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Administrator Work in Leveraging Technologies for Students With Disabilities in Online Coursework

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Abstract

This article describes a study of online educators' use of technology as part of the accommodations they provided to students with disabilities at their school. Specifically, research focused on four teachers who were members of an interdisciplinary team in a large virtual school program, in a state with established policies regarding online education, and online course work as a requirement for graduation. Data were collected over 4 months in a series of weekly interviews and through a content analysis of stipulated accommodations and modifications in student Individualized Education Program (IEP) documents. The findings of this study indicated (1) providing technologically grounded accommodations and modifications required intensive collaboration with students, parents, and other special education support staff at the virtual school, (2) online teachers struggled to keep up with all of the possible means and methods of enhancing the learning experience and providing accommodations that were stipulated in the IEP while also remaining sensitive to practices and supports that they could provide (using technology that were not mandated), and as a result (3) technology use as part of accommodation was most often relegated to what naturally exists in an online learning environment and is available to all students. The implications of this work are that transferring disability service plans, and IEPs in particular, is no simple matter, and that moving to a technological environment (and the notion that the online environment is inherently accommodating) needs interrogation at every level (practice, research, and policy).

Keywords

online/web-based instruction, technology perspectives, administrator, accommodations, virtual school, K–12

The purpose of this study was to describe online administrators' use of technology as part of the accommodations they supervised for students with disabilities at their school. Specifically, we focused on three administrators who were assigned to support an interdisciplinary team of special education–certified teachers in a large virtual school program in a state with established policies regarding online education and a requirement for online coursework as part of graduation. Data were collected over 4 months in a series of weekly interviews and through a content analysis of stipulated accommodations and modifications in student Individualized Education Program (IEP) documents. The findings of this study revolve around collaboration with students, parents, and other special education support staff at a virtual school and the struggle to maintain anchored to technology and which resulted in technology use as part of accommodation being relegated to what naturally exists in an online learning environment and was available to all students. The implications of this work are that transferring disability service plans, and Individualized Education Programs (IEPs) in particular, is no simple matter and that moving to technological environment and the notion that the online environment is inherently accommodating needs interrogation at every level (practice, research, and policy).

Introduction

The intent of the Individuals with Disabilities in Education Act was to ensure that individuals who needed access to personnel with special training and other services as necessary support for learning were indeed receiving that access (Giangreco, Edelman, Broer, & Doyle, 2001). Accommodations are supports used by students with disabilities that modify assessments through changes to the test or testing environment in order to provide greater access to instructional accommodation and life chances in order for assessments to better represent student knowledge (Kettler, 2012). Initially, accommodations were focused on making sure that students with disabilities had the same opportunity to demonstrate knowledge on tests,

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particularly high-stakes tests, as other students. However, as the students' performance on these tests became major drivers in other aspects of the accountability movement, accommodations during instruction became as or more important to provide as accommodations during testing time (Smith, 2015).

Several studies and reviews of literature suggest that the policies designed to ensure access have been implemented with uneven quality because students do not have enough time with trained certified teachers (Giangreco, Suter, & Doyle, 2010; Rea, McLaughlin, & Walther-Thomas, 2002; Zigmond, 2003). In addition, students with disabilities are often given access to technologies that they, for a variety of reasons, do not use (Scherer & Federici, 2015). Further, teachers are prepared to use technologies, but they use these minimally or not at all (Ottenbreit-Leftwich et al., 2012).

When students with disabilities are enrolled in online courses, the added technological demands (Collins, Schuster, Ludlow, & Duff, 2002) and the additional layers of placement and accountability (Fuchs, Fuchs, & Steker, 2010) require increased vigilance for personnel in the virtual academy. In addition, undertaking a fully online course usually decreases the amount of time students spend with teachers (Barbour, 2015). Although parents often perceive online learning as a way to secure one-on-one time with teachers for students, that is not necessarily how online courses operate (Rice & Carter, 2015a, 2015b).

The question that arises then is how do K–12 teachers in fully online settings conduct their work with students? Specifically, we were interested in administrators' experiences supporting the implementation of accommodations using technology inherent to online coursework. We began to explore this question from three broad perspectives: teaching online, teaching with technology, and working with students with disabilities. Through these three lenses, our major research question is how do online teachers providing special education services merge understandings about disability accommodation and technology use in their work with students?

We answered this question by identifying a team of special education teachers in a large virtual school program and we engaged in research strategies to capture their experiences. The implications of this research shed light on this complex question of what happens when students with disabilities—who are entitled to legally mandated services—come into the highly flexible online environment to learn using technologies that should be available as part of the normal course of the educational process, rather than as assistive or additional.

Developing a Conceptual Framework

Conceptualizing virtual school administrators' support for the implementation of IEP accommodations as they are provided through technology in online educational settings required a framework that addressed policy. For this, we drew on the work of Spillane, Reiser, and Reimer (2002) who wrote about policy implementation in educational settings. According to these scholars, education policy faces the same challenge that most public policy does, namely, that local implementation is difficult. Coburn's (2016) recent work in special education policy has also highlighted these challenges, saying that federal policy changes the natural roles of educators, students, and parents to such an extent that confusion is the result and services cannot be properly rendered.

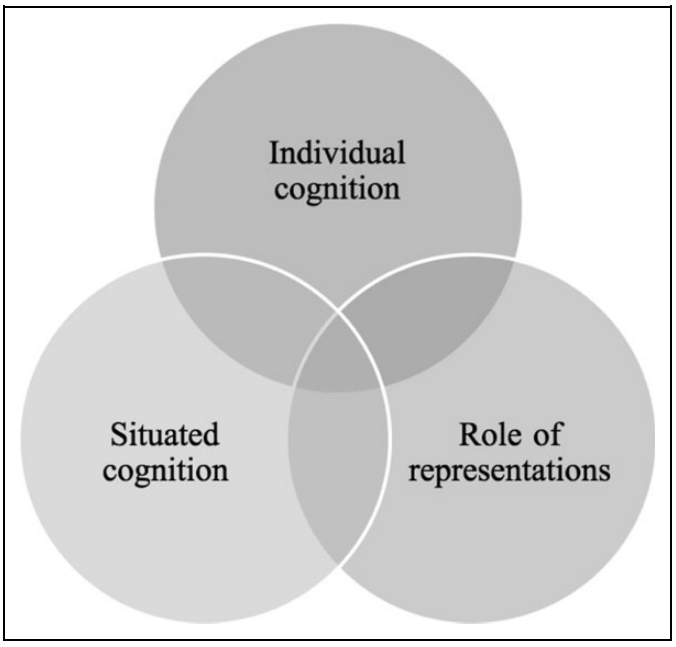

Figure 1. Cognitive framework for policy sense making.

The difficulties of local implementation call for research into the implementation process for education policy initiatives. The IEP implementation is an example of such an implementation process. The cognitive framework for looking at implementation developed by Spillane, Reiser, and Reimer (2002) has three pieces: individual cognition, situated cognition, and role representations. These three elements are highlighted in Figure 1. These elements overlap to produce insights into how agents to determine what is in their control, what is not, and what their professional responses should be to these conditions.

Individual cognition. The first element of local implementation considers the agent as an individual sense-maker. The element pays attention to how individuals notice and interpret stimuli and how prior knowledge, beliefs, and experiences influence the construction of new understandings.

Situated cognition. In addition to individual cognition, it is necessary to complicate the human sense-making process stressing the importance of situation or context in understanding how the implementing agents engage in this sense-making. Specifically, the fields of sociology and social psychology inform the ways in which multiple dimensions of a situation exert influence over the implementing agents' sense-making from and about policy. The social sense-making process is also informed

by a situated cognition perspective, which argues that situation or context is not simply a backdrop for implementing agents' sense-making but a constituting element in that process.

Role of representations. Policy discussions where learning is the focus must consider the ways in which policy stimuli operate in implementing agents' sense-making. Critical to this process is the development of representations of ideas about changing practice in policy that enable the implementing agents' sense-making. In other words, what do words like "compliance" mean when it comes to policy implementation? Further, how do shifting notions of "compliance" that vary from individual to individual and from context to context become recognizable as such to others?

Summary. Individual cognition, situated cognition, and the role of representations are all at play in work with students with disabilities (Coburn, 2016; Spillane, Reiser, & Reimer, 2002). When online learning is the method of instructional delivery, there are likely to be additional complications because online learning is large and there are so many policies to navigate. These policies include disability policies, school policies about technology, curriculum policies, federal policies with funding contingencies, local policies governing how and where schools are set up, and policies around Internet connectivity and access where the students are trying to log on. It is these multiple simultaneous layers of policy that were of concern when this study was designed and implemented. In this study, technology use in supporting the IEP was not just a matter of what devices students were using and whether they were permitted and made available; it was about how administrators understood and engaged with policies in order to leverage technologies for accommodation purposes.

Review of Literature

Studies from two bodies of literature informed this research project. The first was technology use for students with disabilities in traditional schools. Reviewing literature provided a sense of what teachers and students who enrolled in online courses might have experienced before coming into an environment where most instruction was provided online. The second body of literature emerged from previous research about serving students with disabilities in those online contexts. Together these studies formed a frame for thinking about how to define our research purposes, engage with our administrators, and analyze the resultant data.

Technology Use for Students With Disabilities in Traditional Schools

Studies examining the use of technology to support students with disabilities strongly state that these technologies must meet specific needs for specific learners, so it is critical to understand both the content and the needs of the learners (Burns, Kanive, & DeGrande, 2012; Fede, Pierce, Matthews, & Wells, 2013). Israel, Marino, Delisio, and Serianni (2014) have recently conducted a thorough review of literature, which will not be repeated here. At the end of their review, these researchers stated:

> Regardless of the instructional delivery, barriers to learning [for students with disabilities] should be examined on an individual basis so that teachers can provide instruction that is accessible, engaging, and meaningful. Once teachers identify barriers, they can begin to investigate how to leverage technology to address them. (p. 14)

If this is the case, then a critical place for developing inquiry is among small groups of teachers where their decision-making processes and reasoning are captured and considered. These decision-making processes may occur around barriers that emerge to student learning, but they are also present as information from IEP documents that are translated within the online setting. Critically what the work in technology for students with disabilities told us was that someone—usually a teacher—has to be constantly learning about various devices (what they are and how they work) and employing them with students in ways that are intentional, strategic, and smart.

In addition, barriers to student learning can be addressed through curriculum design using the Universal Design for Learning (UDL) framework (Meo, 2008). The UDL framework assists in designing curriculum that meets the needs of all learners (Rose & Gravel, 2011).

Students With Disabilities in Online Environments

As students with disabilities enroll in online courses, issues regarding the implementation of their IEPs arise. However, only a small number of studies have looked at various kinds of online learning for students with disabilities according to a recent review (Greer, Rice, & Dykman, 2014). The findings of the few studies that were available have focused more on virtual school programs' potential to serve students with disabilities, rather than looking at what was actually happening to the teacher or the students. Another cluster of studies looked at whether certain curricular or instructional interventions using technology led to learning outcomes that were tantamount to what students without disabilities could achieve. What was apparent from this review was that there were few to no research efforts to describe or understand how teachers work with students with disabilities within learning environments that relied heavily or exclusively on technology.

More recent work by Rice and Carter has provided descriptions of teachers as they described their work with students (2015a) and as educators at all levels have constructed roles around providing services to the students with disabilities (2015b). However, this work did not address technology's role in developing and implementing IEPs. Doing so is critical because of the ways in which technology has been at the heart of providing access to civic life for students with disabilities as per American with Disabilities Act provisions, of 1990.

In addition, instructional and assistive technologies in particular are often included on IEP documents as part of accommodation services in traditional schools.

Methods

Three special education administrators participated in the study. These administrators worked in a large virtual school program in a state that requires an online learning course at the secondary level in order to graduate. This program also occupied an interesting policy space because the traditional public schools where the students reside still make the IEPs. In addition, there are frequent legislative shifts in funding for State Virtual School and the formulas that govern how the monies are to be divided between traditional and virtual change from year to year. Challenges arising from these fiscal vicissitudes were frequently mentioned by the administrators as they tried to make sense of their experiences. The students that the teachers teach and the administrators support are enrolled in 1 to 3 classes in mathematics, English, or physical education. As this is an interdisciplinary group to which the administrators have been assigned, the teachers who work in this group share students. Most students in this group, particularly the ones with disabilities, take at least two courses. However, since these courses are taken in a fully online setting, they are entering and finishing the courses at different rates, with some completing their courses in only a few weeks, but with most following the calendar of the school year common to their home schools. Because of these vacillations, the number of students enrolled in the program at a given time varied between 400 and 600 students—a notable swing. Of these students, as many as one third at any given time were students with disabilities.

A case study research design was employed in this study (Merriam, 2014; Yin, 2013). In a case study, multiple strategies are engaged in by a researcher or a team of researchers to gather as much information as possible about the phenomenon under study. In this case, the administrators were all appointed to collaborate with content teachers in a virtual school program. The group was intentionally designed by the school to enhance collaboration between teachers who are certified to teach students with disabilities and the special education administrators who we focused on in our study. These special education administrators met with special education–certified content teachers weekly in virtual meetings to provide support and offer professional development. However, the special education administrators were also available to teachers as questions arose about serving the students in their charge. Finally, these administrators were regarded to have more expertise with some subject matter, but they were not restricted to working with only one content area. Thus, these administrators knew each other well, and there was a core of teachers to whom they were assigned that they also knew well as part of their work. As is customary in case studies according to Merriam (2014), the administrators were presented the findings and given an opportunity to review them and give feedback. The findings presented reflect their views and feedback.

About the Administrators

The administrators were John, Cathy, and Lillian. None of these administrators could name particular formal training experiences for virtual education or for teaching with technology. John held a master's degree in special education and was hired in the early days by State Virtual School to teach English language arts. He was invited after several years of teaching to be an administrator and then eventually to lead the other special education administrators, which he had been doing for more than 8 years at the time of the study. He reported making it a priority to provide professional development to teachers who are working with students with disabilities and adding members to the administrative team at the school who have understandings about special education in addition to administrative expertise.

Cathy started out her career in education as a teacher in a brick-and-mortar setting and had 8 years of virtual education experience at the time the study was conducted. She worked as a special education teacher and a literacy coach and then was hired by State Virtual School to teach mathematics online. As she taught, she realized that there were few resources for teaching students with disabilities online and so she joined the administrative team of the school with an interest in supporting teachers.

Lillian also came from brick-and-mortar schools as a self-described ''quasi-administrator,'' where she played a role in determining student eligibility for special education services. She was the newest member of the administrative team and was the newest to virtual education with 4 years of experience.

The case in which this study was carried out was also bound in time by the annual spring rush to finish online courses in time for graduation or to avoid summer school in the brick-and-mortar setting. This rush begins in March and ends in June, which is also the end of the fiscal year at this school. However, even with this graduation rush, students were enrolling, working, finishing, and un-enrolling daily and weekly during the study. Conducting the study during this time of year provided an opportunity compressed time for ample questions to arise regarding modifications for students with disabilities and it is also a testing season where accommodations would need to be made for these students.

Data Sources and Collection

The primary data courses for this study included a record of interactions with parents, students, and teachers around accommodations for students with disabilities including implementation of their IEPs, information from the IEPs from students who were enrolled at some point during the bound time period of the study, and individual interviews. Each of these data sources will be described in this section and the analysis of these will be featured in the section that follows afterward.

Interaction records. The record of administrator's interactions with parents, students, and colleagues was provided by the

participating school. All administrators received pseudonyms that were known only to the two primary members of the research team. These records consisted of date/time information, code number of the student, reason for the contact, and an anecdotal record of the conversation offering a summary and any actionable items promised by the administrator. It was important to collect these data as an additional source of information about what accommodations were provided and how so, particularly with regard to technology. In addition, we wanted to see how technologies were mentioned, negotiated, embraced, or rejected by stakeholders as students worked through their courses. Finally, these records gave us some sense of whether students were actually receiving the accommodations that were listed.

IEP accommodation data. The second source of data was the actual accommodations provided in the IEPs. This data set consisted of unique student numbers (without links to names), county of residence, school district (local educational authority), the brick-and-mortar school the student was attending, primary disability, secondary disability (where applicable), and listed accommodations. These data were important because they gave us an idea what the range of potential accommodations might be in terms of their complexity and we were also able to learn how technology may or may not have been mentioned in these documents, many of which were made before the student entered State Virtual School and had not been revised since. We also had access to Section 504 accommodation data from student plans, but because another set of administrators were technically in charge of Section 504 accommodations, we did not focus on those for this study.

Interviews. A final data source was individual phone interviews with the three administrators, all of whom are certified in the state where the virtual school is run, to provide special education support. These interviews were conducted once per week for 6 weeks during the study period. These interviews lasted between 20 min and 1 hour. Each interview was recorded and transcribed. Interview data were coded using a narrative framework where researchers looked for evidence of *emplotment* (Polkinghorne, 1997). When administrators in a qualitative study attributed causality to some circumstance, the result is a plot. These plots can be analyzed to reveal administrators' perspectives on a phenomenon. An interview schedule appears as Table 1.

Table 1. Interview Topics and Sample Questions.

Topic	Sample Questions
Experience in education	–How long have you been in education? –What schools/grades/subjects have you taught? –How did you come to your current position in this virtual school?
Experience with accommodations	–What accommodations have you overseen for students recently? –Were these typical? If not, how were they not? If so, how were they?
Participation in the IEP/504 process	–In what ways do you participate in the creation of the IEP/504 process? –In what ways do you implement or interpret those documents?
Professional development	–What professional development activities do you participate in or oversee regarding students with disabilities?
Engagement with colleagues and other stakeholders	–How do you work with others in your school, the schools of record, the learning coach, the parents, or the other entities to provide accommodations or other support to students with disabilities?
Technological expertise	–How does technology mediate your work? –What sorts of technology would help you mediate your work?

Data Analysis

Since we had such an array of data sources and a desire to preserve the richness of the data and attend to all aspects equally, the analysis contained four elements. Figure 2 offers more information about these four elements. The first element was a coding of the interaction data. The second element was a content analysis of the IEP accommodation data. The third element was a narrative analysis of the interview data where the findings of the other two analyses were used to triangulate and verify the data. The fourth and final element of the analysis involved the selection of emblematic narratives (Mishler, 1990) in order to represent the data from all three sources. Each of these will receive some elaboration in the following sections.

Coding interaction data. The interaction data were analyzed first because of its potential to provide short descriptions of incidents or narrative fragments against the rest of the data could be compared (Lal, Suto, & Ungar, 2012). These fragments were extracted from the data and sorted on a continuum as to the degree to which technology played a role in the plot. When we finished, we could see the range of the narrative fragments. Since we were not coding in the traditional sense, we could not do a reliability calculation against each other. Instead, we looked at the data, organized them on the continuum, and recorded them. Then we recompiled the data and put them away for several days. Then we returned to the data, reorganized them on the continuum, and checked our new organization against the previous one. As might be expected, the ends of the continuum matched the previous organization, but the fragments in the middle were imperfect. For these, the accommodation data from the IEPs and the interview data became important for gaining more information to corroborate the hypotheses we were forming.

Analyzing IEP accommodation content. A total of 152 unique accommodations and services were being provided to students

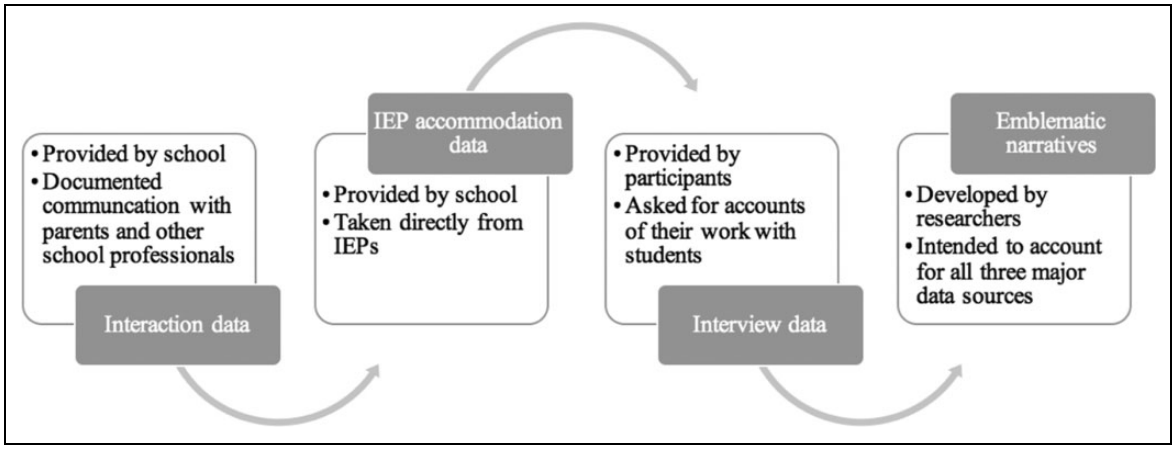

Figure 2. Data analysis elements.

who represented every major type of disability. These students are taking courses where the administrators are providing support to teachers. Researchers evaluated the accommodations and services to determine whether they were applicable to the online environment and then classified them into a hierarchy of categories: requires technology, could be supported by technology, and can only be provided in shared physical presence. Within those categories, the researchers also looked at what accommodations were readily transferrable online and which ones were not. For example, the accommodation of preferential seating has no bearing in fully online learning because students are not sitting in a classroom. The largest category of accommodations ($n = 40$) dealt with specialized instruction with a trained teacher. There were accommodations and services that were applicable to online learning and which centered on technology use (e.g., use of a computer to compose instead of a pencil) and audio-supported reading. However, these accommodations were not uniquely offered to students with disabilities, as all students enrolled online had access to them.

Finding narratives in interview data. The logs of interactions that were provided to us by the school were coded against the interview data. In order to do this, events from the interviews were matched (where they could be) and events without matches from both data sets were checked against each other for resonance (Damianakis & Woodford, 2012). The notion of resonance, when used this way, simply means "Is this emerging narrative plausible? Do the pieces make sense?" As we worked, three major themes emerged based on the resonant plots of the narratives in the data. These themes are presented in the findings section.

Selecting emblematic narratives. Once we had the themes that represented the data, it was necessary to consider representation. In representing these themes, we elected to use emblematic narratives (Mishler, 1990) as it is not practical to share every story. The narratives shared below, therefore, represent the themes because stories with highly similar plots repeated across the data, and because these stories offered the kind of detail that enhanced the trustworthiness of the findings. Essentially these selected narratives *crystallize* (Marshall & Rossman, 2014) into an integrated narrative that offered insight into the complexity of the phenomenon we were studying.

Findings

The findings of this study are revealed as three key ideas or themes. First, we learned about the tremendous collaborative undertaking necessary to provide access to technology for students with disabilities in a fully online setting; second, we learned about the work of technology integration with professional knowledge and judgment. Third, we learned that because of the heavy workload required for collaboration, professional knowledge, and judgment, oftentimes technology use in these settings was relegated to what was already available in the online environment. Further accommodations were made under the auspices of the brick-and-mortar schools. Each of these themes will be discussed in turn.

Technology Integration as Highly Collaborative Work

During the data analysis process, the most common accommodations for students with disabilities centered on testing. This is in accordance with Smith's (2015) assertion about the original intentions of accommodations. Examples of these accommodations to ensure access to state and local testing and provide the student included (1) extended test-taking time, (2) having tests read aloud, (3) reading tests in large print, and (4) being presented test items as one question per page. These accommodations required considerable collaboration in environments where the various responsibilities of teaching (curriculum making, implementing, and evaluating) have been unbundled or pulled apart. This pulling apart of job responsibilities is part of the new economy for many jobs because it makes it possible for workers in different locations to specialize for efficiency (Autor, 2015). The following elaboration from an administrator illustrates what it takes to rebundle the pedagogical responsibilities necessary to make a testing accommodation.

> If we have a child who says they get fewer number of problems in their assignment and there are 20 math problems, I need a curriculum specialist and the principal and the teacher to go through that assignment to determine, which they wouldn't find any to begin with, but to determine which ones the student could not do and still meet the standards. So, you take that, times the number of assignments in that course, which might be 50, multiply that by the amount of courses we have, which is over 115. You can see that with no resources, the ability to make that happen is impossible.

However, accommodations uncovered in this study were not solely for end-of-course or end-of-grade level testing. Although some of these accommodations were included in the IEP data, such as the use of a computer to do work, others were not. Common examples of these instructional accommodations negotiated through interactions with parents and teachers included practitioner-created power points with small quantities of material on each slide. These accommodations are based on broader statements in the IEPs, such as "student will have access to computer-based accommodations." The following is an excerpt from an interview with an administrator where such an accommodation was created.

> In talking with several teachers, we came up with this plan. It's legal, based on the IEP. We're not giving them an edge. But what we have determined to present only one question at a time, one per slide. That's one advantage; the child can focus. And the second thing is reading to them. Now they're hearing it.

Notice also in this excerpt that the special education teacher is leveraging professional understandings about students with disabilities, asserting that when students have preferences for auditory material, the accommodation also serves that. In this instance, the administrator was able to take the material from the IEP and match it to a task that a general education teacher could do to make the instruction more accessible. However, there was no true attempt to use technology to personalize and the administrator has no real idea as to whether the student prefers auditory information or not. This seemed to be a mere assumption based on a generalization about students with disabilities—that they are not good readers and would rather hear information. In the next example, the administrator describes what a teacher must do that also takes true personalization out of the equation while magnifying the collaboration necessary.

> Students finish the exam, submit it to the teacher, and of course, the autograded items would already be graded, right or wrong, but there will be items that the teacher will present to that student in a recorded session. The teacher reads the question and answer choices robotically. There's no help involved. They're simply reading the question and answer choices. The student provides the answer.

In this example, the teacher is charged with reading "robotically." The word is an interesting choice considering the technologies at stake in this environment although it is reasonable to assume that the original intention of using the word was to assert that the teacher reads in a way so as not to give away the answer. Even so, there are a variety of options technologically that would have a reader—an actual robotic voice—read according to student preferences for tone and other prosodic elements that would not give away the answer choices. However, to learn what all of those options might be and keep them at the front of one's mind and then collaborate with the general education teacher to understand and use these effectively is a tremendous undertaking.

Integrating Technologies and Professional Knowledge

Building upon collaboration, the second theme of the work is integrating technology with professional knowledge. This professional judgment was often referred to by the administrators as "trickiness."

> Where accommodations are put in the IEP for reduced assignments, that's where it gets tricky with State Virtual School because our curriculum and the school curriculum are different in terms of the assignments and the different standards being addressed. We only have the courses that we have and there isn't any extra in our courses.

The online curriculum used by State Virtual School is more streamlined than the curriculum of a brick-and-mortar school. The courses offered to students at this school were designed to be completed with fidelity, as the virtual school is such a large operation (more than 20,000 total enrollments per year). The impetus for this stringency is to ensure students cover standards associated with each assignment, and each question within that assignment. Although one may think that the elimination of the "extra" would make learning easier for students, the administrators described this as a challenge. As what the students are obligated to learn is so theoretically straightforward, there is little opportunity to modify or move beyond. In using professional knowledge in these contexts, educators have to be concerned about making sure that the curriculum is followed with minimal modification while also following the individualization mandates of the IEPs. The administrators lamented for two reasons: (1) students might not be served properly according to the law, yet (2) personalization was difficult to achieve under these circumstances.

> There are students working on a second or third grade level. What can we do so that the students can take core courses of ours at a second or third grade level? They can't; we can't modify our courses.

Although the online curriculum supports some student accommodations well (extended time, enlarged print, etc.), the policies of the State Virtual School have created tension between accommodating students and the ability of the school to make claims to a "rigorous curriculum." This challenge is illustrated by a student that has an IEP accommodation stating that the student will have a reduced workload. In the process of learning how to implement policies, the administrators have to consider which policies they are beholden to be compliant to the foremost. Typically, they choose the policies of State

Virtual School. The school after all is their employer with more direct power over them than disability policies. To overcome this challenge, the administrators had a key strategy for reconciling their concerns: to consider the online environment as *inherently* accommodating.

Relegating Technology to What Naturally Exists

Some technology usage is required in student learning in virtual environments, but as this study demonstrates, online education can be provided with minimal interaction with technology. In the case of State Virtual School, as long as assignments are completed and turned in via the Internet, additional use of technology to learn does not necessarily have to happen. However, students with disabilities may be among those who could benefit most from technological tools to support learning in the virtual environment. We learned from this study that these administrators were asking questions about how to leverage technologies for students, but felt limited in their ability to provide answers to students and families.

> A student needed a text reader based upon her IEP and her learning disability. So, I called her or I e-mailed her and she called me. We have little discussions. And there's a free text reader that anyone can get online. We suggest using that to a lot of our struggling readers. I mentioned that to a parent, saying that there are others, but they cost money. And, of course, we don't have the resources to provide that.

The end result of this interaction was to continue to use the no-cost option, regardless of its suitability for the student. In addition, the administrators capitalize on the features of online learning, such as unlimited time and the lack of a fixed daily schedule as being key resources for students with disabilities. However, these are features that all students have access to, and in some cases—such as in the case of a lack of routine—might actually be a hindrance to some students and their families. Further, when students cannot be accommodated in this virtual environment, they are often sent to their original brick-and-mortar school to receive accommodations to be successful in the online course. Examples of this were frequent with testing when students needed to be able to take frequent breaks. The testing technology at the virtual school made it impossible to stop a test once started in order to protect against cheating—a phenomenon difficult to track and overcome in virtual learning spaces, but that also meant that a student had to travel to a location at a specific time to have a test supervised where there could be breaks.

Answering to families around these issues was painful for these administrators. In an attempt to address this issue, these administrators working as a disability support team determined what they felt that they could and could not provide to students with disabilities as a manifestation of their current understandings of multiple conflicting policies. Below is a general listing of what accommodations are available to students with disabilities:

> If an IEP states that the student receives extended time on assignments and exams, we can fit that within the pace guide that all of our courses have. If a student has to do four assignments a week, based on the pace guide we can cut that to two if there's an IEP that gives extended time. If that IEP states that the student receives speech therapy, that is, something we do not do. Now, of course, every IEP is different, but we have been able to create the general idea of best practice of what we can and what we can't do at State Virtual School.

Notice how this list of role representation policy is referred to as "best practice." Doing so brings the learning that the administrators displayed into contact with the individual and social dimensions of their work as implementers of policy. The constraints they feel have been translated into an official code around practice that is (interestingly) rationalized *not* in the school policy but instead invokes the IEP as the source of authority and then explains why the social context of this policy renders the IEP impotent. What is left is access to a pace guide or timeline of lessons, which again is a service that every student has access to and is not technologically grounded—other than the fact that it appears on the Internet: but it could be.

Discussion

This research employed a case study design to learn about the ways in which special education teachers in a large state virtual school responded to roles as policy agents for students with disabilities. Because of the study design and the qualitative paradigm, there is no expectation of generalizability on our part as researchers. But what we did want to do is to illustrate very clearly what was happening around the issues of disability, technology, and policy in a local context in ways that consumers of this work could understand and think more complexly about their own sites and settings for practice and research.

Of particular importance were the ways in which technology appeared in the grand story of serving these students in an online setting. What is clear is that taking and teaching courses online was not necessarily synonymous with technology use. The role of special education teachers in these schools is constructed to a high degree by the way in which they engaged with policies of the school and disability policies as implementation agents. In this particular setting, we learned about the complexities of collaboration necessary to use the technology when curriculum is governed by many separate entities and the opportunities for professional judgment that are not fully realized because of the overwhelming choices the educators must make around issues of school policy and resource distribution.

Meeting the needs of the students with disabilities largely emerged as highlighting the features of the online environment as accommodation. This enabled a cognitive reconciliation of policy (Spillane, Reiser, & Reimer, 2002) that illustrates really well why policy is so difficult to implement at a local level, *even when* the local level is in the context of a theoretically more flexible online learning environment and power has been distributed in ways that demand collaborative decision-making. What this means is that instead of individuals having to learn about policy individually as in Spillane, Reiser, and Reimer's

original model, educators at all echelons of authority must learn this together using specific student cases as exemplars.

For practice, this study taught us the importance of preparation to collaborate in an online environment. These educators would have benefited greatly from the chance to learn more about how to orchestrate complex networks of advocates for students in online environments. Indeed, collaboration for advocacy among educators in traditional environments is an area of new and emerging research, but this may mean that there is a tremendous opportunity to learn about how to build collaborative capacity with the goal of advocacy in these new environments. It seemed vital that these administrators have the ability to negotiate further accommodations with other sources of curriculum authority within the school, a phenomenon which Coburn (2016) pointed out was a typical problem in providing services for students with disabilities in schools. Further, as these administrators reported that they did not receive preparation to use technology in the online environment for students with disabilities, collaboration also might have given them the chance to learn from other schools or programs how this might be done.

In terms of research, this project points to a need to learn more about how students experience the accommodations given to them in these environments. This is especially important for learning whether an online learning course *does* have inherent advantages that render popular accommodations outmoded as devices of individualization. The study also points to a need to build and test new technological tools that are feasible for educators, students, and families to use that enable students with disabilities in online courses to use technology to meet their needs online as opposed to the current scenario in this study where the technology was often jettisoned in order to ensure the demands of the IEP could be met.

Finally, this study offers empirical descriptive support to the idea that IEPs in fully online education are difficult to implement, and the ultimate concern is that young people who qualify are not receiving the support to which they are entitled. These difficulties do not arise from educators' lack of interest in compliance but rather the challenge of learning how to comply in the face of multiple conflicting policies. In more local contexts, such as in the case of State Virtual School, it would have been helpful for the school to have considered the fact that students with disabilities were going to come and take their courses and in fact taking an online course was mandatory and ergo, whether they were receiving federal monies or not, elements of disability access that apply to *all* public programs would apply to them. This study challenges the received wisdom that this access requirement that transcends direct federal support applies only to the physical world. In short, technologies in online coursework has provided great opportunities for scholars and the public alike to think about access and support in new ways. Many of these entities embrace those opportunities.

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