PROFESSIONAL DEVELOPMENT SUPPORTS FOR THE BLENDED, CO-TAUGHT CLASSROOM

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This qualitative study used survey research to examine a blended co-taught model of instruction designed for students enrolled in an Occupational Course of Study via the North Carolina Virtual Public School. While blended learning has successfully served the needs of students with disabilities, face-to-face and virtual teachers identify the need for professional development to successfully implement the model. Our large scale survey of educators teaching in a blended program to meet the needs of these students demonstrates the need for multiple layers of support.

INTRODUCTION

The last ten years have seen an evolution in the way that students learn, as more and more schools, both virtual and traditional, have begun to incorporate a blended model of online and face-to-face instruction. This growth of blended instruction has forced researchers to articulate a clear definition of blended learning, as many variations exist. iNACOL's 2015 report on blended learning provides a comprehensive overview of blended models and case studies from 2008-2015. The report defined blended learning as the intersection of online and face-to-face instruction. Through blended learning teachers are able to harness both the power and efficiency of technology to identify gaps in student learning and provide differentiated support. In addition, blended learning "feature[s] elements of student control over time, pace,

path, and/or place, allowing for more student-centered learning experiences" (Powell et al., 2015, p. 4). While the research continues to grow around blended learning, so too does the discussion on how to best prepare both students and teachers to be successful in this type of learning environment.

Our research studied a blended co-taught model of instruction designed for students enrolled in an Occupational Course of Study via the North Carolina Virtual Public School (NCVPS). While blended learning has successfully served the needs of students with disabilities, face-to-face and virtual teachers identify the need for professional development to successfully implement the model. Our survey of educators teaching in a blended program to meet the needs of these students demonstrates the need for multiple layers of support.

REVIEW OF THE RELEVANT LITERATURE

To date, the majority of research specific to blended learning still focuses on learning that takes place mostly online and is very limited, particularly in the K-12 context (Halverson, Graham, Spring, & Drysdale, 2012; Means, Toyama, Bakia, & Jones, 2010; Wayer, Crippen, & Dawson, 2015). In their analysis, Halverson, Graham, Spring, and Drysdale (2012) found only 1.8% of publications in top-cited articles, chapters, books, and journals between 2001 and 2011 focused on blended learning specifically in K-12 settings. Researchers agree the majority of literature in this area is limited to student outcomes, rather than teacher perspectives, and sparse with regards to the examination of teacher preparedness and the development of blended learning as an emerging pedagogy (Means, Toyama, & Murphy, 2010; Powell et al., 2015; Wayer et al., 2015). Despite these limitations, many agree virtual learning, and blended learning in particular, are well positioned to serve the needs of specific populations that have not been served well by traditional schools (Barbour & Siko, 2012; Garrett Dikkers, Lewis, & Whiteside, 2015; Lewis, Whiteside, & Garrett Dikkers, 2014, 2015). In their meta-analysis and review of online learning Means et al. (2010) found that "instruction combining online and face-to-face elements had a larger advantage relative to purely face-to-face instruction than did purely online instruction" (p. xv). In addition, the study indicated that collaborative learning that was instructor-driven was much more effective for students versus independent learning in an online environment (Means et al., 2010).

More recently, Powell et al.'s (2015) examination of blended learning over the last seven years provided an overview of the evolution of blended instruction and discusses seven exemplary examples of blended models. These models are classified according to Clayton Christensen's research on blended learning programs where Christensen identifies four basic models:

rotation, flexed, a la carte, and enriched virtual (Clayton Christensen Institute, 2016). The report detailed four key lessons embedded in each of the programs it highlights: the importance of school culture, an awareness of blended learning goals and benefits, an examination of professional development, and the importance of addressing barriers for implementation (Powell et al., 2015). The lessons learned in the report are applicable to the current study, as they provide guidelines for schools and districts to use when considering blended learning programs. Our study focused on this need for improved professional development for teachers working in a blended learning environment, especially one where co-teaching is central.

Due to the increase of blended learning in many schools and districts across the country, teachers who have years of experience teaching in brick and mortar schools are faced with shifting their instructional approaches to teach online. As Comas-Quinn (2011) noted, "For those who undertake this reluctantly and without having much interest in online learning, it is crucial that an effective training system is in place to prepare them for their new role" (p. 220-221). At its most basic form, effective professional development leads to increased skills in certain areas. It is important that those designing professional development provide structure and a significant amount of time for teachers to deepen their understanding within the context of their classrooms (Guskey, 2003; Guskey & Yoon, 2009). With increased professional development sustained over time and the opportunity for appropriate follow up, participants demonstrate higher self-efficacy (Dixon, Yssel, McConnell, & Hardin, 2014; Sandholtz & Ringstaff, 2014). Tschannen-Moran and McMaster (2009) tested four formats of professional development with 93 elementary teachers and found that professional development oriented towards mastery experiences (Bandura, 2007) paired with follow up coaching had the strongest effect on self-efficacy beliefs. The purpose of this study was to examine the preparedness and support provided to teachers, both online and face-to-face, in a co-taught blended learning environment.

METHODOLOGY

Context of the Study

The Occupational Course of Study Blended Program offered through the North Carolina Virtual Public School (NCVPS) provided the context for our study. In 2005, the North Carolina General Assembly established the NCVPS and offered the first online courses in the summer of 2007. Since 2007, the NCVPS has experienced tremendous growth with over 55,000 students enrolled during the 2014-2015 school year. These numbers represent an increase of 300% since the launch of the program, making the

NCVPS the second largest state virtual school in the country (NCVPS, 2016). In 2010, to satisfy a mandate by the No Child Left Behind Act that all students with disabilities be taught by a highly qualified content area teacher, the North Carolina Department of Public Instruction worked with the NCVPS to create the blended learning Occupational Course of Study (OCS) program.

The NCVPS blended model for OCS meets at the intersection of a) co-teaching to provide special education students with access to highly quali-fied content area teachers, b) school-to-work transition programs, and c) virtual schooling (Figure 1) (Garrett Dikkers, Lewis, & Whiteside, 2015). While the students still come to school each day and learn with the special education teacher, they are led through online content in certain disciplines supported by the virtual content teacher.
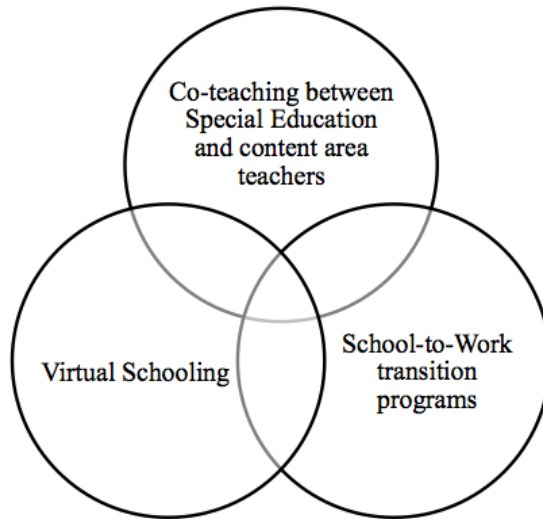

Figure 1. The NCVPS OCS Program. This figure illustrates the intersec-tion of co-teaching, school-to-work transition programs, and virtual school-ing.

The hallmark of the NCVPS OCS program is that it blends online content provided by a virtual content area teacher with face-to-face (f2f) instruction by the OCS special education teacher. The f2f special education teachers are able to adapt the course content to meet the needs of their specific students. NCVPS (2013) explains the co-teaching aspect of the OCS blended learning program:

> [This is] the most critical piece for schools to understand. The NCVPS [virtual] teacher [is not] providing daily direct instruction; this responsibility rests with the classroom OCS [special education] teacher. The online content provides archived teaching sessions that can be used, but the daily instructional decisions are driven by the [special education] classroom teacher who plans daily, through an asynchronous document, with her partner NCVPS [content] teacher.

Another feature of the program is its flexibility. Direct interaction between the virtual teachers and their students can be limited, although it depends on the teacher partnership. In some cases, students have little direct interaction with the virtual teacher; instead, their f2f special education teacher utilizes the virtual content provided in multiple modalities to instruct his/her students.

Depending on the partnership and negotiation of roles of virtual and f2f teachers, some virtual content area teachers do have more direct contact with the students. Some schools and districts utilize the OCS program as a true collaborative, co-teaching endeavor, where the virtual content teacher and the f2f special education teacher plan together and both maintain high levels of contact with the students. Other schools may have students accessing virtual coursework through a lab setting, with a lab coordinator or teacher liaison supporting the students in the brick-and-mortar school. In essence, schools and districts have total control over how and what they implement from the OCS blended learning program through NCVPS. The complexity of professional development in this blended co-taught environment increases two-fold when one considers the additional layers of support required to address competencies expected from *both* f2f *and* virtual teachers in order to best support the needs of students in an Occupational Course of Study. To effectively implement blended learning in a co-taught blended environment for students in a special needs program, an effective model of professional development addresses supports for blended learning, co-teaching, and differentiation (Figure 2).
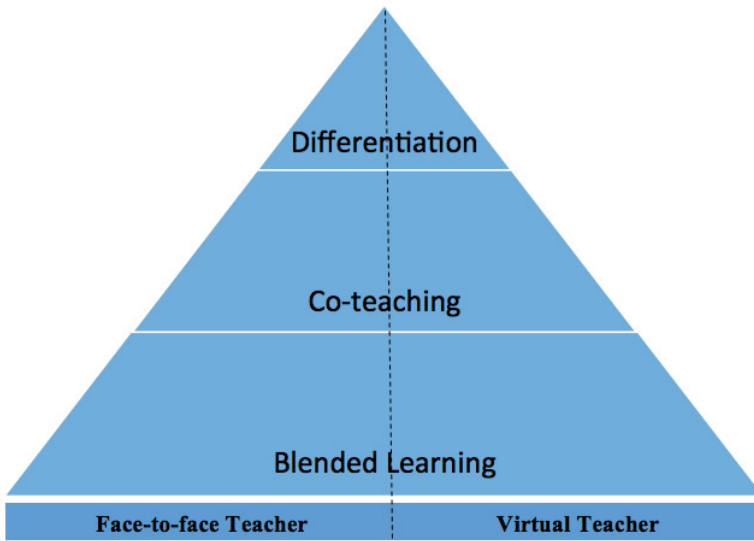
Figure 2. Layers of Support. This figure illustrates necessary components of professional development for the blended, co-taught model.

Methods

The current qualitative study is rooted in social constructivism, with the researchers aiming to understand the meaning-making processes of teachers working within the NCVPS OCS program (Creswell, 2013). Our research questions include:

1. What does blended learning in an Occupational Course of Study class-room look like?

2. To what extent/how are teachers *prepared* to teach in a blended co-teaching environment?

3. To what extent/how are teachers *supported* to teach in a blended co-teaching environment?

Typically qualitative research involves multiple opportunities for re-searchers to interact with participants (Creswell, 2013; Ravitch & Carl, 2016); however, since NCVPS OCS teachers are spread across the state of North Carolina and our primary research purpose was to gain a basic un-derstanding of their experiences, we utilized a survey approach. A survey approach is an efficient means to gather data from participants in a range

of locations and from a large number of people in a short amount of time (Ravitch & Carl, 2016). We used the survey to examine teacher preparation and support to teach in a blended co-taught environment.

Since the literature points to cross sectional survey methods as the best approach for mid- to large sized populations (Babbie, 1973), the research team designed a 21-question survey with a mix of demographic, Likert-scale, and open-ended questions. The survey was piloted with both f2f and online teachers. Pilot participants tracked the time it took to complete the survey and any challenges they experienced. Minor revisions were made to the wording of questions based on the pilot.

Through our partnership with NCVPS, permission was granted by the Chief Academic Officer and Division Director for the survey to be distributed through the OCS teacher listserv. The Instructional Director of OCS sent an email to online and f2f OCS teachers of 12 OCS courses asking them to contribute.

Sample

The survey remained open for three weeks in fall 2014 to a potential target population of 216 online teachers and 543 classroom teachers. Our survey received an overall response rate of 27.5% (n=225). The overall response rate for online teachers is 30% and the overall response rate for f2f teachers is 26.5%. While this response rate seems low, it is acceptable for a web-based survey (Manfreda, Bosnjak, Berzelak, Haas, & Vehovar, 2008; Shih & Fan, 2008).

Of the teachers who responded, 84% were female, 15% were male, and 1% identified as transgender, with the racial distribution: 86% white, 10% Black or African American, 1.5% Hispanic or Latino, 1.5% Native American or American Indian, and 1% Asian/Pacific Islander. In addition, 87% were between the ages of 30 and 59 years old with 7% ages 20-29, 6% ages 60-69, and one respondent identifying as 70 or older.

Of the 255 teachers who responded to the survey, 31% of teachers were online virtual content teachers (n=65) and 69% were OCS classroom teachers (n=144). The remaining 46 teachers did not identify as online or f2f. The majority of teachers (44%) had been teaching for 15 or more years, 27% for 10-14 years, and the remainder had been teaching for 1-9 years. Approximately one third of teachers were in their first semester of teaching OCS for NCVPS. One third were in their second to fourth semester, and the remainder had taught five or more semesters, with 8% of the total population having taught ten or more semesters in the OCS program.

DATA SOURCES AND ANALYSIS

Data analysis techniques included descriptive statistics for closed items on the survey, as well as established and emergent coding of qualitative responses from the survey open-ended questions. The research team took several steps to check for accuracy and reliability of findings. First, both researchers read through all of the open-ended responses to gain an overall sense of the data. Second, two researchers individually analyzed a sample of open-ended responses from the survey and met in a series of meetings for consensus agreement (Creswell, 2009). Throughout the coding process for all open-ended survey data, the two researchers met regularly to cross-check codes and share their analysis, another measure to establish reliability of the research findings. All data is reported for the combined group, except for cases where there was a clear distinction between responses of online and f2f teachers.

Delimitations and Limitations

A delimitation to the current study is the use of anonymous online surveys. This decision was made in order to receive an overview of teachers working within the NCVPS OCS program. This limited the possibility of follow-up focus groups with the population which could have resulted in a more nuanced understanding of their responses and are a natural addition to data collection in a qualitative study.

One limitation to the current study is that it relies solely on self-reporting, which is necessary for this qualitative study to explore the perceptions and experiences of the individual teachers. Self-report, however, potentially affects validity of the study. In addition, the link to the survey was sent by the NCVPS directly to the teachers, rather than coming from the research team; however, this could be seen as a benefit because the teachers may be more apt to respond to a survey that is sanctioned by their leadership. Another limitation to our research is that all f2f and virtual OCS teachers received the survey link; however, we received a greater number of responses from f2f teachers versus online teachers. In our findings section, we report responses from the combined group, except in cases where there is a distinction between the responses of online or f2f teachers. Analysis of open-ended responses revealed the possibility that a limited number of teachers self-identified incorrectly as teaching online or face-to-face.

CASE RESULTS/FINDINGS

In order to better understand the professional development needs of educators in a co-taught blended learning environment, we sought first to better understand the blended OCS classroom and the ways in which teachers defined success for their OCS students. OCS students have Individualized Education Plans (IEPs) and documented disabilities. Student disabilities range from Autism Spectrum disorders, to moderate cognitive disabilities, to other health impaired disabilities, and specific learning disabilities, including reading significantly below grade level. Students differ greatly in their abilities to engage with content. This shows the massive amount of individualization that must take place for students to grow academically, as well as the range of disabilities that could be present in one classroom for one teacher, suggesting the potential benefit of having a content expert online. Most OCS students are working towards graduation and then plan to enter the workforce or community college. One teacher identified her OCS students as "a group of challenged learners [who] have significant processing, storage, and or retention issues. [OCS students] have difficulty understanding issues that encompass a great deal of complexity beyond that of their peers."

One way to understand more about the population of students is by reading teachers' responses to the survey question: "How would you define success for your OCS students?" Unsurprisingly, a large number of teachers talked about success as demonstrating mastery of academic skills or concepts, passing the class, and gaining credits for graduation. However, teachers also discussed general growth or success being connected with the students simply learning something new, being able to apply what they learned, and retaining that knowledge. One virtual content teacher commented:

> I want them to feel a connection to the content in a meaningful way to the point that it isn't too distant or too foreign for them. I want them to be at a comfort level that would make them feel capable of extending their own learning in the future through interest and knowledge of how to access it.

In addition to academic skills, teachers talked about the development of life skills, a vital component of the OCS workforce training. These skills include technology, communication, independent learning, problem solving, and time management. Teachers also discussed the development of soft skills, such as building their confidence and pride, students being happy with their learning, feeling that more adults care for them, "reaching their highest potential," and getting excited about learning.

In order to understand teacher preparedness and level of support for working in the OCS program, we asked questions about all three aspects of the paradigm: blended learning, co-teaching, and differentiation for the specific population of students.

Preparation for Blended Teaching

When asked how prepared they felt to teach OCS students in a *blended* learning environment, 50.47% (n=108) of teachers reported feeling very prepared, 34.11% (n=73) felt prepared; 10.75% (n=23) felt somewhat prepared, and 4.67% (n=10) reported no preparation. Many f2f teachers discussed training to teach online in terms of the modules that NCVPS requires at the beginning of the semester. Very few mentioned district training to teach online. Instead they relied on learning on the job through trial and error or other professional and academic experiences. Online teachers are required to complete an elaborate and detailed online training, which includes an 18-week internship prior to teaching on their own. Many also took a separate class about how to teach online as part of their NCVPS training.

One educator singled out the need for continued development opportunities: "As technology changes, we have to be able to keep up with what is available [that] can be used to impact student achievement in a positive way. Also, we want to be sure to continually keep up with best practices, brain research, and changes in the curriculum to ensure that we are doing the best job possible for our students, and for our learning community." Teachers stated the most significant learning came from actually preparing and teaching in NCVPS OCS classes.

Preparation for Co-teaching

When asked how prepared teachers felt to *partner with another teacher* to serve the needs of the OCS population, 60.28% (n=129) reported feeling very prepared, 33.64% (n=72) were prepared, 4.67% (n=10) felt somewhat prepared and 1.4% (n=3) did not feel at all prepared. Face-to-face and online teachers felt that, in most cases, their years of experience teaching provided them with adequate preparation to co-teach in the blended environment. This was especially the case for f2f OCS teachers who had many years of experience teaching in inclusion classrooms. In the NCVPS program, there does not seem to be any formal training for co-teaching specifically, although it is a part of the larger orientation to participate in the program. Neither group seemed to ask for more co-teaching preparation, although they were aware they have not had any. One f2f teacher shared, "We had a brief training session, but it was nothing like really getting into it and learning by doing."

Preparation for Differentiation for OCS

When teachers were asked how prepared they felt to teach *OCS students* in a traditional classroom (i.e. not online), 36.45% (n=78) reported feeling very prepared, 33.64% (n=72) felt prepared, 24.3% (n=52) were somewhat prepared, and 5.61% (n=12) did not feel prepared at all. When we examined this question filtered by online versus f2f teacher, twice as many f2f teachers (42%, n=60) felt very prepared to teach OCS students than the online teachers (23%, n=15). This is understandable because many of the online content teachers did not have licensure or certification in special education.

Face-to-face special education teachers discussed their teacher education programs, advanced degrees, certification, licensure, and individual coursework as preparing them to teach special education populations, as well as their vast experience teaching in inclusion and resource classrooms. They also mentioned professional development, in general, as well as specific NCVPS and district level professional development opportunities. For example, one teacher discussed having 22 years of experience working in a self-contained classroom, as well as a Master's Degree and National Board Certification status, attending workshops and even conducting workshops across the state. However, another teacher said, "It would be impossible for me to teach these classes without the expertise of the online teacher to develop materials." There were some who mentioned having little or no preparation to teach the population of students.

Online content teachers relied on the NCVPS training and their f2f OCS teacher partners to develop an understanding of how to differentiate coursework for the OCS student. Some had dual licensure in a content area and special education, but most relied on their experience as the regular education teacher learning from their peers in f2f settings. Online teachers had a similar range in experience working with this specific population, which spoke to their level of self-efficacy. For example, one teacher said, "I have the certifications to teach the regular ed class and I took several professional development courses on students with special needs. I am not sure I would be prepared to handle the behaviors and disability specifically though." Another teacher spoke of teaching for seven years in the f2f setting:

> [I've been] working closely with OCS teachers to help every student with an IEP, and to discuss strategies to help them via differentiation…especially learning menus to help all kids. My professional development includes dispute resolution skills, learning about all kinds of minds, preparing differentiated curricula, etc. I myself have overcome my disability (dyslexia), and have deep empathy for those with different abilities.

Support for Blended, Co-teaching, and Differentiation

When teachers were asked how supported they felt to teach in an OCS online environment, 65.88% (n=139) felt very supported, 23.22% (n=49) felt supported, 9% (n=19) indicated they felt somewhat supported, and 1.9% (n=4) did not feel supported at all. When we looked at the responses to this question divided by online content teacher or f2f OCS teacher there was a noticeable difference in response. Comparatively, 75.38% of online NCVPS teachers felt very supported, while only 61.81% of f2f OCS teachers felt very supported as teachers in the program.

By far the online teachers were the most important resource for OCS teachers. The online teachers provided resources, brainstormed, collaborated with them for classroom instruction, and provided valuable feedback to their students. The constant communication with the f2f and online teacher was seen as essential. NCVPS has three specific mechanisms in place to facilitate this communication. Both teachers keep a daily log in Google Docs where they note specific needs or concerns for individual students as well as overall curriculum-related questions. The co-teachers communicate weekly in a phone call and use email as an additional form of communication. One f2f teacher explained:

> Online logs that we share along with the weekly phone calls enable me to get clarification if I am confused on a subject or activity (sometimes I do not have the master's level knowledge to know the correct response to clarify for my students, and sometimes I have caught errors). In talking to each other frequently, together, we get the students the correct information.

NCVPS technology help and training, support staff and instructional team leaders, and the NCVPS website were also very helpful for teachers. Less mentioned, but still seen as important to some, were school and district level support.

In contrast, online teachers saw NCVPS leadership (instructional leaders, course leads, mentors) and NCVPS mechanisms (for example, Electronic Learning Communities, which meet together and serve as electronic professional learning communities) as the most vital resources for support. One teacher detailed, "I have instructional leaders that answer my emails/ questions within 3-5 hours so I never feel alone." Only seven out of sixty-five specifically mentioned their OCS teachers as important support. Other NCVPS procedures such as spot checks, shared documents as an online team, and the daily logs in Google Docs were also important elements of support for the online teachers.

We asked teachers to share which supports they need to continue to be successful, as well as recommend additional examples of support for new

teachers in the OCS program. Many f2f teachers talked about technology as a potential barrier for the success of the program. They needed more, better, updated technology (laptops, headphones, speakers, projectors, lab equipment, and calculators), adequate Internet access, and better technology help, especially at the school level. For example, one teacher explained, "I already went through one LCD projector and the classroom set of laptops I received five years ago are on their last legs. Also, the class set of headphones I received five years ago are almost all gone." Another shared, "[We need] more communication [between] the technology staff at the state level and the local school district. Many times some of the sites are blocked by the district. If there is a published list of sites provided, I would be able to go to the technology staff and get access prior to the start of the class."

Face-to-face teachers in our survey also discussed needing what all teachers need – more time, specifically having access to content earlier so they can prepare for the semester. One educator expressly requested IT access and time to explore the website on her own before classes start: "The most challenging thing for me when I first started teaching with NCVPS was that Blackboard opened up literally a couple of days after my [f2f] classes started. With the usual beginning of the school year responsibilities from my school, I really had little time to explore the NCVPS website." In addition, f2f teachers mentioned the need for administrator support to avoid multiple preparations and increased workload. They wanted continued access to and contact with the online teachers, as discussed above, as well as recognition that this communication takes a significant time commitment on their part.

According to current f2f OCS teachers, those new to teaching in the program should have revised training and professional development. More exposure and practice with Blackboard and the technology activities used in the online class would be helpful. This may also include participating in online learning themselves in order to better understand the experiences of their students. Face-to-face summer training as a group, the opportunity to meet f2f with their online content teacher, the ability to shadow a fellow OCS teacher working in the blended environment, and/or observing an online class in action were other examples given of support that should be provided for future teachers in the OCS program. Some OCS teachers may also need support in developing content knowledge.

Online teachers discussed continuing with the same mechanisms of instructional support from NCVPS. They would also like to have collaborative time for sharing with their peers and with other OCS online teachers. Training needs for new online teachers in the OCS program include differentiation, IEPs, OCS-specific professional development, and understanding the partner relationship. One teacher shared, "Many times I feel as if the school face-to-face teacher does not completely understand the critical partner-relationship that makes blended learning successful."

DISCUSSION

The findings from the OCS example of a co-taught blended learning environment illuminate the need for several layers of support:

- Face-to-face teachers need to understand teaching online.

- Online instructors need to understand f2f teaching.

- Both need to understand the foundations of a true co-teaching model.

- The online content teacher also needs a better understanding of the needs of the student population.

In this particular model, when the OCS component is layered in, the f2f teacher is the person who most understands the OCS population, but needs the content expertise of the highly qualified online content teacher. The online teacher truly supports the f2f OCS teacher, a paradigm shift from f2f inclusion model, where special education teachers are often pulled in to the classroom playing a secondary role to the content specialist. These considerations emphasize the need for support in the areas of blended learning, co-teaching, and differentiation for both the virtual and f2f teacher. Below, we discuss each of these areas with recommendations for professional development practice for schools and districts.

Blended Learning

Based on our findings, there is a continued need for teacher training and support structures for all teachers involved in the OCS partnership. One suggested improvement is to provide virtual content teachers and f2f special education teachers with access to a variety of course shells to see how teachers utilize the blended learning model. Other improvements could come in the form of providing the following support structures: mentorship by veteran teachers to teachers who are new to the program, access to up-to-date and adequate technology, and practice sessions with material and technology before the classes actually begin.

As expressed by NCVPS and OCS teachers, support from the state, district, and school administration is key to success. Support comes in many forms, but it can be demonstrated through providing flexibility, training, access to technology, and clear communication. One educator noted that it is important for others in the school to understand the level and complexity of the work: "Support is great from the on-line teachers; however, other personnel in the school do not know what on-line blended teaching entails."

Co-teaching

In addition, individual teachers have different levels of training and experience with co-teaching, although the f2f special education teachers often have more due to a historical focus on inclusion, placing them in the classrooms of content area teachers. The value of the NCVPS model is it situates the special education teacher as the student expert and brings the virtual content area teacher into the special education classroom.

Challenges to co-teaching for teachers include confusion regarding their roles in the partnership. The special education teacher often identifies as being knowledgeable in teaching strategies; the content area teacher identifies as the content expert (Bulgren, Marquis, Deshler, Schumaker, Lenz, Davis, & Grossen, 2006). The challenge is discovering a balance where both teachers are seen as experts and feel equally important to the education of the students (Austin, 2001; Bulgren et al., 2006; Morocco & Aguilar, 2002). One OCS f2f special education teacher described her ideal co-teaching experience:

> My blended NCVPS English 2 class was the best of both worlds, for my kids had my Exceptional Children expertise paired with the English 2 content expertise of [our partnership teacher]. [She] allowed me lots of choice concerning our daily activities/tasks and to set our pace. She was always available to answer questions/concerns I had that dealt with our content. She messaged individual kids weekly and daily announcements were always celebrating kids and their personal accomplishments. My kids felt totally supported by [her] and we truly had an open, collaborative, respectful relationship.

Teachers often have a lack of shared planning opportunities in the f2f classroom; this is especially true in the blended co-teaching environment. Ideally, the partner teachers should be meeting regularly, jointly developing curriculum, planning instruction, and identifying alternative appropriate assessment measures. Some educators expressly requested more meetings of this type: "It would be nice to attend a face to face training with other teachers to compare and share" and "[I think] regular spot checks help to keep me reflecting on best practices and ways to improve." Some educators even asked for training specific to their discipline, "OCS Math meetings have been a great source of ideas and sharing resources. We get the best, most applicable and practical ideas when we are in a group with other OCS Math teachers." In addition, contractual obligations for teachers who teach online and in a brick and mortar building often limit them to responding to NCVPS students and their co-teachers during the working day.

Teaching the Population

Although K-12 online learning opportunities are expanding for all students, including students with disabilities, teacher training programs rarely provide preparation for teaching online courses for regular education students (Archambault, 2011; Kennedy & Archambault, 2011; 2012; forthcoming). Often "the special preparation in the unique competencies required to provide online instruction to students with disabilities is often totally absent" (Center on Online Learning and Students with Disabilities, 2012, n. p.).

OCS teachers best understand the needs of their students. Several mention how the content of the online course needs to be adjusted to meet students' cognitive needs, but still remain at the appropriate developmental level. The following quotation from an OCS f2f teacher speaks to the need for online teachers to better understand who the OCS students are: "It seems the students with higher academic abilities find it a little on the elementary side, especially the way some of the teachers talk in the videos. They talk like the kids are kindergarteners and that is very insulting."

Although some virtual content teachers have the opportunity to visit a f2f OCS class, and many actually can see the OCS teacher working with the NCVPS content, most do not have this opportunity and some request "more insight in to what other online OCS teachers are doing on a daily basis in their class." Only one f2f teacher mentioned observing OCS teachers in other districts. One online teacher also mentioned having the opportunity to observe an OCS "class in action" to understand the population of students. As one OCS teacher expressed, "Many virtual [content area] teachers do not have [special education] experience and do not understand that OCS students have limited cognitive abilities." Purposefully providing opportunities for content area teachers to familiarize themselves with the OCS classrooms will help them modify content for students.

CONCLUSION

It is striking to note that 69% (n=144) of respondents to the survey were f2f OCS teachers. One can imply from their response rate they are eager to provide an assessment of their participation and learning in this program. In addition, although 71% of teachers responding to our survey had been teaching for ten years or more, their experience with blended learning, co-teaching and the specific population of students varied from having taught one to more than 10 courses in the OCS program. This demonstrates the significance that professional development for this population of teachers should recognize their strong pedagogical knowledge and years of experience in the field while simultaneously addressing their varied experience with the three aspects of this paradigm.

Our research to date with the blended learning OCS program at NCVPS raises several questions for future program development: How much online exposure and training should the OCS f2f teacher have? How can districts work with NCVPS to purposefully partner content teachers with their OCS teachers to streamline communication and strengthen the co-teaching aspect of the paradigm? Is there a way to bring OCS f2f teachers into the online course development process to best meet the cognitive needs of the students in developmentally appropriate ways?

According to the teachers who work in the program, the value of the blended, co-taught model for their students is clear: "I believe my expectations for my OCS students have risen since NCVPS and the co-teaching experience has proven to allow my students access to the knowledge of the NC curriculum. My students are learning so much more than I could provide for them if I taught them alone." Another OCS f2f teacher shared something similar: "They also are getting exposed to more material than if I were teaching it myself without the great information and enrichment activities I receive from my NCVPS [online] teachers." Research shows that at-risk students "could be successful in online learning environments if their engagement was closely monitored by a school-based teacher, and if that school-based teacher provided appropriate feedback to students on their independent learning skills" (Horn, PytlikZillig, Bruning, & Kauffman, as cited in Barbour & Siko, 2012, n. p.). The NCVPS model demonstrates the importance of a true collaboration between the special education teachers who have the expertise of knowing how to best reach the student population with the expertise of the virtual content area teachers to help the OCS students reach their highest potential.

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