information for the practical applications of these results to online K12 teacher education. Further, as there has been a fair amount of qualitative research regarding K12 online teacher perceptions and understanding of their online students, such a study as the one proposed here lends itself to a more systematic and generalizable overview of K12 online teacher perceptions (McMillan, 2000).

A non-experimental survey design was chosen given the need for understanding what online K12 teachers are thinking, feeling and doing in regards to student identity in K12 online courses (Mitchell & Jolley, 2007). Further, since this dissertation seeks to only answer questions regarding the nature of K12 online teachers, a preexisting population, rather than test any hypotheses regarding this population, a non-experimental design is regarded as the best options for exploring the answers to such questions (McMillan & Schumacher, 2001). As survey research is frequently used to explore the beliefs, opinions and habits of a group, while also allowing for a comparison of these beliefs with collected demographic information, the use of a survey instrument is best suited for collecting teacher beliefs of their knowledge of student characteristics and skills in addressing them, from a larger sample than previous studies for generalizability (McMillan & Schumacher, 2001).

The validated measure The Multicultural Awareness Knowledge and Skills Survey Form-T (MAKSS-T) (See Appendices A & B) was utilized to survey online teachers regarding their perceived knowledge of student identities and characteristics when teaching online students. This instrument also measured K12 online teachers perceived skill in addressing these characteristics in the virtual classroom. In order to perform statistical analysis, additional

questions were added to collect demographic information as well attempt to avoid any bias in respondents' answers. Questions added to the MAKSS-T survey followed the format of the existing questions and probed the value and knowledge level of additional characteristics of a "good" online student outside of cultural, sexual or other similar characteristics. These additional questions were created to reflect the literature on currently researched student characteristics in online learning, to balance the effects of the questions that focus on characteristics that will be targeted in this study. Data collected from the survey was used to determine the distributions of teacher self-reported knowledge of student identities and characteristics in an online course, as well as their self-reported skills in addressing identities and characteristics of their online students.

Additionally, this study aims to analyze the relationships of individual teacher variables such as age, gender, subject taught and experience with their perceived knowledge of student identities and characteristics as well as their perceived effectiveness in addressing these characteristics. These additional demographic items were collected as various characteristics have been demonstrated as having impact on online teacher self-perceived effectiveness in higher education settings (Jackson, 2017). Open-ended question items were also added to this validated measure in order to allow online K12 teachers surveyed to expand on their answers to the Likert-type scale items and provide for triangulation to the quantitative data.

All data was analyzed using STATA 14 statistical analysis software (StataCorp, 2017), and included analysis of descriptive statistics in order to gain an overview of online teacher self-perceived importance and knowledge of student identifies and characteristics in an online course. Following this descriptive analysis, a Hierarchical Linear Model (HLM) analysis was run to capture the relationships between the individual characteristics of online teachers and how they

affect their knowledge of online student capital (Raudenbush & Bryk, 2002). An HLM analysis was chosen as online teachers are often nested within academic fields, providing a level of complexity that is complementary to Bourdieu's theories of fields and capital, both of which will be explored later i this dissertation.

Summary

In this chapter, contextual information on the rapidly growing online K12 population as well as known growth in diversity of the equally increasing online higher education population was presented. An overview of research into the topic of not only diversity in online higher education, but into teacher knowledge of the needs of these diverse students demonstrated a necessity for additional research into this area. Further, the theoretical framework of Field Theory, developed by Pierre Bourdieu, was offered as a lens by which to understand the field of the online classroom and how online teachers shape this unique field.

As considerations and value of student characteristics in this field are an essential research need, this study seeks to explore teacher perceived knowledge of said characteristics. Being one of the architects of this educational experience, the online teacher plays an integral role in the success of this diverse body of online students (Lowrie & Jorgensen, 2012). While large-scale quantitative research is also needed in order to understand the composition of online student populations and programs, the focus of this study on the online teacher allows for not only a better insight into online teacher perceptions regarding these characteristics in their students, but also serves to informs future research in regards to additional studies in teacher education for online teaching

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Chapter 2: Theoretical Framework and Review of Literature

In this review of literature, a general overview of Bourdieusian field theory as well as this theory's application to both face-to-face as well as online education will be described. To achieve this, the researcher has divided this review of literature into two sections. The first section will include a discussion of the theoretical framework and its application to educational research. The second section of this review will outline specific empirical investigations which utilize Bourdieu's Field Theory to explore oline education through a systematic review of literature.

Section 1: Theoretical Framework: Bourdieu's Theories of Fields and Capital

In this section, the theoretical framework for this study, Bourdieu's Field Theory, will be explored in order to provide context for the subsequent elements of this project. This section will begin with pertinent background information on Pierre Bourdieu in order better understand the theorist's positionality in terms of the theory. This review continues by providing information regarding the use of fields and capital in education. Finally this section will conclude with an overview of how these theories have been applied to the face-to-face educational setting.

Background and Influences

Pierre Felix Bourdieu, sociologist and philosopher, was born to a rural working class family in 1930 in South-Western France. Despite his humble beginnings, Bourdieu achieved a level of education typically available only to higher social classes through scholarships and hard work. His unique perspective and life experiences made him a champion for social justice, and, as such, led to a career in social research on the systemic oppressions of the lower classes (Dalal,

2016). Inspired by his own life experiences, Bourdieu conducted large scale research in his native France in an effort to understand the positionality of different groupings of people in French society.[2] His greatest research endeavor resulted in the publication of his first book, *Distinction* (1979) in which he surveyed and interviewed people from a variety of economic and social classes, noting their differences in education, employment and personal tastes (Bourdieu, 1986). From this work, Bourdieu theorized that an individual's personal tastes and preferences can place them into a specific social class which grants them a certain position within various societal groups. Between these social classes and societal groups is always a struggle for dominance. Therefore, the balance of power in these social spaces, or fields, is continuously shifting based on the attributes those in power value more, or the attributes that may shift the balance of power. It was research such as this that led to his initial theories of *habitus,* capital and fields (Dalal, 2016).

Later in his career, Bourdieu extended his work to include the application of these principles to education (Ferrare & Apple, 2015). In his research of school systems in the post World War II era, Bourdieu noted that despite various social movements which were designed to create a more equal education for all members of society, that those in positions of power had created a silent hierarchy in which students were sorted based on the values of those in power (Collin, 2011). These theories have been tested extensively in face-to-face education (Alverman, Friese, Beckmann & Rezak, 2011). Such widespread use of these theories in educational research demonstrates the great influence that Bourdieu has had, and, continues to have in the field.

[2] It is as well important to note here that Pierre Bourdieu was heavily influenced by both structuralism, as well as post-structuralism, and the theories of Karl Marx. However, Bourdieu sought to reconcile between the dualities of a number of competing theories in regards to social justice, seeking to create a theory of practice that would allow scholars to apply his theories to practical situations (Dalal, 2016).

Bourdieusian Field Theory

The theoretical framework which serves as the basis for this study is Bourdieu's Field Theory (Bourdieu, 1979;1984). Through his study of the various social structures in French society, Bourdieu theorized that individuals, referred to often as actors, participate in a number of social spaces, each with their own unique set of rules. Within these social spaces, actors interact with others in such a way that can affect themselves as well as affect the social space itself (Costa, 2013; Lowrie & Jorgensen, 2012). He termed these social spaces "fields" and saw these fields as a social arena where individuals both deployed as well as sought out various social and cultural capital (Lin & Chen, 2012). Bourdieu perceived fields as a competitive spaces (Frank, 2012) in which individuals currently in power within a given fields serve as the architects of said field, leaving other participants to compete for various positions of power (Colley, Chadderton & Nixon, 2014).

Much of Bourdieu's early and seminal research, as noted by Ferrare and Apple (2015), was situated outside of the individual classroom and focused primarily on France's higher education system [3] and role of the elite in defining the valued capital within the academy. He examined both faculty and students and ultimately concluded that social class hierarchies can mold the field of education, to the benefit of some students and to the detriment of others. While much of Bourdieu's work in regards to fields was on a macro-scale (Alvermann, Friese,

[3] The country of France has historically had a very striated class system, and by extension, a striated educational system (Mattei, 2012; Maurin, 2005). Primary and secondary education students are given national exams at the conclusion of their elementary and middle grades, the results of which track them into various professional tracks (Mattei, 2012).While higher education is available for free, it is only available to those who pass the *baccalauréat.* This laborious system of testing, however, has been openly criticized as exclusive and elite, much as the British and German systems have been criticized (Lundberg, 2014; Mattei, 2012; Maurin, 2005). It is therefore important to note the context in which Bourdieu formed his theories as this study will apply these theories to a dramatically different American system.

Beckmann & Rezak, 2011; Ferrare & Apple, 2015), the idea of the field as being both the shaper and the shaped has been applied to a number of research studies in the area of education on a micro level (Ferrare & Apple, 2015). Educational researchers have applied these theories to a smaller scale as well, identifying a variety of fields within both the K12 and higher education systems (Alvermann, Friese, Beckmann & Rezak, 2011). School systems and districts, buildings, as well as individual classes can all serve as both fields and subfields in which participants (students) are competing for a position of power, and are, as well, shapers of the field/subfield itself.

Within the microcosm of the classroom, there are a number of actors (participants) situated in the field. These include teachers, students, and, to an extent parents, administrators and the community at large. Each player is engaged in an constant struggle for power, perpetually changing and shaping the field (classroom) for the participants. As a result of the actions of these participants and the resulting formations of the field, certain forms of capital will be valued in the classroom (field) above other forms of capital, which, in turn, can shift the power dynamics in the classroom (field). When considering the field of the individual classroom, while district policies and community expectations can and do have a great impact on shaping this field, it is the teacher that holds the greatest potential for impact on the formation of the field. Classroom teachers serve as the rule makers, the administrators of discipline, and the responsible party for both student instruction and assessment in a way that outside stakeholders do not. As such, Callahan & Sandlin (2007) contend that these individual fields and subfields within the broader field of education should be explored through this lens given that education serves as the custodian of values in our society.

Additionally, Bourdieu's field theory has also been explored in education and learning outside of the formal classroom setting. Field theory has been applied to the examination of specific programs (workshops, seminars, etc.), learning and course design, and informal learning communities (Dobozy, 2015; Johnson, 2014; Lin & Chen, 2012; Pruijt, 2002) in order to explore the role that participants play in the shaping of and the power dynamics of the field. Further, field theory has also served to inform on the experiences of specific groups of students (in particular immigrants and ELL students) within the larger field of education (Kim, 2012; Lam, 2014), and how the identities and characteristics valued in these fields have often not aligned with the characteristics of those students.

Researchers in online education additionally argue that the internet itself can be considered a unique field (Johnson, 2014), and that the online classroom, or other unique online social spaces such as chat rooms and forums, can be seen as subfields of the larger and very distinct field of the world wide web (Lowrie & Jorgensen, 2012; Rybas, 2007). Therefore, field theory has, and continues to play an important role in the exploration of the continuously changing field of education.

The Role of Capital in Fields

Within the fields of the classroom, school and/or district, student participants must compete with other students by employing their various skills and knowledge. These skills and knowledge are defined by what the student has experienced over the course of their lifetime as a result of both their socioeconomic and cultural backgrounds (Callahan & Sandlin, 2007) and life experiences. The value of these individual skills dictates their position and power in a given field, such as the classroom, online classroom, or other social space. Bourdieu defines this value as capital (Bourdieu, 1984) and likens this idea of capital to goods and resources as referenced in

the study of economics (Ferrere & Apple, 2015). Bourdieu identified a number of types of capital, often closely related and interconnected, but each with the potential to hold different values within a given field. Rogosic and Branislava (2016) note that much research in educational achievements has linked an individual's possession of various forms of capital to their ability to succeed in certain fields of education. As such, in this study, capital will be considered only in terms of the field of education, and, in particular, the field of the online classroom.

Three types of capital are predominant in Bourdieu's research: social capital, cultural capital and economic capital (Bourdieu, 1986; Grenfell & James, 2004), though a number of others have been described by both Bourdieu and fellow theorists extending his work (Costa, 2013; Ferrere & Apple, 2015). This study, however, focuses exclusively on social, cultural and economic capital, as these three forms of capital are most extensively examined in the literature. These three forms of capital will be examined in terms of the field as field theory serves as the theoretical framework for this study.

Social capital, a term that has grown in popularity in the social sciences (Luiz Coradini, 2010; Pruijt, 2002), was defined by Bourdieu as the value of a participant's membership in a certain social group, including social networks as well as possible resources available to an individual due to social connections (Lam, 2014; Lin & Chen, 2012). Social capital has a historic basis, in that relationships between the individual and others in the field, and their respective positions within the field are all subject to the historical context in which the field is situated (Luiz Coradini, 2010); For example, when considering the field of higher education, if a school has a number of "legacy" students (children of alumni) then the inherent value of being the child of an alumni may be greater than perhaps having high test scores, an extensive resume, or

coming from a wealthy family. A legacy student has a greater social network in relation to the university, and therefore would be seen as a valuable asset. Additionally, social capital can be accumulated, allowing an individual to foster additional desired networks in order to advance their position in a field (Lin & Chen, 2012; Pruijt, 2002). Again, to utilize an example in higher education, the attainment of social capital is one of the primary reasons that young men and women choose to participate in Greek organizations, as employment post-graduation can come from the social connections made by participation in fraternities and sororities (Armstrong, 2013). Such examples highlight the importance of social capital in educational fields.

A number of scholars aside from Bourdieu have explored social capital in their research, including James Coleman (1988) and Robert Putnam (1995). While Coleman's definition aligns somewhat with that of Bourdieu, Coleman saw social capital as an entity outside of economic capital, unlike Bourdieu (Luiz Coradini, 2010). Coleman felt that social capital was more based on rational choice rather than determined by an individual's station in life. For that reason, an individual has the ability to harness social capital as needed in order to promote their own social mobility (Pruijt, 2002; Rogosic & Branislava, 2016). On the other hand, Putnam's definition of social capital has been tied more closely to civic responsibility and how relationships between individuals affect civic engagement (Lam, 2014). While it is important to acknowledge these alternative understandings of social capital, it is also important that to note that this study focuses solely on Bourdieu's idea of social capital, in terms of the field of education.

Cultural capital, the second of the three types of capital that serves as a focal point of this study, is defined as the various symbolic abilities, titles and other recognitions given to an individual from their group (Collin, 2011). Lin and Chen (2012) expand on this definition by noting the existence of three, more specific, forms of cultural capital: embodied, objectified and

institutionalized. Embodied capital is defined as an individual's personal ability to both understand and appreciate what society deems as "cultural" activities. Objectified cultural capital are physical "cultural" assets that can be accumulated. Finally, institutionalized cultural capital considers the types of qualifications and/or credentials that have been awarded to an individual (Lin & Chen, 2012). For instance, in the field of education, a student may or may not have attained a certain Grade Point Average (GPA), possess an expected knowledge base (institutionalized cultural capital), own cultural artifacts of value (objectified cultural capital) or be able to appreciate the works of the local art museum in a way deemed acceptable by the societal norms (embodied cultural capital). In such a case, the student in question may lack one more more specific types of cultural capital, and therefore, struggle to obtain a position of power in a classroom, school, or district.

Finally, economic capital is defined much in the way that it is utilized in the study of economics: as both the material and financial resources afforded an individual (Collin, 2011). Like cultural capital, Bourdieu felt as if this type of capital was distributed unequally among the varying social classes (Soroka & Rafeli, 2006). Economic capital can be of particular concern in education, as students with different financial resources may be afforded different opportunities than others, an area of great concern when considering the digital divide as discussed in Chapter 1.

These three types of capital are deployed in various ways within a specific field in order to change a participant's position within that field or social structure (Callahan & Sandlin, 2007), and overlap one another in their deployment. This study, in particular, focuses on the field of education, and the evidence of deployment of capital in this particular field, both in the face-to-face classroom setting, as well as the online classroom environment.

Field Theory in Face-to-Face Education

Bourdieu's field theory has been utilized in face-to-face education for a number of years, illustrating the impact that fields may have on not only student engagement and success (Cammarota & Romero, 2009; Cooper, 1998; Flynn, 2015; Jorgensen, Gates & Roper, 2014; O'Donoghue, 2013) but on teacher practice as well (Jorgensen, Gates and Roper, 2014; Nolan, 2016). In 1998, Cooper explored the theory that minority students lacked the appropriate cultural capital to correctly interpret "realistic" math problems in the white-dominated field of the mathematics classroom and of normed testing. Cooper found student participants in his study interpreted word problems in dramatically different ways, depending on their individual cultural backgrounds. As students are often forbidden to receive teacher assistance during such standardized tests, Cooper's findings indicate that this misinterpretation of the scenarios used in word problems may as well affect other situations in which students may be left to read and interpret word problems alone. In 2014, Jorgenson, Gates & Roper argued that the field of education, in particular the structure of the field of the classroom, is structured in such a way that makes is easier for middle and upper class students to navigate, while making it nearly impossible for working-class students to navigate successfully. According to the authors, these working-class students are drawing from different resources and disparate experiences as they try to navigate the complex rules that dictate success in the field of the classroom. Misinterpretation by educational leaders of the actions of these students can leading to outcomes such as incorrect ability grouping, tracking, or even failure and/or drop-out. In 2013, O'Donoghue studied working-class mothers regarding their views on schooling, exploring both their personal views as

well as the views they had in regards to the educational experiences of their children. Unanimously, these women agreed that school "wasn't for" persons of their station in life. O'Donoghue noted:

> The ordinary work of schooling (practice) marks the 'feel for the game', which is investment and accumulation driven in the context of 'making futures'. Where schooling is not 'known' in this way, then the game of schooling cannot be played. Rather, schooling is used almost like a life-raft, to which some cling tenaciously hoping for even limited success, but always anticipating failure

As evident in the quote above, study participants felt as if working-class students were "in the way" of others in the school system, and therefore, saw failure as an inevitable outcome.

Teacher practice can also be affected by the prescribed fields in education, to a variety of outcomes. Flynn (2015), like Cooper (1998), explored literacy, but in the English language classroom rather than a mathematics setting. Flynn argued, through a Bourdieusian lens, that English teachers must operate within a linguistic field, one that is shaped by national educational policy. Teachers of English students (in particular English Acquisition Learners (EALs)) spoke about their teaching in regards to meeting national literacy standards, rather than how they differentiated their practice to meet the needs of all learners. Flynn noted that the standards and therefore their practice, was geared toward a monolingual population, rather than meeting the needs of the increasingly diverse student population. According to the literature, math teachers have likewise been affected by a focus on what "has been done" as opposed to being encouraged to differentiate their instruction. While also employing a Bourdieusian lens, Nolan (2016)

interviewed math teachers regarding innovative practice in their schools. Teacher participants noted that, within the field of the school, the rules were very clear, and to "start a brush fire" (defined by Nolan (2016) as when a teacher tried something new and different) was frowned upon by both administration and parents. In the case outlined in this study, the field is shaped not by the teacher's own pedagogical practice and value standards, but as a result of parental and administrative pressure and educational traditional, thereby affecting the manner in which students receive instruction.

Summary of Section 1

In this section, an overview of Bourdieu's field theory and a summary of the history of the development of this theory was presented. Further, the role of the various types of capital within a field was outlined in terms of education. Finally, the role of field theory in the field of face-to-face education was explored through a brief synopsis of selected literature applicable to this study.

In the section that follows, the literature pertaining to the role of field theory in online education, the primary focus of this research study, will be explored, through a systematic review of the literature.

Section 2: Bourdieu in Online Education

This section, which utilizes Boote and Beile's (2005) methodology for a systematic review of literature, provides a review of literature on Bourdieu's theories as they pertain to online education, both in the field of K12 online education as well as online learning in higher education. First, this section will outline the methodology employed in exploring the literature. Then, a discussion of field theory in online education will outline how the theory is currently being utilized in the field. As the majority of articles dealing with Bourdieu's theory in online

learning are concerned with the role of capital, this section will continue with a review of the role of capital online in online learning for higher education and conclude with the role of capital in K12 online learning.

Method

Utilizing Academic Search Complete, ERIC and the Proquest databases, the following key terms were searched in order to uncover literature regarding the theories of Pierre Bourdieu and the applications of said theories in online education:

(Bourdieu AND education) AND (online)

This initial exploration into the use of Bourdieu's theories in online education revealed 130 results. Duplicate entries were then removed from the initial search, leaving 83 possible articles. Article abstracts were examined and all articles not pertaining to the applications of Bourdieu's theories in either online education or some form of online communication that was attributed to affecting education were excluded. Applications of this exclusion criteria yielded 17 results. Through legacy and related topic searches from article reference pages, 11 additional articles were targeted for this review of literature, for a total of 28 articles. In addition to the findings of this search, further information on the current state of K12 online learning was included in order to position the argument in context.

Field Theory in the Online Classroom

The internet, and, by extension, online learning were not regarded as a subfield in the field of education just ten years ago (Callahan & Sandlin, 2007). However, recent research into the differences between online and face-to-face communication, both in social networks as well

as virtual classes, has demonstrated distinct differences between the modes of delivery (Johnson, 2014). While homologous with the face-to-face setting, much as the online and offline social fields are likewise homologous, the distinctions between the two fields are often those of power as well as what types of capital translate into what value in the online field (Lin & Chen, 2012). Further, when students enter an educational field there are always a set of rules by which that field is constructed. In the development of his field theory, Bourdieu concerned himself with what is the impact on students if their *habitus*, that is, the behaviors that they have learned to navigate a field, does or does not align with the expectations of a given educational setting (Lowrie & Jorgenssen, 2014). This triumvirate of field, capital and habitus create a complex system of interaction through which students must traverse deliberately in order to achieve academic success. It is the nature of the formation of the field of the online classroom, however, that sets apart this distinct field from the traditional field of the face-to-face classroom setting, with which students are most familiar.

Due to both the relative newness of the field, as well as a lack of resources (both in instructional designers as well as sufficient time and expense to create online courses) within the field of online learning, the online teacher may take a greater role in the shaping of the field of the classroom than their face-to-face counterpart (Lowrie & Jorgenssen, 2014). When removed from a physical building, many of the additional actors (administrators, parents, etc.) typically involved in the classroom setting are not as influential in field's formation and/or continuing evolution as they are in the face-to-face setting. As such, the online teacher, often operating in isolation (Duncan & Barnett, 2009; Jacobs, 2013), becomes largely responsible for shaping the online classroom. In recent years K12 online programs have also shifted from using large scale vendors, relying more on their online teachers and local instructional designers for the

development of original courses (Gemin, et al., 2015). Further, many institutes of higher education also rely heavily on their faculty in the development of online courses (Shea, 2006). In all instances, recent research in online course development demonstrates a high level of involvement on the part of the K12 online instructor in the creation of the course.

Additionally, beyond shaping the physical course, the online teacher will, as well, shape the classroom environment. Similar to how a face-to-face teacher/faculty member will form specific attitudes concerning the characteristics of a "good student," the online teacher will also formulate their own opinion as to what defines a "good" online student, opinion which may not align with student opinions of a "good" online student. This harkens back to the personal experience of the researcher outlined in the prologue of this dissertation, in which her views regarding the characteristics of a "good" online student were challenged. In the literature, to provide additional a further example, Callahan and Sandlin (2007) note that many online teachers value a certain level of technological knowledge possessed by their online students. Therefore, they argue, a "good" online student is one that has both access to a computer and possesses basic computing skills. However, as Callahan and Sandlin (2007) contend, access to computers and reliable, high-speed, internet continues to present issues in low socioeconomic communities. Thus, through no fault of their own, online students from such communities may lack the basic computing skills in comparison to their more affluent counterparts and thereby not possess the characteristics of a "good" online student in the eyes of their online teacher. These students, may, as a result, struggle to succeed in class to a level equivalent to their more affluent peers.

Some students may have greater success in navigating the field of the online classroom, while others may struggle (Lowrie & Jorgensen, 2014), and these struggles can extend beyond a

lack of basic computer skills or access. Kim (2012) notes that within the context of field of the American classroom, where English proficiency is highly valued, immigrant students often do not succeed at the level of their peers, despite having a clear understanding of the subject material and the ability to communicate this understanding in their respective native languages. The value of English proficiency, he argues, continues to the online classroom as it does in the face-to-face setting, as primarily English speaking nations dominate the field of online learning, yet advertise heavily in non-English speaking countries. In 2014 Lam also explored the value of English proficiency in immigrant communities online. In her study of online social networks, immigrant students interviewed expressed that they felt that their imperfect use of the English language was seen as a hindrance in the classroom. Further, Lowrie and Jorgenssen (2014) note that the ability to speak the language of the field (either the native language (sic: English) of the course or necessary computer jargon), having the type of knowledge valued in the field (computing skills or perhaps prior experience in self-regulating their learning), or the necessary cultural know-how (in terms of the subject area, or any popular culture of other representations of online community that the teacher may utilize) may dictate a given level of success in the field of the online classroom. Therefore, in shaping the field of the online classroom, both in design and delivery, the online teacher may place emphasis on a characteristic or skill which they feel is of great importance, as noted in the literature explored above. On the other hand, online teachers may overlook other skills and characteristics that may have been of value were the setting different. For example, Pegg and Carr (2010), in examining a distance education program interviewed both online instructors as well as online students in an online graduate program. In their interviews, instructors noted that they spent a considerable amount of time in both the design and the facilitation of the program cultivating skills they felt necessary for success in the

workplace. What the online instructors did not understand, however, was that regardless of the type of knowledge acquired during the program, the predominantly working class students did not have the social capital necessary to move into a job utilizing those skills. Consequently, study authors argued that many graduates were unable to secure employment post graduation, having been participants in a field designed for those with greater access to professional connections. Pegg & Carr (2010) argue that was the field shaped to better suit the various capital of the working class student, as well as provide better guidance in expanding their social networks to include professional connections outside of their own social class, that these graduates may have had greater success in securing employment.

While research concerning Bourdieu's field theory in online learning is steadily emerging in the area of online higher education, K12 online learning is not as well represented in the literature. There is one study of note utilizing Bourdieu's field theory in the field of K12 online learning, a study by Lowrie & Jorgensen (2014). This research investigated the use of online learning in elementary mathematics as a method of instruction for remote communities in Australia. Researchers observed students in the online program, divided into two course groupings, each representing different remote areas across the country. Researchers found that, though both fields were exposed to similar modes of instructional delivery, the first field, the more homogenous grouping of rural students, had greater success in their courses than the more ethnically diverse group of online students. The authors concluded that differences in particular fields, such as student characteristics or identities, must be considered in online instruction, both by the instructor as well as the person responsible for the course design as they may impact student performance. Studies such as this example, however, are extremely rare in K12 online learning research, and as such, present a gap in the literature that needs further exploration.

Once the "field" of the online classroom has been initially established, it is the capital that is valued in the online classroom, as well as the capital introduced by the involvement of individual students in the field, that defines classroom relationships and continues to transform this field. Therefore, it is likewise important to explore the role that capitals plays both on the world wide web as well as the online classroom.

The Role of Capital Online

As different knowledge and skills are valued in the online classroom, varying levels of capital are deployed and valued as well. There is extensive research present in the literature in the area of capital in online social networking (Johnson, 2014; Liao & Chou, 2012; Lin & Chen, 2012; Soroka & Rafaeli, 2006), research that has implications for understanding the unique field of the internet and which characteristics are valued in that field. As mentioned previously in this review, both Lin and Chen (2012) and Liao and Chou (2012) presented the argument that while similar to face-to-face (offline) social settings, that the online social setting is a distinct field with distinctive characteristics which may include an inclusive/exclusive language (social media and computer jargon), culturally acceptable/unacceptable behaviors (hashtagging, doxing, etc.) and the possibility of the accumulation of capital through expanding followers on a social network. Therefore, the capital valued in these fields is specific, and continually changing. Research into lurking, in which participants are a persistent but silent audience in an online community/social setting (Soroka & Rafaeli, 2006), has noted correlations between the levels of social and cultural capital possessed by individuals in online social networks and lurking behaviors (Liao & Chou, 2012; Soroka and Rafaeli, 2006). This research has demonstrated that as the level of cultural capital (i.e. understanding of the acceptable and unacceptable behaviors in the social networking space) valued in a given field increases, active participation by an individual may increase as

well. Further, Lin & Chen (2012) found that study participants in a social networking site who possessed greater cultural capital, both on and offline, were more likely to use hashtags in their social media posts. Frequent use of popular hashtags, in turn, increased their both their cultural and social capital in the online network. In order to adjust, and to compete in this field, other study participants with less cultural and social capital chose to adopt tags used by those with greater capital for their own posts. Here, it is possible to see the field of the online social network both having a structure within which virtual students must form habitus, but as well, can be changed by the actions of these participants as certain tags are deemed more popular than others. Likewise, when participants in these online communities felt as if they had a greater social capital, i.e. a better network with their peers, they participated more frequently in online discussions, feeling as though they were a part of the community rather than merely an observer (Liao & Chou, 2012; Lin & Chen, 2012; Soroka and Rafaeli, 2006). Merchant (2001) likewise explored online social chat forums, focusing his research on young women. This study found that the young women interviewed were very aware of their social positions in the online forums as well as the cultural capital that they may bring to the field of the World Wide Web. This knowledge, therefore, according to Merchant (2001) affected their participation in various online forums, as those with a greater level of capital participated to a greater extent than those that did not possess as high a level of capital.

This phenomenon is not unique to English-speaking online social networks, as demonstrated by Lam's 2014 study. This study explores the linguistic and cultural capital of immigrant youth in online social forums, conducting in both English as well as the native languages of study participants. Through observations of online discussions as well as participant interviews, Lam (2014) found that immigrant youth interviewed in this study felt empowered

when immersed in their native language and culture (i.e. possessing the necessary cultural capital in this virtual setting) in ways that they did not experience outside of these online social networks and informal learning groups. Therefore, the study concluded, it is possible that perceived cultural capital affects student participation, and ultimately student satisfaction and achievement in an online course or other online educational community.

The Role of Capital in Online Learning for Higher Education

Bourdieu's theories of capital have also been employed in the field of online learning, a unique field in which certain capital may have a different value than it would in the field of the face-to-face classroom setting (Alvermann, Friese, Beckmann & Rezak, 2011; Lowrie & Jorgensen, 2010) or even the World Wide Web (Callahan & Sandlin, 2007). Research on online learning in higher education has examined the impact of capital both on student engagement (Alvermann, Friese, Beckman & Rezak, 2011; Brown & Czerniewicz, 2008), and on student satisfaction (Ke & Kwak, 2012; Koustourakis, Pefani, Panagiotakopoulos, 2010; Newman & Johnson, 1999; Pegg & Carr, 2010; Tapanes, Smith & White, 2009) in an online course. Researchers found that all three of the major types of capital (economic, social and cultural) had varying effects on both student engagement and student satisfaction. In a study of the online mentoring of practicing and prospective mathematics teachers, Alvermann, Friese, Beckmann and Rezak (2011) found that despite the level of expertise (cultural capital) of the online mentors, that there were a number of missed opportunities in sharing this expertise and capital. They argue that the assumptions of what cultural capital will be shared in a course or professional development program can result in missed opportunities for students to share their expertise, leading to decreased student engagement in a virtual course, as they observed in their study. Brown and Czerniewicz (2009) also explored the effects of gender on student engagement

with Information and Communication Technologies (ICTs) for learning. While they found no evidence of a digital divide between the male and female study participants, what they did discover was a difference in the *habitus* and perceived capital of male versus female students. As opposed to their male peers, female students felt as if they lacked the skills and knowledge (cultural capital) necessary to engage with computers and online learning resources for their education. Many female participants expressed feeling as if they did not have the level of technological knowledge of their male peers or that they were treated differently when technological support was requested. This led to less engagement on the part of the female students, therefore creating the appearance of a digital divide.

While not specifically utilizing Bourdieu's theories of capital, additional studies in online student engagement have focused on what skills and knowledge are valued in an online course and how these values may affect student participation (Du, Zhou, Xu & Lei, 2016; Hannon & D'Netto, 2007; Lewthwaite, Knight, & Lenoy, 2015). Ke and Kwak (2012) agree with Bourdieu in that an online student's "pre-existing cultural dispositions...can influence their learning actions and thoughts" and that these actions and thoughts can affect the engagement in an online course. For example, a study by Du, Zhou, Xu & Lei (2016) found that female African American students participating in this study preferred technologies that allowed them to seek out online communities of like-minded peers, often being the minority in a number of their online classes. Likewise, these African American female students experienced higher levels of anxiety and lower levels of a sense of community, in comparison to their Caucasian peers enrolled in the course. Students felt that their true cultural identities (i.e. social and cultural capital) were not valued in the predominantly Caucasian populations of online courses, and this led to lower levels of engagement in discussions. Ke & Kwak (2012) as well found that minority students observed

in their study valued long-term bonds and a sense of community in an online course, an element that many felt was missing in their online learning experiences. Findings by Hannon and D'Netto (2007) demonstrate that minority, international and English as a second language students found course organization and content presentation to be a major hurdle in their online learning. As such, these students participated far less than their English speaking peers in class discussions, lacking the cultural (linguistic) capital they felt was valued in the field of the online course.

These studies support the theory that the various types of capital that an increasingly diverse body of online students bring to the online classroom may have a direct impact on their overall participation, and as a result, student achievement (Kim, 2012). Early research into considerations of student diversity in online learning has shown that online courses worldwide give preference to values of the English speaking world (Hannon & D'Netto, 2007), in both design as well as in the assessment of participation in the learning community (Kim, 2012). Merchant (2001) noted that as the first online experiences of many students are social in nature, that their predisposition toward text-chat language online does not align with the type of language/computer writing skills (legitimate language) valued in education. Such values can be likened to a predilection to a certain capital in an online field, whether it be social capital, cultural capital or economic capital (Callahan & Sandlin, 2007; Lowrie & Jorgensen, 2010). More recent literature into multicultural considerations in higher education online learning, as well as considerations of socioeconomic status and gender, confirms these predilections.

Kim (2012) explored experiences of international students in online courses. While it is not explicitly referenced, Bourdieu's cultural capital is clearly represented in this work, as Kim discusses the cultural advantages of American students in online learning. Kim cites the ability to communicate in English in particular; that while many international students are functionally

bilingual, they lack the "language" of an American class. Further, as higher-context culture students (cultures in which nonverbal behavior, observation and situational analysis is important) utilize more nonverbal behaviors, low-context cultures (where analysis is done through spontaneous speech and group discussion) prefer more direct methods of communication. As many participation requirements in courses value direct methods of communication, low-context students may hold the power in the online classroom, thereby inadvertently causing diminished engagement by high-context culture students. Ke & Kwak (2012) also point to the need by high-context culture students to feel as part of the community, but often lack the valued language skills (cultural capital) necessary to be a part of these communities. As found in the Du, Zhou, Xu and Lei (2016) study, student engagement is negatively impacted when students do not feel as if they are a part of the online learning community.

In addition to considerations of student engagement, student satisfaction in online coursework has also been studied in terms of capital and fields (Ke & Kwak, 2012). In a survey of virtual students at Hellenistic Open University, Koutsourakis, Pefani, Panagiotakopoulos (2010) found that economic capital can influence the way in which online students prefer to receive content, and, by extension affect their overall satisfaction on the instruction in their course. Their study determined that a vast majority (93%) of online students interviewed, felt as though video was a necessary element in an online course. These students were found to be primarily members of the middle class, and thereby predisposed to the use of television and video as a regular source of information. As the original course did not contain the desired amount of video content, students reported lower levels of course satisfaction. Course designers, as a result, retooled content presentation in future iterations of the course in order to meet the requests of students. Therefore, the argument can be made that the economic capital possessed

by the online students in this study influenced the field of the online classroom, shaping it into a new form, one that better met their instructional expectations. Pegg and Carr (2010) noted the impact of economic capital as well, linking a lack of economic capital to have resulting impact on necessary social and cultural capital on graduate employability. In particular, they examined the various barriers to employability of working class online students after completion of higher education. While many students saw the potential cultural capital in earning an advanced degree, these students, however, lacked the social capital to find gainful employment after graduation. Researchers suggested that better incorporation of working class students' life experiences into the online curriculum would lead to not only a better understanding of their own cultural capital in earning their degree, but allow them to develop skills to increase the type of social capital needed to succeed in the workforce, thereby increasing their economic capital. As this is often not a consideration in online programs, researchers content that such omissions can lead to a reduced sense of student satisfaction.

Other forms of capital can play a role as well in student satisfaction in an online course. Newman & Johnson (1999) argued that students must possess the correct cultural capital in order to utilize the vastness of the internet for learning. They contend that without this capital, enabling students to sort through fact and fiction, students will feel overwhelmed, and therefore, less satisfied with their learning experience. Tapanes, Smith & White (2009) explored whether collectivist learners, learners who are members of close-knit communities where group dynamics take precedence over individualism, would feel as if their online instructor had a clear understanding and took into consideration their cultural background and how this background could impact their learning. They found a majority of students surveyed did not feel as if their cultural background was taken into consideration in the shaping of the learning community, and

consequently felt as if this had a negative impact on their learning experience and overall course satisfaction. In 2015, Lewthwaite, Knight and Lenoy explored an online program for preparing preservice teachers from Aboriginal communities. The study found that while instructors did make cultural considerations in their teaching approaches, that these considerations were only made within synchronous communications rather than the asynchronous structure of the course. While this study did not specifically address student satisfaction with this element, it did offer examples from interviewed instructors detailing increased student satisfaction level with how these considerations were implemented in the synchronous elements of the course. Further, they argued that online instructor knowledge of student identities (cultural and/or social capital) as well as their ability to articulate to students that types of capital that will be needed in the future is imperative to both student satisfaction in the course, in particular with post-course skills application.

Capital in K12 Online Learning

Through this review of the literature, it was discovered that no studies exist that utilize the theories of Pierre Bourdieu in the K12 online learning setting with the exception of one study by Lowrie and Jorgennssen (2014). While not implicitly referenced, however, there is emerging research on considerations of capital in the field of K12 online learning. In a 2012 study on 312 low socioeconomic-status Dutch children, Kegel and Bus saw an increase in student achievement in early reading by taking into consideration the cultural capital of pre-reading participants. They outline how traditional literacy programs are typically tied to written words children are expected to know by PreK, used as base words for more advanced comprehension. In low SES homes, however, children are often not exposed to books as they are in middle class households and, as a result, are not exposed to these words. In their program, researchers chose to use the base word

mama. All reading skills built into the program derived from *mama*, which, they argued, is not only more recognizable, but associated with acceptance and comfort. As a result, students involved in the study showed marked improvement in their reading. Suppes, Liang, Macken and Flickinger (2014) present a quantitative analysis of a computer-based program used to improve Math and Language Arts skills in low socioeconomic status (SES) K8 students. They discovered that the program resulted in gains for a number of students, in particular those with the lowest initial scores on the assessment measure. As they outline the specific success of the program, they point to the nonlinear method of instruction employed in the program and how it can be used as a means of reaching diverse students, a method of course organization also noted in higher education studies as demonstrating similar success (Kim, 2012).

Critique of the Literature

As research in the field of the teacher experience in online K12 learning is emerging, there are a number of unexplored topics in the literature. Through this review of literature, it has been determined that, when examining both K12 online learning and online learning in general, through a Bourdieusian lens, that there is a greater emphasis on social class (i.e. working-class vs. middle/upper class) rather than other factors that may be attributed to an inability of the student to succeed in the field of the online classroom. Additional research into the impact of student characteristics on their abilities to succeed in the field of online education may include considerations such as language (Bourdieu, 1986) and how cultural background can contribute to varying preferences (tastes) which, in turn, may have different values in the various fields of education (Schindel Dimick, 2015). Further, studies into the applications of Bourdieu's theories in K12 online learning have a strong slant toward elementary education. A broader range that better examines all levels of online education, both elementary and secondary, would provide a

better overview of the entire K12 online experience. Additionally, the majority of studies in the area of online K12 education are qualitative in nature, missing qualitative research's quantitative complement (Field, 2014) and thereby limiting the generalizability of the results (McMillan, 2000). Moreover, the quantitative studies that do exist present only basic descriptive statistics and, as such, do not offer in-depth analysis of relationships that a multivariate statistical analysis can offer. Use of such statistical modeling, such as HLM, allows for "improved estimation of effects within individual units; the formation and testing of hypotheses about cross-level effects; and the partitioning of variance and covariance components among levels (Raudenbush & Bryk, 2002)."

As well, the literature regarding fields and capital in online education largely explores the experiences and perceptions of *students*, however often overlooks the experiences and perceptions of the *online teachers*. Tapanes et al. (2009) indicated that while online learning is often thought of as an educational experience devoid of bias, research has demonstrated that learners from outside of the dominant culture often feel as if their identities are lost in an online course. Therefore additional research on the knowledge and skills online teachers possess in this regard is vital to expanding the research base. Likewise, the literature that explores the views and experiences of K12 online teachers also fails to note that a teacher's lack of knowledge of a given culture or cultural practice may result in an misinterpretation of "correct" answers presented in a nonstandard fashion. For that reason, further research into what online K12 teachers understand regarding the characteristics of the K12 online population is imperative to addressing possible issues of misunderstanding that may occur in the virtual setting.

Summary of Section 2

In this section the methodology for searching the literature was outlined as this study employed Boote and Beile's (2005) method for a review of the literature. Then, Bourdieu's field theory was explored as it relates to the online environment, demonstrating recent theory regarding the online classroom as a separate sub-field of the newly created field of online education and how this affects the various aspects of the online student and online teacher experience. Following this outline, the theory of capital, more apparent than field theory in online education research, and how it impacts the various fields in online education was explored. It was noted that whether the field exists in an online social sphere or in an online classroom is not of importance, but rather that the field itself values very specific capital that may exclude certain players from being successful. Finally, this section offers a critique of literature as it currently stands, in that little to no large-scale quantitative surveys have been undertaken to gain a better overview of the field of online learning in terms of Bourdieu's theories or provide for more generalizable results. Further, it also notes that much of the literature utilizing this theoretical lens explores student experiences in the online class, neglecting to include the perspective of the teacher, who, by virtue of field theory, holds a vast amount of power in shaping the field. Therefore, this study will address this weakness in previous literature as it will utilize both quantitative methodology for increased generalizability, as outlined in Chapter 3, as well as address the views of online teachers.

Summary of Chapter 2

In this chapter both the theoretical framework, Bourdieu's field theory, was defined and this theory was explored in terms of both face-to-face as well as online learning, at all educational levels. As well, the current study, which seeks to examine K12 online teachers'

knowledge of the unique characteristics of their online students, was placed within the literature utilizing field theory in online education. As research has exhibited how the formation and shaping of a field can impact the actors in said field, a phenomenon well researched in education, it is important to take into consideration the knowledge and skills of K12 online teachers. As the utilization of these theories in online education still remains in its infancy, this study seeks to extend this research to fill these gaps in the literature.

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Chapter 3: Methodology

The purpose of this study is to provide, through quantitative methods, a better understanding of K12 online teacher knowledge of certain characteristics in their students and how K12 online teachers perceive their own individual skill level in addressing the needs of these diverse students. In doing so, the researcher hopes to give a broad overview of K12 online teachers knowledge of cultural, social and economic characteristics of their online students, in relation to a number of teacher characteristics. This study aims to use the data gleaned in order to better inform the body of research on K12 online teacher preparation.

This chapter provides the impetus for the methodology undertaken in this dissertation. Included in this chapter is an explanation of the study's design, a description of the participants surveyed, an overview and justification of the chosen instrumentation (the MAKSS-T), procedures for implementation of the study, steps taken in the data analysis as well as study limitations.

Study Design

A quantitative methodology was chosen for this study in order to examine possible trends in the data, as this is the primary objective of quantitative research (Creswell & Plano Clark, 2007). As much of the data in the field of K12 online education is qualitative and lacking large-scale data on populations of students and teachers (Patrick & Powell, 2009), quantitative projects allow for both triangulation of qualitative data as well as offer new directions for future research (Field, 2014). With the quantitative data that exists in the field of K12 online education periodic overviews such as the overview provided by this study, are recommended in order to paint a broad picture to those in the field, as it provides a larger sample, which lends results to yield greater generalizability (McMillan, 2000; McMillan & Schumacher, 2001). Such research lends

itself to providing information that can be incorporated into practice on a large scale (McMillan, 2000). In particular, a non-experimental survey design was chosen for this study. Given the need for understanding what online K12 teachers are thinking, feeling and doing in regards to student capital in online K12 courses (Mitchell & Jolley, 2007), this research design allowed teachers to offer their most authentic feedback without possible bias of an experimental or control grouping.

In terms of the research questions, outlined in Chapter 1, the variables examined in this study are outlined below, in Table 1.

Table 1

Overview of Study Variables

Variable Name	Type of Variable	Continuous or Categorical
Online Teacher Self-Perceived Knowledge (KNOW)	Dependent	Continuous
Online Teacher Self-Perceived Skills (SKILL)	Dependent	Continuous
Teacher Subject Area (SUB)	Independent	Categorical
Teacher Grade Level (GRADE)	Independent	Categorical
Teacher Age (AGE)	Independent	Categorical
Teacher Gender (GENDER)	Independent	Categorical
Teacher Years of Experience Teaching (EXP)	Independent	Categorical
Teacher Years of Experience Teaching Online (EXPONLINE)	Independent	Categorical

Participants

Study participants were recruited by both convenience sampling and a snowball sampling method. Initial study participants, rather than being selected at random (Goodman, 1961) were chosen from a pool of volunteers with professional connections to the researcher. From this initial pool, each participant was asked to provide the email addresses of any friends or

colleagues, who also teach in the field of online K12 education, that may be interested in participating in the study. This sharing was utilized to obtain a master email list for distribution of the survey, however, survey respondents were permitted to continue sharing the measure after completion of their survey. In order to ensure as random a sample as possible, despite the use of convenience sampling, the researcher chose to send the survey informally to the above-mentioned professional contacts in the email list created rather than approach individual K12 online programs. In doing so, the researcher sought to achieve the greatest randomization possible. By utilizing this sampling method, online teachers were able to send the measure to others that may not teach in their program or teach in the same subject area or grade level (Punch, 2003) thus achieving maximum possible randomization.

Participants in this study were restricted to K12 teachers that teach at least one course completely online. Teachers from private as well as public online programs were encouraged to participate. K12 teachers from all grade levels and all subject areas were sought for participation in the study. Study participants were also required teach in the United States.

The survey was viewed by prospective participants 782 times with 156 possible participants starting the survey measure. Of the 156, 112 completed the survey measure, for a 71.79% completion rate. A table of demographics of study participants is shown below in Table 2.

Table 2

Participant Demographics

Variable	*n*	Frequency	Percent	Mean	SD	Min	Max
Sex	138			1.94	.377	n/a	
Male		12	8.70				
Female		124	89.86				
Neither		0	0				
Prefer Not to		2	1.45				

Answer					
Age	138		2.797	1.01	
21-30		15	10.87		
31-40		42	30.43		
41-50		37	26.81		
51+		44	31.88		
Grade Taught	138		3.63	.86	
Lower Elementary		9	6.52		
Upper Elementary		8	5.80		
Middle School		8	5.80		
High School		113	81.88		
Teaching Experience	138			3.15	.99
0-5 yrs		10	7.25		
6-10 yrs		29	21.01		
11-15 yrs		28	20.29		
16+ yrs		71	51.45		
Online Teaching Experience	138			1.51	.707
0-5 yrs		84	60.87		
6-10 yrs		39	28.26		
11-15 yrs		14	10.14		
16+ yrs		1	0.72		

Participant demographics demonstrate that the majority of survey respondents were female (89.86%) and taught high school courses online (81.88%). In terms of participant age, most reported to be over 30 years of age (89.12%) with 50% reporting 16 or more years of teaching experience. However, 61% of survey respondents had 5 years or less of online teaching experience.

Survey participants were also surveyed as to the subjects taught online. Table 3 shows a breakdown of the academic fields represented in this study.

Table 3

Academic Field of Study Participants

Academic Field	Number of Observations
General Studies K5	3
Social Studies	16

Science	11
Math	38
Language Arts	31
World Language	37
Computer Science	3
Physical Education	4
Art	2
Music	2
Career Tech	13
Multiple Subjects Taught Online	12

Instrumentation

The Multicultural Awareness Knowledge and Skills Survey Teacher Form (MAKSS-T; D'Andrea, Daniels & Noonan, 2003) was utilized as the chosen instrument in this study (See Appendix A). The MAKSS-T survey instrument was chosen due to its focus on student characteristics, which aligned well with the theoretical framework, but as well due to the high levels of reliability, with each of the three subscales A, B and C having alphas of .73, .86 and .93, respectively (D'Andrea, Daniels & Noonan, 2003). The original measure consists of 51 items and three subscales. A number of studies in counselor education have utilized the MAKSS-T's sister measure, the MAKSS-CE, which has given K12 counseling departments across the United States a broad overview as to the level of knowledge and skills in working with a diverse student body (Vincent & Torres, 2015). Therefore, the MAKSS-T, given the basis of the survey, the high levels of reliability as well as the record of use of the MAKSS measures in general, this instrument was regarded as the most appropriate measure for this study.

Based on the researcher's understanding of the field of K12 online learning, Subsection A, the Multicultural Awareness Subscale, was eliminated from the survey measure as there was no way to frame the questions to the field of online learning without affecting the reliability coefficient. The instrument utilized in this study, therefore, consisted of the final two subscales

from the original MAKSS-T measure: Subscale B: the Multicultural Knowledge Scale and Subscale C: the Multicultural Skills Scale, along with supplementary demographic items and additional questions created by the researcher. Study participants were required to answer all questions in the survey measure in order to maintain the reliability coefficient of the remaining two subscales. Participants that were uncomfortable answering all of the questions in the study were advised at the end of each section that they could exit out of the survey measure at any time and their responses would not be recorded.

The additional questions included in the study instrument inquired as to the knowledge level of teacher participants of non-multicultural characteristics of a "good" online student. Due to the scant literature in K12 online learning in this area, these ancillary questions were created based on available literature in K12 online student characteristics for success, as well as those characteristics in higher education. The inclusion of these questions was to better balance the effects of the questions that focused on multi-cultural characteristics and sexual identities in an effort avoid participant bias. As the content of these questions is not a focus of this study and inclusion of said questions in statistical analysis would affect the alpha coefficients, these questions were not factored into the data analysis.

Further, two open-ended question items were added to the end of each subscale of this validated measure in order to allow online K12 teachers surveyed to expand on their answers to the Likert-type scale items. A copy of the survey, with the additional questions, is available for view in Appendix B. The additional questions added to this survey measure, however, can be seen in Table 4 below:

Table 4

Additional Study Questions

Category	Location in Measure	Question	Source
Demographics	Prior to Subsection B (Beginning of measure)	How would you identify your gender? Male, Female, Other, Choose Not to Respond	Akroyd, Patton & Bracken, 2013; Horvitz, Beach, Anderson & Xia, 2014; Lloyd, Byrne & McCoy, 2012; Shea, 2006
Demographics	Prior to Subsection B (Beginning of measure)	In which range would you place your age? 21-30 yrs, 31-40 yrs, 41-50 yrs, 51 years or older	Lloyd, Byrne & McCoy, 2012; Shea, 2006
Demographics	Prior to Subsection B (Beginning of measure)	What grade level do you teach online? Lower Elementary (K-2), Upper Elementary (3-5), Middle School (6-8), High School (9-12)	Horvitz, Beach, Anderson & Xia, 2014; Jacobs, 2013
Demographics	Prior to Subsection B (Beginning of measure)	How many years of experience (in total) do you have teaching? Please consider both any online as well as face-to-face teaching experience. 0-5 yrs, 6-10 yrs, 11-15 yrs, 16 or more years	Akroyd, Patton & Bracken, 2013; Horvitz, Beach, Anderson & Xia, 2014
Demographics	Prior to Subsection B (Beginning of measure)	How many years of experience do you have teaching online? 0-5 yrs, 6-10 yrs, 11-15 yrs, 16 or more years	Barker, 2003; Fish & Gill, 2009; Lloyd, Byrne & McCoy, 2012; Mayfield-Johnson, Mohn, Mitra, Young & McCullers, 2014; McQuiggan, 2012
Demographics	Prior to Subsection B (Beginning of measure)	In which subject area do you teach? Select all that apply: General Studies (grades K-5), Social Studies, Science, Math, Language Arts,	Horvitz, Beach, Anderson & Xia, 2014; Jacobs, 2013

		World Language, Computer Science, Physical Education, Art, Music, Career & Technical Education	
Additional Knowledge Questions	Added to end of Subsection B	Self-Regulated Learner	Lewis & Litchfield, 2011
Additional Knowledge Questions	Added to end of Subsection B	Dual Enrollment	Roksa, Jenkins, Jaggars, Zeindenberg, Cho, 2009
Additional Knowledge Questions	Added to end of Subsection B	Self-Efficacy	Lewis & Litchfield, 2011; Wang, Shannon & Ross, 2013
Additional Knowledge Questions	Added to end of Subsection B	Self-Control (in terms of learning)	Barber, Bagsby, Grawitch & Buerck, 2011
Additional Knowledge Questions	Added to end of Subsection B	"Noisy Learner"	Nipper, 1989
Additional Skills Questions	Added to end of Subsection C	How well would you rate your ability to assess a student's level of self-regulation in their learning?	Lewis & Litchfield, 2011
Additional Skills Questions	Added to the end of Subsection C	How well would you rate your ability to assess a student's level of self-efficacy in their learning?	Lewis & Litchfield, 2011; Wang, Shannon & Ross, 2013
Additional Skills Questions	Added to the end of Subsection C	How well would you rate your ability to attend to the needs of "Noisy Learners" in your class?	Nipper, 1989
Open-Ended Knowledge Question	Added to the end of Subsection B	Is there anything additional you would like to add regarding your knowledge of the above listed terms?	
Open-Ended Skills Question	Added to the end of Subsection C	Is there anything additional you would like to add regarding	

	your skill in addressing the scenarios presented above?

Procedure

Data Collection

Utilizing the snowball sampling method outlined above, surveys, created utilizing the QuestionPro survey tool, were sent via email from the primary researcher's email as well as posted on social media forums dedicated on K12 online education. This email and social media postings included a disclosure statement, as required by IRB, as well as the link to the survey. Participants were advised that the survey would remain open for two weeks. A reminder email and social media posts were sent after one week, reminding the participants of the closing date and a second email reminder/social media post(s) was sent one day before the surveys were to be submitted. A period of two weeks was chosen in order to allow the researcher to have additional time to evaluate whether more responses are needed while ensuring that initial contacts, that may not have responded to the first emailing, have not forgotten about the survey. After the close of the two week collection period, basic descriptive statistics were run in order to determine if the total number of responses, minus any missing data, totaled 100 respondents or not. At the close of the survey period, the research found 112 complete surveys, and 156 partial attempts and closed out the survey period to begin formal data analysis.

Data Analysis

Prior to analysis, missing data was analyzed on the survey sample. As missing data, either from survey incompletion or accidental oversight of a survey item, can and does occur often procedures must be undertaken to ensure that data is still usable while also being

representative of the sample (Field, 2014). To analyze missing data, Little's MCAR test (Little, 1988) was run to assess whether the missing data is Missing Completely At Random (MCAR) or Missing at Random (MAR). Data was found to be missing at random, with no variables exceeding 20% of values missing. Given this outcome, it was determined that the analysis could continue without the need for Multiple Imputation or other missing data correction necessary (Adcock, 2016).

Data were analyzed using STATA 14 (StataCorp, 2017). The first iteration of data analysis included descriptive statistics, such as distribution and central tendency. These initial descriptives provided an overview of online K12 teacher knowledge of online student identities in the field of online learning as well as an overview of online teacher perceptions of their skills in addressing the needs of these students. Survey response options utilized a Likert-type scale of 1 to 4, where "1" meant that the teacher participant felt as if their knowledge or skills were "Very Limited", "2" their knowledge or skills were "Limited", "3" their knowledge or skills pertaining to the topics were "Good" and "4", their knowledge and skills of the topics were "Very Good." Tables 5 and 6 show the descriptive statistics for the two subscales B: Teacher Knowledge and C: Teacher Skills. Variables listed correspond with longer survey questions which can be found in Appendices A and B.

Table 5

Descriptive Statistics for Teacher Knowledge of Online Student Characteristics

Variable	Obs	Mean	Std. Dev.	Min	Max
Culture	125	3.592	.4934408	3	4
Ethnicity	125	3.536	.5894776	1	4
Racism	125	3.616	.5045599	2	4

Mainstream			125	3.44	.6273344	1	4
Prejudice			125	3.6	.5236349	2	4
Multicultural Education			125	3.416	.6621568	1	4
Ethnocentrism			125	2.96	.9016115	1	4
Pluralism			125	2.8	9503819	1	4
Privlege			125	3.504	.5905711	1	4
Equity			125	3.472	.6034311	2	4
Conscious Bias			125	3.32	.7890378	1	4
Unconscious Bias	125	3.28	.8191262		1	4	
Assimilation	125	3.296	.7622547		1	4	
Equality	125	3.552	.5882725		1	4	
Race	125	3.6	.5080005		2	4	
Nationality	125	3.616	.5202977		2	4	
Class	125	3.568	.5438216		2	4	
Acculturation	125	2.792	.9943064		1	4	
Oppression	125	3.344	.7307089		1	4	
Affectional Orientation	125	2.44	.9788077		1	4	
Gender Identity	125	3.352	6750866		1	4	

Table 6

Descriptive Statistics for Teacher Skills in Addressing Online Student Characteristics

Variable	Obs	Mean	Std. Dev.	Min	Max
Teach Diff Cultural Background	110	3.381	.606	2	4

Assess Diff Cultural Background	110	3.2	.701244	1	4
Bias Toward Teacher	110	3.245455	.6931693	2	4
ID Cultural Bias Assumptions	110	3.1	.6900339	1	4
Method & Context in Teaching	110	3.027273	.7098144	1	4
Behavior & Cultural Background	110	3.054545	.7399028	1	4
Analyze Culture Component	110	2.790909	.7306583	1	4
Critique Research	110	2.854545	.7399028	1	4
Services to Culturally Different	110	2.690909	.8211142	1	4
Consulting w/ Professional	110	3.181818	.6797439	1	4
Securing Information & Resources	110	3.345455	.5656264	2	4
Assess Needs of Female Students	110	3.090909	.7486435	1	4
Assess Needs of Male Students	110	3.263636	.6306728	2	4
Assess Needs of Older Students	110	3.236364	.6486015	2	4
Assess Needs Homosexual Stdnt	110	3.190909	.7102843	1	4
Assess Needs of Lesbian Students	110	3.118182	.7749734	1	4
Assess Needs Mental Health	110	3.118182	.8097096	1	4

For the second part of the analysis, data were examined to see if there are a minimum of ten different subject area represented in the data, the minimum requirement to begin the process of running an HLM analysis. HLM analysis is utilized to capture relationships (Raudenbush & Bryk, 2002), and in the case of this study, the relationship between the individual characteristics of online teachers (*SUB, GRADE, AGE, GENDER, EXP and EXPONLINE*) and how they affect their self-perceived knowledge (*KNOW*) of online student capital as well as their self-perceived skills (*SKILL*) in addressing the needs of these students. HLM allows for a better cross-sectional understanding of relationships that exist between variables. There is complexity within a cluster, given that not all individuals are the same. HLM analysis accounts for these differences. Also, as members of a group are affected by one another and are not individual non-altered samples, HLM's cluster modeling allows for these nuances to be visible within the analysis. This method also allows for greater precision in the estimation of nested models, such as teachers nested within subject areas, as well as the ability to determine the extent to which variations in scores exists both within and between subjects (Raudenbush & Bryk, 2002).

Results of the survey demonstrate, as shown in Table 3, that eleven distinct subject fields were identified, with a 12th field encompassing teachers that taught more than one subject online, meeting this criteria of a minimum of ten distinct clusters of data. Data was then analyzed to determine if the Intraclass Correlation Coefficient (ICC) met the minimum standard of .05 (Raudenbush & Bryk, 2002) . An ICC is used to indicate the amount of variance that is occurring at the cluster level, or level 2, of a model, versus the amount of variance at the person level, or level 1. Variance ranges from 0 to 1, with .05 being the minimum threshold for an HLM analysis (Raudenbush & Bryk, 2002). An initial null model was run to determine the ICC for both models, model one, focusing on teacher knowledge on online student characteristics and model

two, focusing on teacher perceived skills in addressing these issues. The null model for outcome KNOW yielded an ICC of .053, meaning that an HLM analysis was justified. The null model for outcome SKILL yielded an ICC of .10, also indicating a justification for an HLM analysis (Raudenbush & Bryk, 2002). The null models for this analysis can be found in Appendix C. Therefore, given the outcome of these initial analyses, it was determined that study could proceed utilizing Hierarchical Linear Modeling.

To continue the analysis of the data, the following model equations were produced, outlining the models at the first, teacher, and second, academic field levels:

Dependent Variable 1:

Level 1 Model (Outcome = Knowledge):

$$(KNOW) = \beta_{0j} + \beta_{1j}\left(GRADE_{ij}\right) + \beta_{2j}\left(GENDER_{ij}\right) + \beta_{3j}\left(EXP_{ij}\right) + \beta_{4j}\left(EXPONLINE_{ij}\right) + E_{ij}$$

Level 2 Model:

$\beta 0j = \gamma 00 + u0j$

$\beta 1j = \gamma 10$

$\beta 2j = \gamma 20$

$\beta 3j = \gamma 30$

$\beta 4j = \gamma 40$

$\beta 5j = \gamma 50$

Combined Model:

$$KNOW = \gamma_{00} + \gamma_{10} * SUB_{ij} + \gamma_{20} * GRADE_{ij} + \gamma_{30} * GENDER_{ij} + \gamma_{40} * EXP_{ij} + \gamma_{50} * EXPONLINE_{ij} + E_{ij}$$

Dependent Variable 2:

Level 1 Model (Outcome = Skill):

$$(SKILL) = \beta_{0j} + \beta_{1j}\left(GRADE_{ij}\right) + \beta_{2j}\left(GENDER_{ij}\right) + \beta_{3j}\left(EXP_{ij}\right) + \beta_{4j}\left(EXPONLINE_{ij}\right) + E_{ij}$$

Level 2 Model:

$\beta 0j = \gamma 00 + u0j$

$\beta 1j = \gamma 10$

$\beta 2j = \gamma 20$

$\beta 3j = \gamma 30$

$\beta 4j = \gamma 40$

$\beta 5j = \gamma 50$

Combined Model:

$$SKILL = \gamma_{00} + \gamma_{10} * SUB_{ij} + \gamma_{20} * GRADE_{ij} + \gamma_{30} * GENDER_{ij} + \gamma_{40} * EXP_{ij} + \gamma_{50} * EXPONLINE_{ij} + E_{ij}$$

As noted in the equations above, the level 2 model is comprised of fixed rather than random intercepts, however there is a random intercept noted for the level 1 model. A random intercept was chosen for level 1 as it allows for the observation of teacher differences ((Raudenbush & Bryk, 2002). Fixed effects, on the other hand, were selected as the optimal option for the level 2 model due to the sample size in order to increase model power to its maximum potential, as the addition of random predators would decrease model power (Raudenbush & Bryk, 2002).

Definitions

In order to best frame this study within the theoretical framework there are a number of terms that must be operationalized. The following terms are listed below, along with the definition and references (where applicable) to the literature.

Field - This study will utilize Bourdieu's definition of field, as noted in Chapter 2, as a social space or network in which participants are vying for position through the deployment of their capital (Bourdieu, 1986; Ignatow & Robinson, 2017; Johnson, 2017). In this study, the field of the online classroom will be considered as a field separate from other fields in education, including the face-to-face classroom setting.

Capital - "Assets or resources that can be acquired, accumulated, appropriated and exchanged like other physical capital (Lin & Chen, 2012)."

Economic capital (online) - The capital gained through access to the technology needed to successfully participate in an online course (Callahan & Sandlin, 2007).

Social capital (online) - The capital gained through participation and membership in online social networks, both in the online classroom as well as the internet at large. This type of capital is strengthened virtually when online students have a large number of relationships between themselves and other players in the online classroom (field). This capital may come as a result of the structure (how large or in what configuration is the online space), the levels of trust and confidence members have with one another within

the space, or the "shared understanding" between community members (Lin & Chen, 2012).

Cultural capital (online) - The capital gained through an individual's ability to interpret cultural codes in an online space. This may include the ability to understand the preferred language of the online course (whether than language be English, noted in the literature to dominate online course design (Hannon & D'Netto, 2007; Kim, 2012) or the language of the internet, such as internet jargon (Soroka & Rafeli, 2006)) or understand common online behaviors and other elements of netiquette (Lin & Chen, 2012).

Characteristic - A distinguishing attribute of an individual (student) such as their race, gender, technology level, etc. (Merriam-Webster, 2017)

Identity - "Condition or character as to who a person or what a thing is; the qualities, beliefs, etc., that distinguish or identify a person or thing (Merriam-Webster, 2017)."

Teacher knowledge - In this study, teacher knowledge will be defined as a teacher's self-reported familiarity with a topic as listed in the survey instrument.

Teacher skills - In this study, teacher skills will be defined as a teacher's self-reported abilities to address a given issue, identity or other topic as listed in the survey instrument.

Limitations

The following limitations should be taken into consideration in regards to this study design. First, as this study employed a non-experimental quantitative research design, utilizing a self-reported measure, careful consideration should be made in terms of generalizability of the data to a larger population. Self-reported studies run the risk of social desirability in which survey participants may answer in a fashion that makes them appear to have the beliefs or opinions which would be most socially acceptable (McMillan & Schumacher, 2001), Second, while the use of snowball sampling can aide in the generalizability of the study (Goodman, 1961), this may also account for participant bias with respect with whom the survey measure was shared. Further, while the MAKSS-T was chosen due to its applicability to this study's theoretical framework, it was not designed in the context of Bourdieu's field theory. It is recommended that future research be undertaken to gather qualitative data as a result of these findings to best understand how K12 online teacher knowledge of and skills in addressing student characteristics can shape the field of the online classroom. Finally, as this study collected survey responses via the internet, technology may also be seen as a limitation to this study, as study participants may have experienced network issues while engaging with the survey measure, or, were unfamiliar with the survey tool online. This limitation may, as well, may have had an unintentional affect the outcome of this study.

Summary

In this chapter, the methodology of this non-experimental survey design was outlined. Emphasis was placed on the need for such research given the predominance of qualitative research in the field of K12 online learning, in particular, in the paucity of research into the knowledge of the K12 online teacher. The MAKSS Form-T survey instrument (D'Andrea,

Daniels & Noonan, 2003) was introduced as the chosen survey instrument, along with appropriate reliability coefficient as well as philosophical basis for the use of the measure. Both the study variables as well as the terms to be utilized were defined and outlined in the context of the measure. Additionally, rationale was provided for the participant inclusion criteria as well as the use of snowball sampling. Data analysis information was provided to present possibilities to understanding the relationships between the variables in order to answer the research questions. Finally, study limitations were outlined, including the inherent issues with self-reported measures, as well as possibilities for data errors caused by technological issues.

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Chapter 4:
Findings

The previous chapter, methodology, outlined the specifics of the study design, justification for the use of Hierarchical Linear Modeling, as well as model equations. Additionally, Chapter 3 provided basic demographic information on the participant sample as well as basic descriptive statistics for the study. In the chapter that follows, a summary of these descriptive statistics will be revisited, as well as an in-depth statistical analysis of the dependent variables utilizing Hierarchical Linear Modeling. Following the results of the HLM analysis, results of the open-ended questions outlined in Chapter 3 will be reported. As well, reliability coefficients or the current version (with the addition of the word "online" to the original survey questions) will be reported. Finally, this chapter will concludes with a summary of the results gleaned in this survey before proceeding to the final discussion in Chapter 5.

Review of Descriptive Statistics

The first section of this chapter provides an overview of the descriptive statistics outline previously in Chapter 3. Full results of descriptives can be found following this dissertation, in Appendix D.

Participant Demographics

The table below provides a more condensed summary of Table 2 (See Chapter 3) providing an overview of percentages for each participant characteristic as outlined in the survey. Table 7 provides a summary of this information.

Table 7

Summary of Participant Demographics

Characteristic	Detail	Percent of Sample
Participant Gender		
	Female	89.86%

	Male	8.70%
	Prefer not to answer	1.45%
Participant Age		
	21-30	10.87%
	31-40	30.43%
	41-50	26.81%
	51+	31.88%
Participant Grade Level Taught		
	Lower Elementary	6.52%
	Upper Elementary	5.80%
	Middle School	5.80%
	High School	81.88%
Participant Years of Teaching Experience		
	0-5 yrs	7.25%
	6-10 yrs	21.01%
	11-15 yrs	20.29%
	16+ yrs	51.45%
Participant Years of Teaching Experience Online		
	0-5 yrs	60.87%
	6-10 yrs	28.26%
	11-15 yrs	10.14%
	16+ yrs	0.72%

As noted in Chapter 3, a vast majority of survey respondent were female, comprising nearly 90% of the survey sample. This finding is consistent with national demographic statistics, where, as of 2012, over 76% of all public school teachers were female (NCES, 2016) and with emerging research on the demographics of K12 online teachers (Larson, 2014). Also consistent with national statistics were the ages of study participants with approximately 41% aged 40 and younger, consistent with the national average of 44% aged 40 and under (NCES, 2016), which again is consistent with Larson's finding in 2014. Therefore, the sample of teachers surveyed in this study can be seen a representative to a national sample.

As little demographic information on K12 online teachers exists, the researcher in this survey consulted a 2014 dissertation study in which the author surveyed 325 online teachers

across the United States on demographic characteristics. Larson (2014) found that, consistent with this study, that most online teachers are currently teaching at the highschool level (approximately 70% in the Larson study; 82% in this study). Further, most teachers surveyed in this study have taught for over 15 years (51.45%), also consistent with Larson's (2014) findings.

Reliability of the Measure

In order to ensure the reliability of the measure, a final analysis was done to obtain an alpha reliability coefficient for the two subscales B, for knowledge, and C, for skills. As noted in Chapter 3, the original measure reported reliability of .86 and .93, respectively. In an analysis in STATA following the collection of this data, it was found that subscale B had an alpha of .95 and subscale C had an alpha of .95 as well. Therefore, based on the data provided by this survey, this measure continues to provide high reliability.

Survey Results by Research Question

As baseline descriptive statistics for this survey have been established, in the section that follows study results will be presented, grouped by research question.

Distribution & Central Tendency of Online Teacher Knowledge & Skills: Research Question 1

In response to research questions 1a and 1b, descriptive statistics were run on the two outcome variables KNOW, teacher self-perceived knowledge of online student characteristics and identities and SKILLS, teacher self-perceived skills in addressing the needs of their increasingly diverse online student body. For reference, research questions 1a and 1b are provided below:

Research Question 1a: What is the distribution and central tendency of online teacher self-perceived knowledge of online student identities/characteristics in the field of online learning?

Research Question 1b: What is the distribution and central tendency of online teacher self-perceived skills in addressing the needs their diverse online students in the field of online learning?

In reference to research question 1a, regarding teaching knowledge, the researcher in this study created a variable KNOW, comprising of the mean of all responses to subscale B, using only the original questions from the MAKSS-T survey measure. The results of this calculation are shown in Table 8.

Table 8

Summary of Dependent Variable KNOW

Variable	Obs.	Mean	Std. Dev.	Min	Max
KNOW	125	3.308727	.4801892	2.090909	4

As shown in Table 8, teachers participating in this survey were fairly confident in their knowledge of the characteristics and types of identities that may be present in their students, with a mean knowledge score of 3.30 on a scale of 4. Of the 22 questions in the knowledge subscale of the measure, teachers felt most confident in their understanding of Racism and Nationality (Mean 3.616, SD .50 and .52 respectively) and least confident in their understanding of Affectional Orientation (Mean 2.44, SD .98). Table 9 outlines the means and standard deviations of all items listed in the knowledge subscale.

Table 9

Means & Standard Deviations of Knowledge Subscale

Variable	Obs.	Mean	Std. Dev.	Min	Max
Culture	125	3.592	.4934408	3	4
Ethnicity	125	3.536	.5894776	1	4
Racism	125	3.616	.5045599	2	4
Mainstreaming	125	3.44	.6273344	1	4
Prejudice	125	3.6	.5236349	2	4
Multiculturalism	125	3.416	.6621568	1	4
Ethnocentrism	125	2.96	.9816115	1	4
Pluralism	125	2.8	.9503819	1	4
Privilege	125	3.504	.5905711	1	4
Equity	125	3.472	.60334311	2	4
Conscious Bias	125	3.32	.7890378	1	4
Unconscious Bias	125	3.28	.8191262	1	4
Assimilation	125	3.296	.7622547	1	4
Equality	125	3.552	.5882725	1	4
Race	125	3.6	.5080005	2	4
Nationality	125	3.616	.5202977	2	4
Class	125	3.568	.5438216	2	4
Acculturation	125	2.792	.9943064	1	4
Oppression	125	3.344	.7307089	1	4

Affectational Orientation	125	2.44	.9788077	1	4
Gender ID	125	3.352	.6750866	1	4
Integreation	125	2.696.4	.6378391	1	4

In reference to research question 1b, regarding teacher self-perceived skills in addressing the needs of their online students in terms of the information presented in subscale B, the researcher in this study created a variable SKILL, comprising of the mean of all responses to subscale C, again, using only the original questions from the MAKSS-T survey measure. The results of this calculation are shown in Table 10.

Table 10

Summary of Dependent Variable SKILL

Variable	Obs	Mean	Std. Dev.	Min	Max
SKILL	110	3.110048	.5163984	1.842105	4

Note. While 125 (n = 125) participants completed the full survey, only 110 (n = 110) of survey participants engaged in Subsection C: Skill.

While the sample overall was still fairly confident in their skills in addressing the needs of their online students, this confidence was noticeably less than in the first dependent variable KNOW, with a Mean of 3.11 and a Standard Deviations of .52. Of the 19 questions in the skills subscale of the measure, teachers felt most confident with their skills in teaching of different cultural backgrounds when teaching in the online setting (M = 3.38, SD =.60) and least confident in their skills in critiquing multicultural research (M=2.69, SD=.82). Table 11 outlines the means and standard deviations of all items listed in the skills subscale.

Table 11

Means & Standard Deviations of Skills Subscale

Variable	Obs	Mean	Std. Dev.	Min	Max
SkillsDiff	110	3.381818	.6055071	2	4
SkillsAssess	110	3.2	.701244	1	4
FormalInformal	110	3.345455	.6416281	2	4
Bias2Teacher	110	3.245455	.6931693	2	4
ID Bias	110	3.1	.6900339	1	4
Method	110	3.027273	.7098144	1	4
BehaveCult	110	3.054545	.7399028	1	4
CultComm	110	2.790909	.7306583	1	4
Standardized	110	2.854545	.7399028	1	4
Critique	110	2.690909	.8211142	1	4
ServiceCulture	110	3.181818	.6797439	1	4
ConsultPro	110	3.345455	.5656264	2	4
Resources	110	3.090909	.7486435	1	4
BehaveFemale	110	3.263636	.6306728	2	4
BehaveMale	110	3.236364	.6486015	2	4
Older	110	3.190909	.7102843	1	4
Homosexual	110	3.118182	.7749734	1	4
Lesbian	110	3.118182	.8097096	1	4
MentalHealth	110	2.854545	.8221293	1	4

Hierarchical Linear Models & Advanced Statistical Analysis

In the sections that follow, results of the HLM analysis, in response to research questions 2 and 3, will be presented. Results include necessary HLM table outputs, as well as an exploratory analysis of the presented results. Finally, responses from the open-ended questions added to the end of subscales B and C will be outlined.

Relationships between Academic Field & Online Teacher Knowledge & Skills: Research Question 2

While sample means indicate that most K12 online teachers are fairly confident in their ability to understand and address certain diverse student characteristics and identities, research questions 2a & 2b in this study seek to identify any possible relationships between this level of knowledge and skill and academic field. In order to achieve this goal, and HLM analysis was performed to assess the significance of any relationships apparent between academic field and level of knowledge and skills. To provide context, research questions 2a and 2b are noted below:

Research Question 2a: What is the relationship between academic field and the level of online teacher self-perceived knowledge of online student identities/characteristics in the field of online learning?

Research Question 2b: What is the relationship between academic field and the level of online teacher self-perceived skills in addressing the needs their diverse online students in the field of online learning?

To analyze this relationship, an unconditional model was first run to determine if there was any relationship between academic field and a teacher's self-perceived knowledge of the various characteristic of their online students. Results of the unconditional model for dependent variable KNOW indicate a mean of 3.326, somewhat higher than the mean for variable KNOW calculated in the descriptive statistics above. This finding indicates the existence of some clustering at the subject level. Further, this model demonstrates variation among the subject level (level 2) of the model, with an ICC of .05, indicating that at least 5% of the variation is occurring at the second, or subject, level of the model (Raudenbush & Bryk, 2002). A calculation of the ICC can be seen below in Table 12.

Table 12

ICC for Dependent Variable KNOW

Level	ICC	Std. Err.	95% Conf. Interval
SUB	.0530958	.0522837	.0072512 .3009256

As this first unconditional model demonstrated significant variations between academic fields ($p < .001$), further analysis of the subject area differences was conducted utilizing the predict command in STATA. Results of this analysis can be seen in Table 13.

Table 13

Results of Predictive Analysis of Academic Fields for KNOW

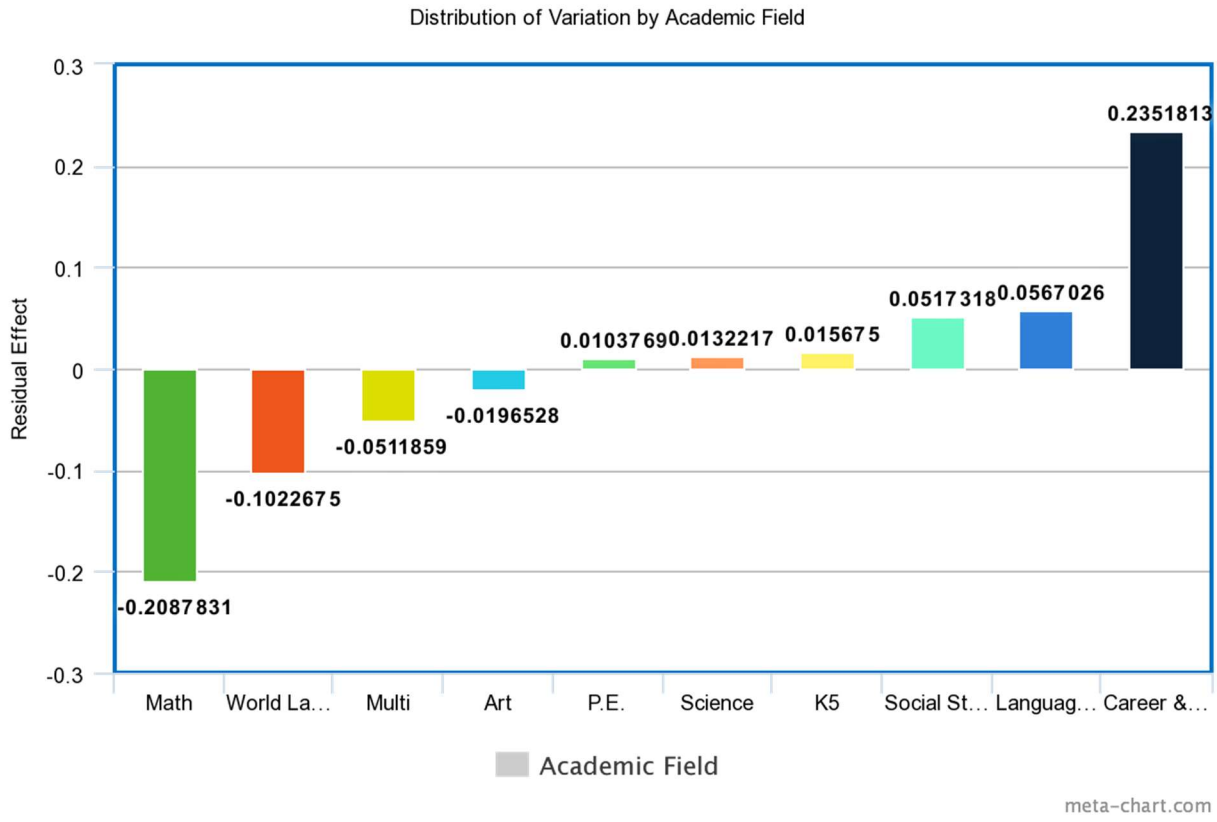
Academic Field	Residual Effect
Math	-.2097831
World Language	-.1022675
Multiple Subject Taught online	-.0511859
Art	-.0196528
P.E.	.0103769
Science	.0132217
K5	.015675

Social Studies	.0517318
Language Arts	.0567026
Career & Technical Education	.2351813

Results of the analysis above demonstrate, in detail, that differences in confidence that exist among academic fields. Of the 12 academic fields (Computer Science was dropped from analysis as there were no values in this field), K12 online teachers teaching in the field of Career and Technical Education felt as if they had a greater knowledge of the types of diverse characteristics among students, as they demonstrated the most positive random effect, while K12 online teachers in the area of mathematics were not as confident. Figure 1 below provides a visualization of this data.

Figure 1

Visualization of Predictive Data for Dependent Variable KNOW



The figure above provides an accurate picture of the differences in level of knowledge of possible students characteristics and identities by subject. As seen in figure 1, Math teachers feel significantly less confident than their other peers in this area of knowledge, while Career & Technical Education teachers feel the most confident. Omitted from the chart above is Computer Science, which was removed from the dataset by STATA due to insufficient number of observations.

To continue the analysis of research question 2, a second unconditional model was run, using the dependent variable SKILL, which examined the self-perceived skills of K12 online teachers' ability to address the need of diverse students in the online setting. Results of the unconditional model for the dependent variable SKILL indicates a mean of 3.16, again, somewhat higher than the mean for variable SKILL calculated in the descriptive statistics. This model also demonstrates variation among the subject level (level 2) of the model, with an ICC of .10, indicating that at least 10% of the variation is occurring at the subject level (Raudenbush & Bryk, 2002). A calculation of the ICC can be seen below in Table 14.

Table 14

ICC for Dependent Variable SKILL

Level	ICC	Std. Err.	95% Conf. Interval
SUB	.100664	.0795978	.0195864 .3854215

As this this unconditional model also demonstrated significant variations between academic fields ($p < .001$) further analysis of the subject area differences was conducted utilizing the predict command in STATA. Results of this analysis can be seen in Table 15.

Table 15

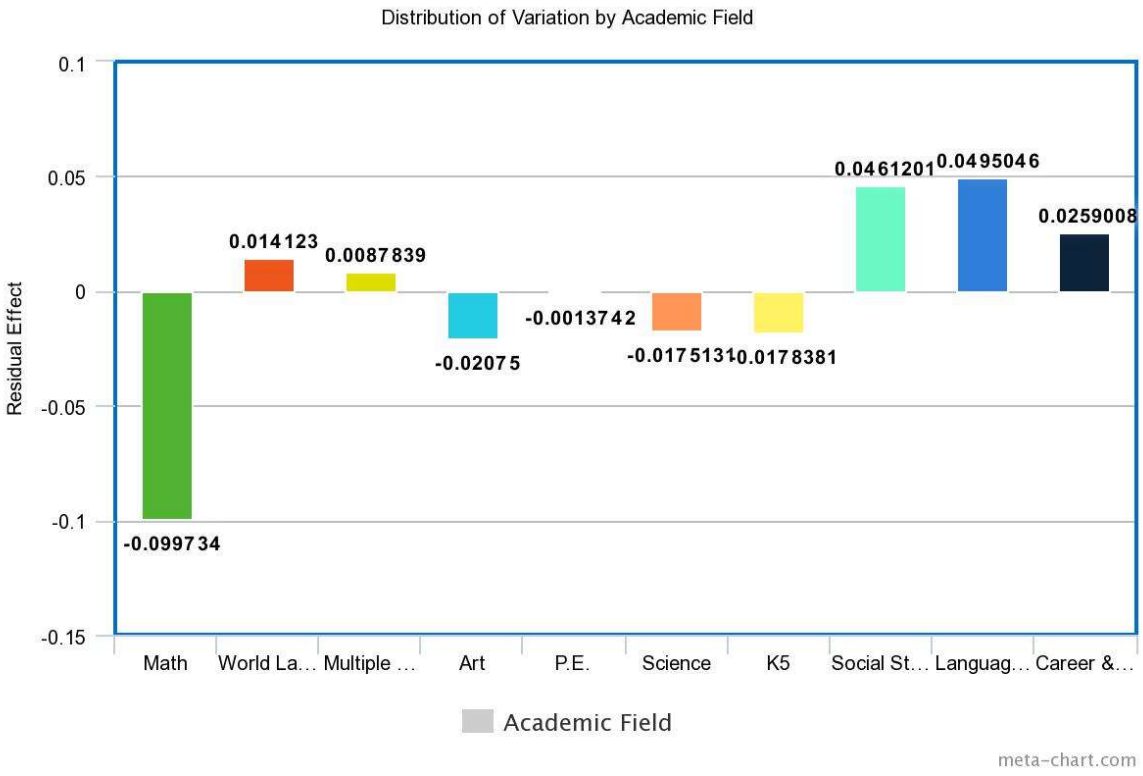
Results of Predictive Analysis of Academic Fields for SKILL

Academic Field	Residual Effect
Math	-.099734
World Language	.014123
Multiple Subjects Taught online	.0087839
Art	-.02075
P.E.	-.0013742
Science	-.0175131
K5	-.0178381
Social Studies	.0461201
Language Arts	.0495046
Career & Technical Education	.0259008

The PREDICT analysis of SKILL demonstrates that of the 12 academic fields (Computer Science was again dropped from this analysis as there were no values in this field), K12 online teachers teaching in the field of Language Arts felt as if they had a high skill level in addressing the needs of diverse online students, as they demonstrated the most positive random effect. K12 online teachers of Social Studies also scored similarly to Language Arts teachers. In this analysis, Career and Technical Education did not have as strong of a positive value as in the analysis of the variable KNOW, however these teachers still had a postive predictive value. K12 online teachers in the area of mathematics were once again the lowest predictive score, indicating that they were not as confident in their skills in addressing the needs of diverse online students. Figure 2 below provides a visualization of this data.

Figure 2

Visualization of Predictive Data for Dependent Variable SKILL



In the figure above, Math teachers feel significantly less confident than their peers in this area of skills in meeting the needs of diverse online students, similar to the prior analysis of the variable KNOW. However, as Figure 2 illustrates, Social Studies and World Language teachers feel a greater level of confidence in their skills in addresses the needs of diverse students. Career & Technical Education teachers also felt positive in their skills, similar to the outcome for the variable KNOW. Omitted from the chart once more is Computer Science, which was removed from the dataset by STATA due to insufficient number of observations.

Relationships between Academic Field, Teacher Characteristics & Online Teacher Knowledge & Skills: Research Question 3

Like the sample means, results of the analysis of the unconditional model indicate that most K12 online teachers are fairly confident in their ability to understand and address certain diverse student characteristics and identities. However, variations do exist in terms of both knowledge and perceived skill level between academic fields, as explored in the previous section.

To continue this analysis, additional models were run to address research questions 3a & 3b to determine whether or not this effect was moderated by any personal characteristics of K12 online teachers, as has been noted to have an effect on online teaching activities in higher education (Jackson, 2017). To provide additional context, research questions 3a and 3b are noted below:

Research Question 3a: Is the relationship between academic field and the level online teacher self-perceived knowledge of online student identities/characteristics in the field of online learning moderated by faculty gender, age, grade level taught, total years of teaching experience or years of experience teaching online?

Research Question 3b: Is the relationship between academic field and the level online teacher self-perceived skills in addressing the needs their diverse online students in the field of online learning moderated by faculty gender, age, grade level taught, total years of teaching experience or years of experience teaching online?

As was the procedure for data analysis prior, the dependent variable KNOW was analyzed first. In this model, only one level 1 predictor (Teacher Characteristics) was significant: Teaching Experience, ($p < .001$). The output demonstrates that for every five additional years of teaching experience, as the variable EXP was divided into categories of five years, that a teachers self-perceived knowledge of the types of characteristics that might be found in their

online students increases by .16 on a scale of 1 to 4. Therefore, the variable EXP (experience) can be seen to moderate the relationship between knowledge of the types of diverse characteristics possible in students (KNOW) and academic field.

To further this analysis, an additional model was run, removing all insignificant predictors in the prior analysis, leaving only the level 2 cluster of Academic Field (SUB) and the level 1 predictor of Experience Teaching (EXP). In this model, the level 1 predictor EXP continued to be significant ($p < .00$), with a greater coefficient of .20. The output demonstrates that for every five additional years of teaching experience, that a teachers self-perceived knowledge of the types of characteristics that might be found in their online students increases by .20 on a scale of 1 to 4. Table 16 provides a summary of the models outline above.

Table 16

Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models of the Predictors of the Dependent Variable KNOW

Parameter	Model 1 (Null)	Model 2	Model 3
		Fixed Effects	
Intercept	3.160	2.659	2.660
Level 1 (Teacher Characteristic)			
Gender		-.068	
Age		-.004	
Grade level taught		.052	
Years teaching experience		.163*	.204*
Years teaching online		.055	
Level 1 Variance	.216	.176	.180
		Random Parameters	
Level 2 (Academic Field)			
Intercept	.027	.010	.009
-2 log likelihood	80.624	71.108	72.392

*NOTE. *p<.05*

Following this analysis, another HLM analysis was run to test research question 3b, utilizing the dependent variable SKILL as the outcome, with the same moderators as above. In this model, there were no significant predictors for the outcome SKILL at the $p < .05$ level. However, the predictor EXPONLINE, years of experience teaching online came very close with a p-value of .053. While this does not meet the threshold for significance in education research (Mitchell & Jolley, 2007), it is close enough to be noted in this analysis. Based on this finding, for every increase in experience teaching online (5 years) there is an increased of .13 in self-perceived skills in addressing the needs of diverse students, on a scale from 1 to 4.

To test and see whether or not the significance of this predictor would increase when all other insignificant predictors were removed, an additional analysis was run to see if the variable EXPONLINE moderated the relationship between Academic Field (SUB) and level of self-perceived skills (SKILL). When removing all insignificant predictors from the model, the variable EXPONLINE, or experience teaching online, does indeed become significant ($p < .05$). In this analysis, for every five years of experience teaching online, a K12 online teacher's self-perceived skill level in addressing the needs of diverse online students increases by .15, on a scale of 1 to 4. A summary of the models for the analysis of research question 3b can be seen in Table 17.

Table 17

Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models of the Predictors of the Dependent Variable SKILL

Parameter	Model 1 (Null)	Model 2	Model 3
		Fixed Effects	
Intercept	3.16	2.716	2.90
Level 1 (Teacher Characteristic)			

Gender		.081	
Age		-.053	
Grade level taught		-.004	
Years teaching experience		.070	
Years teaching online		.070*	.152*
Level 1 Variance	.238	.176	.207
		Random Parameters	
Level 2 (Academic Field)			
Intercept	.0266504	.0163317	.0146496
-2 log likelihood	80.624273	77.522433	78.098567

Note: *$p < .05$

Additional Results

Finally, in the two sections that follow, additional results generated from the survey data will be reported. Included in these results are the teacher responses to open-ended questions, which will be used to triangulate data and further discussion in Chapter 5, as well as the reliability coefficients associated with this study.

Open-Ended Questions

In addition to the MAKSS-T survey measure, two open-ended questions were added to the end of subscales B and C to allow for teachers to submit any additional thoughts they had regarding the information presented in the survey measure. Responses not pertaining to survey questions, or in response to the additional questions regarding online learners not included in the statistical analysis of this survey were eliminated. In particular, a number of open-ended responses questioned the grammatical constructs of the survey measure questions and while this is noteworthy for future use of the MAKSS-T measure, it is not relevant to this study and will not be reported in the results. These responses will be addressed further in Chapter 5 in the discussion of study limitations. Results of the open-ended questions can be seen below in Table 18.

Table 18

Results to Open-Ended Questions

Subscale	Response
Subscale B - Knowledge	
	I am curious to know about your research :)
	I would like research on pluralism, ethnocentrism and acculturation
	I have never heard of 'acculturation' or 'affectional orientation'.
	I have not really heard acculturation brought up in the English classroom, so I would greatly appreciate further information on this term and how it pertains to the high school classroom as a whole.
	the last statement about integration
	I actually research the oppressive nature of our educational system.
	ONE difficulty with the concept of integration in education is its bias toward the dominant culture, but I'm not sure if the question assumes that is the ONLY difficulty, or even the greatest difficulty.
	'implicit bias' of integration...
	The statement: The difficulty with the concept of 'integration' in its implicit bias in factor of the dominant culture makes no sense to me, I'm not sure what it is asking me, do I believe that implicit bias is a factor in the dominant culture and the concept of integration? The concept of integration is difficult due to implicit bias? I'm

	not really sure what that statement means. Therefore, my response shouldn't be considered as I was required to make a response to a statement that was nonsensical to me.
Subscale C	
	I might not be a good example of 'an average American teacher' as I am not an American citizen (green card holder), lived in four countries (developed and not) prior to entering the US and speak 3 different languages. I think it affects your understanding of some concepts like culture, justice, integration, assimilation and the like.
	Never had experience teaching (or training about teaching) homosexual students.
	My ability to go beyond instruction is limited for my OCS students
	During my f2f and online teaching career, I have taught students from more than 50 countries. As I have myself an international background, I am able to assess needs and challenges of students with diverse cultural - racial - ethnic backgrounds and continue to learn new ways of helping my students succeed in class by keeping communication channels always open and responding to my students' requests in a timely fashion.
	While I feel confident in my own abilities as an online teacher and in working to meet the needs of my online students, I've answered these questions based on the current provided administrative support, available professional development offered to teachers and professional dialogue/plan to address these

concerns in the online program where I teach.

Research on multicultural resources and information on strategies would be good.

Teaching psychology-we address most of these concerns, including prejudice, bias, gender identity, self efficacy, etc

A student's sexual preference does not mean that the classroom changes dramatically, unless it is dealing with issues that arise because of the sexual preference. In this case, I fully support the student. I am aware that one of my students is a lesbian, but otherwise, I do not even know what the rest of my student's preferred orientation is. It is not something that has been asked of them in our class.

Several of these terms are specialized jargon that does not speak to me. I teach teenagers. I analyze each individual's needs, not by their ethnicity or orientation but by what they say and do.

I've been teaching for awhile and have dealt with all these types of students. These are only issues if the teacher or student MAKES it an issue.

My ability to go beyond instruction is limited for my OCS students

I might not be a good example of 'an average American teacher' as I am not an American citizen (green card holder), lived in four countries (developed and not) prior to entering the US and speak 3 different languages. I think it affects your understanding of some concepts like culture, justice, integration, assimilation and the like.

	Never had experience teaching (or training about teaching) homosexual students.

Initial analysis of the opened ended statements revealed that, once statements regarding removed questions and statements not pertaining to the purpose of this study were removed, it was found that 9% of survey respondents provided responses to Subscale B and 10% of survey respondents provided responses to the open-ended questions in Subscale C. In general teachers responding to these questions were interested in more information regarding the topic of the survey, some even requesting training in these areas. Some teachers, however, openly disregarded the theories as jargon and unimportant. The implications of these responses will be used to both triangulate data as well as add to the discussion in Chapter 5.

Summary of Chapter 4

In this chapter, basic descriptive statistics for the sample were provided, giving a demographic overview of the K12 online teachers who chose to participate in this student. Likewise, multilevel analysis of the responses to the survey questions were provided, clustered by research question. Finally, this chapter concluded with a reporting of the applicable responses to the open-ended questions added to Subscales B & C, as well as reliability alpha for the survey measure. In the following chapter, the results of this data will be further analyzed and the research study will be discussed and concluded.

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Chapter 5:

Conclusions and Recommendations

In this final chapter, a discussion and analysis of the data collected will be provided, in terms of the research questions and the theoretical framework. Further, study limitations will be noted. Finally, recommendations for both practice as well as future research will be provided in order to advance the research agenda.

Possible Teacher Types as a Basis for Analysis

When this study was undertaken, the researcher surmised four possible teacher "types" that could be presented as outcomes of this survey. The four teacher types, with accompanying fictional teachers for a point of reference, are presented below in Figure 3.

Figure 3

Possible Teacher Types

The first teacher type, Miss Grotke, from Disney's Recess, can be considered a teacher that has both the knowledge of her diverse student body as well as the skills to address their diverse needs. In 2017, Affinity magazine noted the character of Miss Grotke as both progressive and "woke" (Essack, 2017), a modern slang term indicating an awareness of, as well as active involvement in current social issues (Merriam-Webster, 2018). Such a teacher would be ideally prepared to meet the increasingly diverse needs of the changing online student population. The second teacher type, exemplified by LouAnne Johnson from the 1995 film Dangerous Minds, represents a teacher that, while well meaning and possessing skills in education (from her military experiences in this example) does not possess the knowledge of their students in order to understand their specific needs based on their unique characteristics and identities. This is a common archetype in modern popular culture and film, the teacher taking on the role of "savior" of her or her students, who, unlike the teacher, do not have a clear understanding of or concern

for their futures (Rhem, 2014). Ms. Johnson's training in dealing with her diverse student population consists only of the advice to “get their attention” (Carter, 2009), but no education on the students' unique characteristics and identities and how these characteristics may impact their learning. The third teacher type, as noted in the figure, is represented by Roland Pryzbylewski, known as Prez, from the fourth season of HBO’s hit series “The Wire.” With his experience in dealing with young minority youth as a police officer, Prez has the knowledge of his students' diverse characteristics and identities, however, lacks the skills in addressing the needs resulting from these unique characteristics (Trier, 2010). Finally, the fourth teacher type has no knowledge or understanding of diverse student characteristics and identities and no skills in addressing them were they to have said knowledge. In this case, Edna Krabappel, of the Fox's the Simpsons represents this teacher type as she has no concept of her students’ characteristics or abilities (she often states that as they are from Springfield they will "amount to nothing" or simply end up "pumping gas") and she seems to have no skills in addressing their needs, serving as more of an authoritarian than a teacher (Kantor, Kantor, Kantor, Eaton & Kantor, 2001).

While these four teacher types do not represent all teachers teaching in a K12 context, or all that are teaching in an online K12 setting, they provide readers with a shorthand and contextual example to explore the variables explored in this study, and an easy way to discuss visibility among different fields. As this study sought to explore both K12 online teachers' knowledge as well as their skills, these two variables provide context as the results of this dissertation are considered and further implications are offered. These four teacher types will be revisited following the discussion of the research question to provide a clear synthesis of the results.

Discussion of Research Question 1

In terms of research question one, analysis of basic descriptive statistics, including distributions and measures of central tendency, revealed that in both of the areas of knowledge of the types of characteristics that may be present in online students as well as teachers' self-perceived skills in addressing the unique needs of these students, teachers felt "good" in terms of their knowledge of student characteristics and identities and their skill levels in meeting the needs of these students. Therefore, without deeper analysis of the results or other opposing factors and relationships, the conclusion may be drawn that teachers participating in this survey are well-equipped with the knowledge necessary to shape the field of the online classroom in such a way that takes into account these diverse students needs. In terms of the theoretical framework set forth in this study, teachers need to have the knowledge of the types of characteristics and identities present in their students in order to best shape the field of their classroom. As was noted in Chapter 2, online teachers often have greater control over the shaping of the field in the online classroom than their face-to-face counterparts (Lowrie & Jorgenssen, 2014), making this knowledge much more pressing for these K12 online teachers. For example, without the knowledge of student cultural identities and students' understanding of American culture and slang, a K12 online instructor may inadvertently shape the field of the classroom to place a greater value on the cultural capital ("legitimate language" (Bourdieu, 1991)) of native English speakers over the capital of ELL or ESL students, therefore affecting both student engagement and satisfaction of these student populations. While this is merely one example of many possible scenarios, this points to the need for increased education for teachers in these unique characteristics and identities.

However, in reviewing the means of each individual question no single question response exceeded an average of 3.5 on a 4 point Likert-type scale, and a number of responses were in the

high 2's (2.8, etc.) Therefore, while teachers reported to be confident in their knowledge and skills, they were not overly confident, providing support for the continuation of the analysis. When examining the individual survey questions within the outcome variables, certain responses to specific questions emerged as a point for discussion. For the outcome variable KNOW, the terms in which teachers expressed the greatest level of confidence in their knowledge were "Racism" and "Nationality," while expressing the lowest level of confidence in their knowledge for "Affectional Orientation." Given the newness of many of the terms in the survey in the context of teaching and teacher education (D'Andrea, Daniels & Noonan, 2003), the argument may be made that teacher professional development and pre-service teacher education to date does not explores issues of sexuality in terms of student learning as deeply as it explores issues of race and nationality. In fact, recent literature on these concepts as a part of pre-service teacher education support this argument, and cite issues of sexuality as a current need for education in teacher preparation programs (Sanders, Haselden & Moss, 2013). As teachers shape the field of their online classroom, considerations of not only ethnicity or nationality, but also considerations of sexuality and sexual preference must be taken into account to enhance the academic experiences of their students.

When examining the individual survey questions of the second outcome variable SKILL, there were also clear differences between what K12 online teachers had confidence in addressing, and what areas were ones in which they felt limited in their skills. Of the 19 skills questions presented in the survey measure, K12 online teachers were most confident in their ability to address the needs of online students with cultural backgrounds different from their own. This finding is consistent with teachers' self-perceptions of cultural awareness and teaching skills in the Tapanes, Smith and White (2009) study, where 100% of the teachers felt as they

were aware of the cultural differences and the subsequent needs of their students. Such a finding may point to the possibility of K12 online teachers abilities to not only shape the field of the online classroom to address the needs of these students, but, as well, allow the field to be shaped by the unique characteristics of these students. However, it is important to note, as well, in the Tapanes, Smith and White study (2009), ***students*** did not feel as if their teachers had the levels of knowledge and skill levels reported, nor did they feel that their unique characteristics and identities were taken into consideration in their online courses. Further, Tapanes et al. (2009) found that while instructors felt confident in their abilities to address these issues, that they reported having no actual knowledge of the cultural differences present in their online courses.

The areas in which K12 online teachers felt weakest in their abilities was in critiquing multicultural research. In fact, one open-ended response specifically requested additional information on where to access examples of multicultural research. Given the continuing criticism regarding the divide between research and practice in the field of K12 online education (Rice, 2014) and the lack of K12 online programs' inability to collect and analyze data to better inform practice (Ferdig & Cavanaugh, 2011), such a finding continues to demonstrate support for this issue in educational practice and the impact that the divide between practitioner and researcher may have on meeting the needs of diverse students. As Rice (2014) argues that online learning has been one of the most disruptive influences on the modern K12 educational system, and advocates for K12 online policies that not only keep the needs of the students in mind, but as well incorporate the growing body of research in the field in order to assist teachers in meeting these needs. Kennedy and Ferdig (2014) note that many new to online learning approach both research and practice as if they were “discovering it for the first time”, unaware of the nearly twenty years of research that can inform both future research and current educational practice.

Daum and Buschner (2014) further argue that research lags behind practice in terms of online learning and that such a disconnect is pushing online learning ahead at a rate of speed potentially detrimental to students. As online learning continues to grow, and the student population continues to change, it is imperative that K12 online teachers are given the tools necessary to not only access the research in the field, but to understand the lessons gleaned from this research. In this case, K12 online teachers are excluded from a field of their own, the area of multicultural research, which, in turn, can negatively impact how they go on to shape the field of their online classroom. As fields both overlap and intersect, these higher level interactions between the fields of the teacher can and will impact the more specific fields of the students. This must be taken into careful considerations as one of the implications of this study.

This particular self-perceived weakness is a very interesting outcome of this analysis given the theoretical lens of this study. Bourdieu was a strong critic of research, believing that much empirical research in the area of the role characteristics and identities of individuals may play into their positioning within a field, did not take into account various factors of capital and how this can affect social mobility and social status (Sullivan, 2002). In particular, Bourdieu spoke strongly against "lived experience" research in that it was often a reflection of the lived experience of the researcher rather than the subjects being researched (Bourdieu, 1984). Such fallacies can often be found in multicultural research. Rooted in a study of mental illness, Fields (2010) argues that the definitions used in multicultural research vary greatly and such variations often cause additional issues of misunderstanding of cultures. Webb-Johnson, Artiles, Trent, Jackson and Velox (1998) point to a disconnect between current multicultural research and meeting specific student needs, such as students with disabilities. Further, Pritchett (2011) contends that white teachers in the United States educational system, the dominant racial group

among teachers, despite education into multicultural issues tend to view the world through a "monolithic cultural gaze" which can impact their interactions with students possessing characteristics and identities different than their own. Additional exposure to and education in the analysis of multicultural education, then, may not only benefit the teachers themselves, but as well, impact the body of research into multicultural issues in education to address these fallacies and to allow teaching practitioners to better report on the experiences of their students.

Therefore, the need for K12 online teachers to be not only exposed to multicultural research but to be given the tools to critique this research is important in increasing the overall professionalism of K12 online teachers and improving their practice. As the literature has noted a need for online teachers to have an understanding of the types of students that may be present in their courses (Du, Zhou, Xu & Lei, 2016; Tapanes, Smith & White, 2009), additional professional development and pre-service training to educate teachers on these student characteristics may lead to increased overall knowledge as well as the skills in addressing these needs within the K12 online teacher population.

Discussion of Research Question 2

Research question 2 sought to explore the possible relationship between academic field and the level of knowledge and skills reported by K12 online teachers. These teacher-level fields were demonstrated in the literature on higher education to have significant impact on how online instructors design, structure and teach their courses (Horvitz, Beach, Anderson & Xia, 2014; Jacobs, 2013), thereby impacting the formation of the fields of their online classrooms. The unconditional model run to test this research question found an ICC of 0.05, indicating that at least 5% of variation in teacher responses was explained by academic field. While this percentage is low, it is statistically significant and points to research in higher education

concerning the impact of academic field on online teaching (Horvitz, Beach, Anderson & Xia, 2014; Jacobs, 2013). Such a finding demonstrates that academic field may also greatly impact K12 online teacher skills and self-efficacy in online instruction as the literature demonstrates it to be a factor in online higher education. In particular, K12 online teachers participating in this study, who considered themselves members of the academic field of "Career and Technical Education," felt the most confident in both their knowledge of online student characteristics as well as their skills in addressing the needs of these students. This is somewhat consistent with the findings of Horvitz, Beach, Anderson & Xia (2014), who found in their quantitative study that faculty from professional schools (Accounting, Business, etc.) possessed a greater self-efficacy in not only online instruction and the general use of computers for learning, but as well in managing their online classroom communities and engaging online students. While Horvitz et al. (2014) did not speak to the types of characteristics and identities discussed in this study, it still provides support for career and technical online instructors possessing greater skills and knowledge in meeting the needs of their online students. In terms of a Bourdieusian lens, perhaps K12 online instructors in the area of Career and Technical Education, by the inherent focus of their subject areas, have greater skills in identifying the types of capital present in their students and use this capital to shape the fields of their online classrooms in such a way that better balances power between different student identities. In *Distinction,* Bourdieu (1984) argued that higher education and secondary teachers were members of the petite bourgeoisie, their education and expertise leading to a level of cultural sophistication (understanding of the appropriate culture of the elite), not possessed by the factory workers and other blue-collared professions. This theory may point to a disconnect between teachers and students when it comes to identities, once that is bridged when the teacher has more blue-collar cultural capital and can therefore

recognize the value of this capital in the field of their online class. Jacobs (2008), in her article on the *habitus* of pre-service art educators noted that these teachers felt as if their academic field was not regarded by both administrators and parents/the community as academically rigorous in comparison to math, science, history or language arts. Therefore, teachers struggled with deciphering what was important to value in their classroom, in many cases disregarding ideas and art typically associated with pop culture. While little empirical research has been conducted on the experiences of online Career and Technical Education teachers (Garza Mitchell, 2017), these teachers, in particular, often have increased exposure to instructional technologies and their real world applications and therefore increased skills in this area (Garza Mitchell, 2017; Ignatow & Robinson, 2017). Further, teachers in the academic field of Career and Technical Education in the United States are required to have work experience in the area in which they will teach (Bureau of Labor Statistics, 2018). This may therefore allow such teachers in the online arena to not only value the capital that students may bring to the online classroom, but possess the knowledge to identify when students lack the desired capital and can adjust their field accordingly.

On the other hand, K12 online teachers in the area of Mathematics felt weakest in both their understanding of certain terms related to student characteristics and identities as well as their perceived skills in addressing the needs of those students. While Mathematics is not specifically mentioned in the literature regarding the effect of academic field on online teacher self-efficacy, it is interesting to note that studies into the role of capital in K12 education have pointed to, specifically, the area of math and how, in mathematics testing in particular, values capital typically possessed with white, middle class families, over other forms of capital (Cooper, 1998; Lowrie & Jorgenssen, 2014; Nolan, 2016). From a Bourdieusian lens, it does correlate that

a subject area, noted to be one of the elite, Math, (Jorgenson, Gates & Roper, 2014; Nolan, 2016; Williams and Choudry, 2016) would be the area in which K12 online teachers felt the weakest in both their knowledge and skills. Mathematics, in particular, has come under scrutiny for its exclusivity (Jorgenson, Gates & Roper, 2014) and a subject of its own research through the Bourdieusian lens (Willams & Choudry, 2016). Williams and Choudry (2016) argue that Bourdieu may very well see the structure of modern mathematics instruction as a machoism by which to extend inequality into perpetuity under the illusion of increased social equalization. Therefore, under such a system, K12 online teachers of mathematics would by extension be denied the access to such knowledge and skills as they do not conform with the current educational structure.

Discussion of Research Question 3

The last of the three research questions set forth in this study explored the relationship between academic field and if this relationship is moderated by any of the personal characteristics present in the K12 online instructors as this was noted in the literature on teacher self-efficacy in online teaching skills for higher education as having an effect on these skills (Akroyd, Patton & Bracken, 2013; Barker, 2003; Fish & Gill, 2009; Horvitz, Beach, Anderson & Xia, 2014; Lloyd, Byrne & McCoy, 2012; Jacobs, 2013; Mayfield-Johnson, Mohn, Mitra, Young & McCullers, 2014; McQuiggan, 2012; Shea, 2006). Much in the way that individual student characteristics can affect the field of the online classroom, both in a student's ability to navigate the given field of the online classroom as well as how their individual characteristics may affect the formation of the field itself, personal characteristics of a K12 online teacher may was well have an impact of their formation and participation in the field of the online classroom. Results of this analysis found that not only does academic field continue to have significant impact on

K12 online teacher skills and knowledge, but that teacher experience, both in general and in online instruction also has significant impact on K12 online teacher knowledge and skills in addressing diverse online student characteristics and identities.

In terms of the outcome variable for knowledge (KNOW), it was found that total teaching experience, regardless of platform led to a greater understanding of the terms associated with diverse student characteristics and identities. This, as well, is supported by literature in higher education, as Akroyd, Patton and Bracken (2013) found that instructors teaching for 15 or more years felt better prepared for online instruction. Further, this finding points to the possibility that professional development programs for current K12 online teachers may be addressing current research and understandings of student characteristics and identities, while preservice teacher education programs might lack this component. Preservice teacher education programs may consider adding additional training in understanding these characteristics, in the online environment in particular. This also may point to future potential work into online teacher habitus, as Bourdieusian scholars note the role experience plays in the formation of this habitus (Flynn, 2015; Warwick, McCray & Board, 2017). Flynn (2015) argues that a teacher's habitus can have direct impact on their practice and impact their decisions in shaping the field of their classroom. Newer teachers, therefore, will lack the life and professional experiences of their peers and therefore have a possibly less developed *habitus* for navigating their own field in the role of online classroom facilitator. For example, studies into disadvantaged youth and their uses of technology, point to differences in online habitus as a result of their experiences and access to technology (Ignatow & Robinson, 2017). Such experiences and access issues may also influence the online teacher and by extension their habits in navigating and creating the field of the online classroom.

When examining the SKILLS outcome variable in this study, it was, not surprisingly, teacher experience teaching online that led to a greater level of perceived skills in addressing the needs on online students with diverse characteristics and identities. The Lewthwaite, Knight and Lenoy (2015) study supports this finding as the teachers interviewed in this study were experienced online teachers and all reported an understanding of the unique characteristics of their online students and the feeling of possessing the skills necessary to address the needs of their unique student population. This points to a need in better preservice teacher preparation in the skills necessary to address the needs of diverse online students, as, given the continuing growth of K12 online programs across the United States, preservice teachers will be needed in greater numbers to meet this need in the workforce (Kennedy & Archambault, 2012). Pallof and Pratt (2007) in particular note the impact that lack of experience with online teaching and instructional technology can have on newer online teachers' levels of anxiety and self-efficacy in teaching their online courses. As mentioned in the discussion of the study variable KNOW, just as overall experiences in teaching will strengthen a teachers' skills, *habitus* in the field of their classroom and their skill is shaping the field of their own classroom, similar experiences in the online setting will also impact those factors in a virtual environment.

Discussion of Open-Ended Responses

Finally, in order to triangulate the results of the quantitative study, open-ended questions were added to the end of Subscales B and C. The full results of these responses, after the exclusion of the responses to the additional deflection questions and responses not answering the research questions, can be reviewed in Chapter 4. Analysis of these responses demonstrates that K12 online teachers do not fully understand a number of the terms associated with diverse student populations and desire additional training and information regarding these topics. Some

teachers referred to the terminology used in the survey as “jargon,” indicating a lack of understanding between the research terms and their usefulness to the practitioner (Rice, 2009) but, as well, a lack of understanding of the types of characteristics that lead to students manifesting different types of capital. Further, this again brings to light Bourdieu’s (1991) concept of legitimate language and its relationship to what capital is valued in a given field. Does the use of such “jargon” when describing the needs of diverse online students exclude K12 online teachers, placing a greater value on the knowledge of the term than perhaps the knowledge of the ideal in practice? Such considerations should also be made in the field of K12 online research to better value the capital possessed by the K12 online teachers themselves, rather than shaping the field of K12 online research to place such a high value on terminology.

Further, open-ended responses following the questions in subscale B also provide support for the quantitative results to research questions 1 and 2. Terms identified by teachers in the open-ended portion of Subscale B cited most frequently a lack of understanding of the term "Affectional Orientation" as well as "Acculturation," which were the terms from the survey that had the lowest overall mean. One response, in particular, requested additional information on not only "Acculturation," but how this can affect the English (subject area) classroom.

Additional responses to the open-ended questions, in particular the question following Subscale C, offered surprising findings from teacher participants. First, certain teachers identified themselves as unique in that they were immigrants to the United States and therefore felt that, while they possess skills in dealing with cultural issues and diversity, that they lacked experience and skills in teaching homosexual students. In fact, lack of training in addressing the unique needs of homosexual students appeared to be a pattern in the open-ended responses to Subscale C, with teachers, as they had in Subscale B, requesting further training and information

on addressing the needs of these students. Some teachers also expressed feeling limited in their abilities to go beyond instruction (not defined by participant) in the online setting. This may perhaps demonstrate that online teachers, while aware of what types of characteristics MAY be present in their students are not aware of that types of characteristics that ARE present in their students. This begs the question: Why are K12 online teachers not aware of these characteristics? Are they not being supplied the necessary information by their administrations, or are there other factors preventing the acquisition of this knowledge? While this dissertation did not seek to find the answers to these questions, it does bring to light the need to consider these possibilities.

Finally, certain responses by teacher participants were surprising, and point to a clear value on certain types of capital in the field of the online classroom. One teacher responded that such characteristics and identities in online students are only an issue "if the teacher or the student MAKES (capital letters used by respondent) it an issue." Another replied that they teach individuals not ethnicities, noting that they target the individual needs of the student. In both cases, the valued capital was more focused toward the completion of coursework and adherence to the pre-established expectations of their constructed fields. Bourdieu (1984) speaks of the influence such values can have on a social field when, even when participants are at equal educational levels, knowledge of specific socially or culturally desirable information can place others at an advantage within the field. Further, such responses point to a limited understanding of the needs of students based on their personal characteristics and identity, and possibly a misunderstanding of how to address these unique needs. This is similar to the findings by Lowrie and Jorgensen (2014) in which students from more culturally diverse backgrounds struggled to succeed in a mathematics online course, from, what the study authors suggested, was a lack of understanding of the unique needs resulting from personal characteristics and identities.

Moreover, one teacher disclosed that while they themselves felt comfortable with these terms and their skill level that they felt as if their administration largely ignored these concerns and did not train their teachers to understand or address these needs. Such a response is equally concerning as it is the responsibility of school administrations to offer continuing professional development to their faculty (Johansson & Bredeson, 2000), however, that burden, in the view of some scholars, continues to fall on institutes of higher education (Ducharme & Ducharme, 1996). These responses also point to a lack of understanding in not only the terminology associated with diverse student needs, but, as well, the "hidden" effect that these characteristics may have on student understanding of the content, engagement and overall satisfaction in their online courses. In this case, K12 online teachers may be themselves disconnected from their own professional field in a way that, in turn, impacts their formations of the interconnected field of the online classroom.

Synthesis & Triangulation of Responses

Survey responses in all subscales as well as open ended questions paint a clear picture of the position of K12 online teachers in the United States. Descriptive statistics, in response to research question 1, demonstrate that not only are K12 online teachers similar demographically to their face-to-face peers (NCES, 2016) but also confirms the findings of earlier studies on K12 online teacher demographics (Larson, 2014). This provides this study with justification for generalizability of results. Further, these descriptive statistics demonstrate that K12 online teachers felt moderately "good" in both their knowledge and their skills in addressing the unique needs of students with diverse student characteristics and identities. While the researcher acknowledges that this survey was self-reported, this finding is consistent with Tapanes, Smith &

White's (2009) study in which online teachers also felt confident in their abilities in terms of knowledge and skills in dealing with the online student characteristics.

Results of research questions two and three continue to confirm findings in the literature. While 5% of the variation in responses was explained by academic field (Horvitz, Beach, Anderson & Xia, 2014; Jacobs, 2013), this also means that 95% was not, most likely due to the fact that teachers did feel confident in their abilities. Differences that did exist were in academic fields, again, supported by the literature (Horvitz, Beach, Anderson & Xia, 2014; Jacobs, 2013). Further, the finding of greater teacher experience, both with teaching in general as well as online teaching, resulting in a greater level of knowledge of and skills in assessing the needs of online students supports literature as well (Akroyd, Patton and Bracken, 2013; Lewthwaite, Knight & Lenoy, 2015). Therefore, given that few studies examine K12 online teachers in comparison to studies on this topic in higher education, findings of this study support similarities between the practice of higher education online instructors and K12 online instructors.

Finally, responses to the open-ended questions added to the end of the two subscales triangulates all data, providing anecdotal support for the mean of moderate "good"; showing that while teachers felt "good" in regards to their understanding of certain terminology, that they had both specific questions regarding the terms used in the survey measure, and desired additional training in these areas in regards to their online student communities.

Four Teacher Types in the Results

To best synthesize these findings, the four teacher types explored earlier in this chapter will be revisited. As previously noted, the researcher engaged in this study identified four possible teacher types based on possible outcomes to this survey for demonstration purposes, to provide context when thinking about the types of teachers that may impact the field of the online

classroom. Those four teacher types were teachers that: have knowledge and skills; have knowledge and lack skills; have skills and lack knowledge; lack skills and knowledge. Based on the results of this survey, it appears that most teachers have "good" though not "very good" knowledge, thereby eliminating teacher type four, Edna Krabappel of the Simpsons, who lacked both the knowledge and the skills of her students' diverse student characteristics and identities. Additionally, such a result brings into question (however does not eliminate) teacher type two, LouAnn Johnson from Dangerous Minds.

In terms of skills, teachers also felt "good" about their skills in addressing the needs of their diverse online student population, therefore bringing into question teacher type three, Mr. Prez from the Wire. However, given the differences in academic field, Math teachers showing weaker skills and knowledge than their counterparts in other subjects, in particular Career and Technical Education, as well as the differences in knowledge and skills level by years of experience, and the responses to the open-ended questions eliminate the first teacher type, Miss Grotke from Disney's Recess can be easily eliminated.

Therefore, based on the results of this survey alone, it appears that K12 online teachers mostly likely fall somewhere between teacher types 2 and 3, in which they may or may not have the knowledge of the types of unique characteristics and identities in their online students, and, may or may not have the necessary skills to address these needs. Recalling the popular culture references used to create these teacher types, in both cases teachers possess a great desire to help their students, recognize but do not fully understand the differences, and, welcome any assistance in creating strategies to help students attain optimal academic achievement, it is not surprising that survey results point to such a teacher in the real-world applications of online learning. While these teacher types were provided to give better context to readers outside of the realm of

education, the characteristics and identities of the teachers themselves allow for the creation of a field, albeit fictional, which can provide context for understanding the complexities of diverse student populations in the classroom.

Field Theory in the Online Classroom Revisited

As Bourdieu's field theory provided the theoretical basis for this study, the final analysis of this data must be made through the lens of his theories. In Chapter 2, it was explained that while not widely explored in the area of K12 online learning, research into the field of online learning in general has noted the great influence that online teachers have on the shaping of their field in the online classroom (Lowrie & Jorgenssen, 2014). As this study has noted the growing level of diversity in the online setting, it is arguably important for online teachers to have both knowledge of and skills in dealing with the unique needs of this diverse body of learners.

K12 online teachers participating in this study reported that they feel "good" about their level of knowledge in terms of possible student characteristics and identities. While this research could have demonstrated that K12 online instructors felt "limited" or "very limited" in their knowledge of the terminology relating to student characteristics, it does show that teachers do have some knowledge of these possible characteristics in their students. This study also demonstrates that next to no teacher felt as if they had a "very good" knowledge of these terms, which may suggest that K12 online teachers who are responsible for shaping the field of the online classroom, are not the experts that might be expected to hold such power in K12 online education. As mentioned earlier in this chapter, Bourdieu (1984) classified secondary teachers[4] (comprising 88% of the respondents in this study), as members of the petite bourgeoisie, by

[4] It is important to take into consideration that such original claims by Bourdieu are based on his experience with and research on the secondary and higher education systems of France, his later works did apply his observations in France to other western societies (Bourdieu, 1998), and as such, these theories can provide a framework of understanding of the disparities and inequalities of the American educational system.

extension disconnected from the working class. This gap between “good” and “very good” knowledge levels may provide evidence for this theory. As many K12 online teachers most likely have been exposed to such terminology in their professional development, it is possible that the professional development that is not presenting the information in a meaningful fashion, or, following up with continued professional support to implement these strategies (Crawford, 2014). Responses to the open-ended questions requesting further information point to the training possibly that these teachers desire to receive the proper training and to take a more active role in shaping their own fields rather than allowing the field to be shaped for them (Nolan, 2016) or to replicate the dominant culture of which they are a part (Bourdieu, 1984).

Further, responses to research question 3 indicate that, as teachers gain more experience in their teaching career, they are both more aware of students' unique characteristics and identities and feel better prepared in addressing the needs that may arise as a result of these characteristics and identities. This may demonstrate that, as K12 teachers, both on and offline, gain experience in their practice, that they adjust their personal *habitus* to navigate the discriminatory field of K12 education (Williams & Choudry, 2016), and, are learning to shape their own fields in a way that is best for their students. with the fields which they are shaping. Additionally, Bourdieu might not necessarily agree that an expert in these terms and ideas would be the best candidate for shaping the field (i.e. building the course or course interactions) as their expertise may be merely a better understanding of the cultural capital necessary to succeed in the field (of teaching) and that they were no better equipped than those who merely had a "good" understanding of these types of characteristics and identities (Bourdieu, 1984).

Also of note, in terms of K12 online teacher perceived skills, was the area in which teachers felt weakest: research critique. As noted earlier in this study, there remains a disconnect

between research and practice in K12 online education (Rice, 2014), which Bourdieu (1984) might attribute to cultural alienation of K12 practitioners by higher education researchers. Further, as Bourdieu (1984) himself noted the importance of critiquing research in an effort to insure that the subjects were truly represented rather than the opinions of the researchers, it is critical that, if professional development programs were to expose K12 online teachers to multicultural research, that they are equally given the skills in critiquing this work.

Finally, Bourdieu argued that schooling in advanced capitalist societies, such as we have in the United States, has been legally unable to simply deny access to certain groups of citizens[5] so instead, these schools have created a structure which values the capital of those in power (Collin, 2011). This non-physical denial is apparent in some of the open-ended responses given in this study (in particular those teachers that felt these terms to be "jargon," or the ideas presented to "only matter if the student makes a big deal about it"). This causes one to question as to whether or not the teacher participants in this research study were purposefully excluding diverse students in their online, or, and more likely, were they shaped in turn by the field of the online classroom itself, through institutional and governmental policy. Further, the admission of teachers that they were *not experts* in this topic along with the high number of requests for additional training and information on the topics covered in this study, may demonstrate that K12 online teachers are aware of this structural system and desire to include these students typically excluded by the status quo, thereby electing to gain more experience in order to reshape

[5] While legally all students, regardless of race, religion or other characteristic are allowed to attend public schools through a number of legal rulings since 1896 and more definitively with the Civil Rights Act of 1964 (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld & York, 1966), the argument could be made that current issues in minority education, such as the school to prison pipeline, have arisen as legal ways by which to deny admittance (McCarter, 2017). This is, however, outside of the scope of this dissertation, but worth noting for future research.

their fields. K12 online teachers' willingness to learn, and, by extension, change their *habits* in teaching online, point to a positive outcome of this research.

Noted Limitations to the Study

There are a number of limitations to be noted in this study that may affect generalizability as well as have implications for future research. To begin, there are limitations associated with the survey design itself that may affect generalizability of these results. As this survey was a self-reported measure, the results may be influenced by social desirability (Mitchell & Jolley, 2007). Additionally, self-reported measures also raise the question as to how do self-perceptions align with real knowledge, as was evident in Tapanes et al. (2009) and how this might affect the outcome of this study.

Further, there were a number of teacher responses in the open-ended questions that noted aspects of the MAKSS-T survey utilized to be confusing, and, in some instances, grammatically incorrect. As the researcher in this study made no alterations to the survey measure outside of the ones noted in Chapter 3, this may indicate that confusion concerning the survey measure itself might have resulted in skewed results (McMillan & Shumacher, 2001).

Finally, this study focused on K12 online teachers alone, and did not seek to survey their online students in order to correlate teacher perceptions of their students with accurate characteristics and identities of those students. Therefore, by utilizing only the results in this survey, there is no way to triangulate K12 online teacher responses with the actual identities and characteristics of their students. Such a correlation might provide a more accurate overview of the knowledge and skills of K12 online teachers and is suggested as a method to further the intention of this research.

Moreover, the intentional, but limited, scope of this dissertation also raises a number of questions regarding student success in K12 online programs, possible achievement gaps, and how the shaping of the field of the online classroom can affect these outcomes. Research into achievement gaps online focuses on higher education and MOOC research exclusively (Kizilcec & Halawa, 2015; Xu & Jaggers, 2016), while research into student success in K12 online learning is limited to "no significant difference" [6] research or research into specific programs rather than individual students. (Jackson, Barbour, Parks & Kennedy, 2017). As such, the body of literature as it stands does not speak to the affect that these individual student characteristics have on the field of online learning. Research into the existence of an achievement gap in online learning would offer greater support for the need for K12 online teachers to understand the unique characteristics of their students and how to address their needs.

Implications for Practice

Results of this study demonstrate a need for additional teacher education and professional development on the types of characteristics apparent in K12 online students, as well as the skills necessary for meeting the needs of these students. In particular, responses to the open-ended questions in this study point to a desire to better understand this changing demographic of students and how to meet their needs. Changes to existing preservice teacher education and in-service teacher professional development as well as the development of new programs to educate both preservice teacher and in-service teachers in this area is recommended. Kennedy and Archambault (2012) have noted the increased need for K12 online teachers as K12 online

[6] "No significant difference" research began in 1999 when Thomas Russell began to explore research, dating as early as 1928, to determine whether there was a difference in student learning outcomes when comparing the traditional face-to-face setting with various distance based instructional methods. This work has been continued by a number of scholars since, in particular in comparing face-to-face and online settings, with the majority of studies pointing to no significant difference in student achievement and learning between the face-to-face and online setting (Nguyen, 2015).

learning continues to gross across the country, an increase that has not resulted in adequate teacher preparation at the university level (Rice, 2014). As this is an increase in an overall need for teachers, considerations must be made for the inclusion of online instruction in preservice teacher education, in particular training in diverse student characteristics and identities and how these lead to the shaping of the field of the online classroom. Additionally, with the increase of locally run online programs for K12 students (Gemin, et al., 2015), individual school districts should consider the addition of professional development programs to address this gap in the knowledge and skills of potential K12 online teachers.

Moreover, given some of the responses of teachers included in this survey, possible general education regarding student diversity and sensitivity training should be considered. Dawson and Dana (2014) note that while considerations of diversity have recently entered the conversation regarding how K12 online teachers should be prepared, that this research, and by extension teacher education, is still emerging in these areas. Therefore, teachers currently situated in K12 online teaching programs would benefit from education that addresses the needs of these increasingly diverse online students.

Implications for Research

The early chapters in this study noted the absence of large-scale demographic data on both K12 online teachers as well as the K12 online student population. This study points to a need for additional quantitative research to paint a better picture of who are both the online teachers as well as the online learners in K12 education. Such research would provide greater context as future studies explore how these characteristics may affect student engagement and success.

Further, as research of K12 online education in terms of the theories of Pierre Bourdieu is severely limited, additional research using this lens is also recommended. Such research would allow for the capturing of how certain characteristics evident in K12 online students may affect the formation and continued shaping of the field of the online classroom, and how this may inform research on teacher education for online instruction.

Additional recommendations focus on future replications of this study, taking into consideration the limitations outline in the section above. First, a self-reported survey might be replaced with observations of online teachers, or triangulated with confirmatory information provided by their online students. While it may require the creation of an additional survey measure, additional studies may consider the use of an additional measure in order to triangulate results of this study as well as additional studies on the topic.

Future Directions for the Field

This study was intended to provide a basis for future research into K12 online teachers' understanding of the field of the online classroom, and how their knowledge and skills in addressing diverse student needs can shape this field. Sholar in the field have recognized a need for considerations of diversity in K12 online education (Rice, 2014) and additional studies of this nature, as well as studies that extend the methodology to include qualitative elements as well, would begin to meet this need for additional research into diversity in K12 online learning. K12 online education is no longer an emerging practice (Barbour, 2011) and this practice continue to grow across the country with both increased numbers of students, as well as increased program offerings (Gemin et al., 2015). Information gathered in this study can be utilized to continue work on our understanding of the experience of the K12 teachers responsible for these growing programs.

Further, by applying the theories of Pierre Bourdieu, as he has been utilized in the K12 face-to-face setting, research can better understand the possible inequities that exist in the field and what measures should be taken to work towards making online education the "great equalizer" (Hindman, 2000) that the modality was touted to be. In fact, Bourdieu spoke at length regarding access to the tools (both physical and symbolic) of the dominant culture (Bourdieu, 1984), and would most likely argue that simply giving technology to those who need it does not truly solve the problem of access. The field of the online classroom must be one that values the various non-tangible capital which a student possesses and one that gives them the skills to navigate not only that field, but other Web 2.0 tools and situations. Research, such as the research presented in this study, gives researchers a frame by which they can better understand both the hidden and visible capital that is valued in the online classroom, both of which can be beneficial to future work in the field.

Summary

In this chapter, discussions of the results as presented in Chapter 4 were outlined, first by research question and then as a summary of results. Discussion correlated findings to the literature reviewed for the writing of this manuscript and demonstrated that this study provides support for existing research into similar topics in online learning for higher education, which may demonstrate similarities between the two fields. Further, it was noted that while K12 online teachers reported to have a "good" understanding of the unique characteristics and identities of their students, that there is room for an improved understanding of these concepts, providing an argument for improved professional development for K12 online teachers. Also, as more experienced teachers reported a greater confidence in their abilities to address, this study recommended that professional development efforts focus more heavily on preservice and less

experienced in service teachers as they have expressed less confidence in their abilities to address the unique needs of these students.

Study limitations were outlined as well, in the hopes of contextualizing the research and providing suggestions for corrections to future research. The greatest limitation of this study was its self-reported nature, an important factor to note in future research into this topic. Finally, the findings were positioned in terms of their implications for the field as well as future directions for research as well as future directions for practice.

Dissertation Conclusion & Epilogue

The experience, outlined in the prologue, that spawned this dissertation ended in a failure. While outsiders may look to individuals or even the program as a whole to assign blame, the findings of this study paint a different picture. Like myself, K12 online teachers in the United States feel "good" about their knowledge of online student characteristics and identities. Likewise, I, as well, felt "good" about my skills in addressing the needs of these students, as my peers have reported in this survey. Yet, the program failed and many students applied for the credit/course to be wiped from their transcript, as local regulations allow for them to do given their age. This is not a unique experience; K12 online programs across the nation suffer similar experiences, which have made them the target of a number of educational critics. In some ways, K12 online education is stuck in a loop of failure (Turner, 2017), in large part from the bad press for-profit K12 online institutions often receive in the media.

However, there was one great success to this program: awareness. Despite years of thinking of myself as Teacher Type 1 (discussed earlier in this chapter), this experience made me aware that, for all of my years of experience and education in my PhD program, that I was unaware of the true needs of these students. This experience led me to want to increase my own

level of understanding of these unique characteristics, and how I could assist fellow K12 online teachers in increasing their understanding as well. As confident as we are as teachers, that there is always something new to learn and that in our ever-changing world, student needs cannot and will not remain consistent. Finally, this study, and this experience, provides awareness that through enhanced teacher education, both for preservice as well as in-service instructors, we can begin to make strides to better meet the needs of our increasingly diverse online student population.

This study merely serves as a beginning, a baseline of sorts, from which future research may begin. I would like to think that Bourdieu would be pleased that his work has given such insight into what we do and do not value in field that he never was able to fully experience, and, that those shaping this field do not claim to be experts, but rather willing participants, ready to learn and improve their practice.

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Appendices

Appendix A: Multicultural Awareness Knowledge and Skills Survey Form-T Original version (D'Andrea, Daniels & Noonan, 2003)

Multicultural Awareness Knowledge and Skills Survey

Teacher (T) Form

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1. **Multicultural Awareness Subscale**

Please rate yourself on the following questions:

1. At this point in your life, how would you rate yourself in terms of understanding how your cultural background has influenced the way you think and act?	1 Very Limited	2 Limited	3 Good	4 Very Good
2. At this point in your life, how would you rate your understanding of the impact of the way you think and act when interacting with persons of different cultural backgrounds?	1 Very Limited	2 Limited	3 Good	4 Very Good
3. In general, how would you rate your level of knowledge regarding different cultural institutions and systems?	1 Very Limited	2 Limited	3 Aware	4 Very Aware
4. At the present time, how would you generally rate yourself in terms of being able to accurately compare your own cultural perspective with that of a person from another culture?	1 Very Limited	2 Limited	3 Good	4 Very Good
5. How well do you think you could distinguish "intentional" for "accidental" communication signals in a multicultural classroom situation?	1 Very Limited	2 Limited	3 Good	4 Very Good
6. Ambiguity and stress often result from multicultural situations because people are not sure what to expect from each other.	1 Strongly Disagree	2 Disagre e	3 Agree	4 Strongly Agree
7. Teachers need to change not just the content of what they think but also the way they handle this content if they are to accurately account for the complexity in	1 Strongly	2 Disagre	3 Agree	4 Strongly Agree

human behavior.	Disagree	e		
8. How would you rate your understanding of the concept of "relativity" in terms of the goals, objectives, and methods of working with culturally different students and their families?	1 Very Limited	2 Limited	3 Good	4 Very Good

1. **Multicultural Knowledge Subscale**

How would you rate your understanding of the following terms:				
	1 Very Limited	2 Limited	3 Good	4 Very Good
9. Culture	1	2	3	4
10. Ethnicity	1	2	3	4
11. Racism	1	2	3	4
12. Mainstreaming	1	2	3	4
13. Prejudice	1	2	3	4
14. Multicultural Education	1	2	3	4
15. Ethnocentrism	1	2	3	4
16. Pluralism	1	2	3	4
17. Privilege	1	2	3	4

	1 Very Limited	2 Limited	3 Good	4 Very Good
18. Equity	1	2	3	4
19. Conscious Bias	1	2	3	4
20. Unconscious Bias	1	2	3	4
21. Assimilation	1	2	3	4
22. Equality	1	2	3	4
23. Race	1	2	3	4
24. Nationality	1	2	3	4
25. Class	1	2	3	4
26. Acculturation	1	2	3	4
27. Oppression	1	2	3	4
28. Affectional orientation	1	2	3	4
29. Gender identity	1	2	3	4
30. The difficulty with the concept of "integration" is its implicit bias in favor of the dominant culture	1 Strongly Disagree	2 Disagree	3 Agree	4 Strongly Agree

1. **Multicultural Skills Subscale**

31. How would you rate your ability to teach students from a cultural background significantly different from your own?	1 Very Limited	2 Limited	3 Good	4 Very Good
32. How would you rate your ability to effectively assess the needs of students and their families from a cultural background different from your own?	1 Very Limited	2 Limited	3 Good	4 Very Good
33. How well would you rate your ability to distinguish "formal" and "informal" teaching strategies?	1 Very Limited	2 Limited	3 Good	4 Very Good
34. In general, how would you rate yourself in terms of being able to effectively deal with biases, discrimination, and prejudices directed at you by students and/or their families	1 Very Limited	2 Limited	3 Good	4 Very Good
35. How well would you rate your ability to accurately identify culturally biased assumptions as they relate to your professional training?	1 Very Limited	2 Limited	3 Good	4 Very Good
36. How well would you rate your ability to discuss the role of "method" and "context" as they relate to teaching?	1 Very Limited	2 Limited	3 Good	4 Very Good
37. In general, how would you rate your ability to accurately articulate a student's behavioral problem when the student is from a cultural group significantly different from your own?	1 Very Limited	2 Limited	3 Good	4 Very Good

38. How well would you rate your ability to analyze a culture into its component parts?	1 Very Limited	2 Limited	3 Good	4 Very Good
39. How would you rate your ability to identify the strengths and weaknesses of standardized tests in terms of their use with students from different cultural-racial-ethnic backgrounds?	1 Very Limited	2 Limited	3 Good	4 Very Good
40. How would you rate your ability to critique multicultural research?	1 Very Limited	2 Limited	3 Good	4 Very Good
41. In general, how would you rate your skill level in terms of being able to provide appropriate educational services to culturally different students and their families?	1 Very Limited	2 Limited	3 Good	4 Very Good
42. In general, how would you rate your skill level in terms of being able to provide appropriate educational services to culturally different students and their families?	1 Very Limited	2 Limited	3 Good	4 Very Good

43. How would you rate your ability to effectively consult with another professional concerning the educational and behavioral needs of students whose cultural background is significantly different from your own?	1 Very Limited	2 Limited	3 Good	4 Very Good
44. How would you rate your ability to effectively secure information and resources to better serve culturally different students and their families?	1 Very Limited	2 Limited	3 Good	4 Very Good
45. How would you rate your ability to accurately assess the behavioral and educational needs of female students?	1 Very Limited	2 Limited	3 Good	4 Very Good
46. How would you rate your ability to accurately assess the behavioral and educational needs of male students?	1 Very Limited	2 Limited	3 Good	4 Very Good
47. How would you rate your ability to accurately assess the behavioral and educational needs of older students?	1 Very Limited	2 Limited	3 Good	4 Very Good
48. How would you rate your ability to accurately assess the behavioral and educational needs of boys who may be homosexual?	1 Very Limited	2 Limited	3 Good	4 Very Good
49. How would you rate your ability to accurately assess the behavioral and educational needs of girls who may be lesbians?	1 Very Limited	2 Limited	3 Good	4 Very Good
50. How would you rate your ability to accurately assess the behavioral and educational needs of students with mental	1	2	3	4

health disorder?	Very Limited	Limited	Good	Very Good
51. How would you rate your ability to accurately assess the behavioral and educational needs of students who come from very poor socioeconomic backgrounds?	1 Very Limited	2 Limited	3 Good	4 Very Good

Appendix B: **Multicultural Awareness Knowledge and Skills Survey Form-T (D'Andrea, Daniels & Noonan, 2003) with study changes**

Multicultural Awareness Knowledge and Skills Survey

Teacher (T) Form

Respondent Demographics

How would you identify your gender?
Male, Female, Other, Choose Not to Respond

In which range would you place your age?
21-30 yrs, 31-40 yrs, 41-50 yrs, 51 years or older

What grade level do you teach online?
Lower Elementary (K-2), Upper Elementary (3-5), Middle School (6-8), High School (9-12)

How many years of experience (in total) do you have teaching? Please consider both any online as well as face-to-face teaching experience.
0-5 yrs, 6-10 yrs, 11-15 yrs, 16 or more years

How many years of experience do you have teaching online?
0-5 yrs, 6-10 yrs, 11-15 yrs, 16 or more years

In which subject area do you teach? Select all that apply:
General Studies (grades K-5), Social Studies, Science, Math, Language Arts, World Language, Computer Science, Physical Education, Art, Music, Career & Technical Education

Multicultural Knowledge Subscale

How would you rate your understanding of the following terms:

	1 Very Limited	2 Limited	3 Good	4 Very Good

1. Culture	1	2	3	4
2. Ethnicity	1	2	3	4
3. Racism	1	2	3	4
4. Mainstreaming	1	2	3	4
5. Prejudice	1	2	3	4
6. Multicultural Education	1	2	3	4
7. Ethnocentrism	1	2	3	4
8. Pluralism	1	2	3	4
9. Privilege	1	2	3	4
	1	2	3	4
	Very Limited	Limited	Good	Very Good
10. Equity	1	2	3	4
11. Conscious Bias	1	2	3	4
12. Unconscious Bias	1	2	3	4
13. Assimilation	1	2	3	4
14. Equality	1	2	3	4
15. Race	1	2	3	4
16. Nationality	1	2	3	4
17. Class	1	2	3	4

18. Acculturation	1	2	3	4
19. Oppression	1	2	3	4
20. Affectional orientation	1	2	3	4
21. Gender identity	1	2	3	4
22. Self-Regulated Learning	1	2	3	4
23. Dual Enrollment	1	2	3	4
24. Self-Efficacy	1	2	3	4
25. Self-Control (in terms of learning)	1	2	3	4
26. "Noisy Learner"	1	2	3	4
27. The difficulty with the concept of "integration" is its implicit bias in favor of the dominant culture	1 Strongly Disagree	2 Disagree	3 Agree	4 Strongly Agree
28. In the space provided, please expand on any of the above response for which you would like the researcher to have more information.				

Multicultural Skills Subscale

29. How would you rate your ability to teach students from a cultural background significantly different from your own?	1 Very Limited	2 Limited	3 Good	4 Very Good

30. How would you rate your ability to effectively assess the needs of students and their families from a cultural background different from your own?	1 Very Limited	2 Limited	3 Good	4 Very Good
31. How well would you rate your ability to distinguish "formal" and "informal" teaching strategies?	1 Very Limited	2 Limited	3 Good	4 Very Good
32. In general, how would you rate yourself in terms of being able to effectively deal with biases, discrimination, and prejudices directed at you by students and/or their families	1 Very Limited	2 Limited	3 Good	4 Very Good
33. How well would you rate your ability to accurately identify culturally biased assumptions as they relate to your professional training?	1 Very Limited	2 Limited	3 Good	4 Very Good
34. How well would you rate your ability to discuss the role of "method" and "context" as they relate to teaching?	1 Very Limited	2 Limited	3 Good	4 Very Good
35. In general, how would you rate your ability to accurately articulate a student's behavioral problem when the student is from a cultural group significantly different from your own?	1 Very Limited	2 Limited	3 Good	4 Very Good
36. How well would you rate your ability to analyze a culture into its component parts?	1 Very Limited	2 Limited	3 Good	4 Very Good

37. How would you rate your ability to identify the strengths and weaknesses of standardized tests in terms of their use with students from different cultural-racial-ethnic backgrounds?	1 Very Limited	2 Limited	3 Good	4 Very Good
38. How would you rate your ability to critique multicultural research?	1 Very Limited	2 Limited	3 Good	4 Very Good
39. In general, how would you rate your skill level in terms of being able to provide appropriate educational services to culturally different students and their families?	1 Very Limited	2 Limited	3 Good	4 Very Good
40. In general, how would you rate your skill level in terms of being able to provide appropriate educational services to culturally different students and their families?	1 Very Limited	2 Limited	3 Good	4 Very Good
41. How would you rate your ability to effectively consult with another professional concerning the educational and behavioral needs of students whose cultural background is significantly different from your own?	1 Very Limited	2 Limited	3 Good	4 Very Good
42. How would you rate your ability to effectively secure information and resources to better serve culturally	1	2	3	4

different students and their families?	Very Limited	Limited	Good	Very Good
43. How would you rate your ability to accurately assess the behavioral and educational needs of female students?	1 Very Limited	2 Limited	3 Good	4 Very Good
44. How would you rate your ability to accurately assess the behavioral and educational needs of male students?	1 Very Limited	2 Limited	3 Good	4 Very Good
45. How would you rate your ability to accurately assess the behavioral and educational needs of older students?	1 Very Limited	2 Limited	3 Good	4 Very Good
46. How would you rate your ability to accurately assess the behavioral and educational needs of boys who may be homosexual?	1 Very Limited	2 Limited	3 Good	4 Very Good
47. How would you rate your ability to accurately assess the behavioral and educational needs of girls who may be lesbians?	1 Very Limited	2 Limited	3 Good	4 Very Good
48. How would you rate your ability to accurately assess the behavioral and educational needs of students with mental health disorder?	1 Very Limited	2 Limited	3 Good	4 Very Good
49. How would you rate your ability to accurately assess the behavioral and educational needs of students who come from very poor socioeconomic backgrounds?	1 Very Limited	2 Limited	3 Good	4 Very Good

50. How well would you rate your ability to assess a student's' level to self-regulate their learning?	1 Very Limited	2 Limited	3 Good	4 Very Good
51. How well would you rate your ability to assess a student's level of self-efficacy in their learning?	1 Very Limited	2 Limited	3 Good	4 Very Good
52. How well would you rate your ability to attend to the needs of the "Noisy Learners" in your class?	1 Very Limited	2 Limited	3 Good	4 Very Good
53. In the space provided, please expand on any of the above response for which you would like the researcher to have more information.				

Appendix C

STATA Outputs of Null Models for Knowledge & Skills of Online Teachers

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```
. mixed KNOW || SUB:

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0:   log likelihood = -83.867086
Iteration 1:   log likelihood = -83.866832
Iteration 2:   log likelihood = -83.866832

Computing standard errors:

Mixed-effects ML regression                     Number of obs     =        125
Group variable: SUB                             Number of groups  =         11

                                                Obs per group:
                                                              min =          1
                                                              avg =       11.4
                                                              max =         31

                                                Wald chi2(0)      =          .
Log likelihood = -83.866832                     Prob > chi2       =          .
```

KNOW	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
_cons	3.326928	.0591957	56.20	0.000	3.210907	3.44295

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
SUB: Identity				
var(_cons)	.0120938	.0123247	.001641	.0891278
var(Residual)	.2156798	.0279756	.1672634	.2781109

LR test vs. linear model: chibar2(01) = 2.60 Prob >= chibar2 = 0.0533

```
. mixed SKILL || SUB:

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0:   log likelihood = -80.624275
Iteration 1:   log likelihood = -80.624273

Computing standard errors:

Mixed-effects ML regression                     Number of obs     =        110
Group variable: SUB                             Number of groups  =         10

                                                Obs per group:
                                                              min =          1
                                                              avg =       11.0
                                                              max =         29

                                                Wald chi2(0)      =          .
Log likelihood = -80.624273                     Prob > chi2       =          .
```

SKILL	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
_cons	3.160074	.0771897	40.94	0.000	3.008785	3.311363

Random-effects Parameters	Estimate	Std. Err.	[95% Conf.	Interval]
SUB: Identity				
var(_cons)	.0266504	.0227646	.0049959	.1421656
var(Residual)	.2380957	.0332142	.1811381	.3129634

LR test vs. linear model: chibar2(01) = 4.52 Prob >= chibar2 = 0.0167