iNACOL
International Association for K-12 Online Learning

Transforming K–12 Rural Education through Blended Learning:

Teacher Perspectives

Paula Kellerer, Eric Kellerer, Eric Werth, Lori Werth, Danielle Montgomery
Northwest Nazarene University, Doceō Center

Rozella Clyde, Joe Cozart, Laura Creach, Laura Hibbard, Jason LaFrance, and Nadine Rupp
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Niki Walker and Theresa Carter
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Kathryn Kennedy
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IN PARTNERSHIP WITH

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The mission of the International Association for K–12 Online Learning (iNACOL) is to ensure all students have access to a world-class education and quality blended and online learning opportunities that prepare them for a lifetime of success. iNACOL is a non-profit organization focused on research; developing policy for student-centered education to ensure equity and access; developing quality standards for emerging learning models using online, blended, and competency-based education; and supporting the ongoing professional development of classroom, school, district and state leaders for new learning models. **Learn more at www.inacol.org.**

iNACOL, The International Association for K–12 Online Learning, http://www.inacol.org/

Foreword

Providing equitable educational opportunities for all students, including rural and remote regions, can be facilitated through the effective delivery of instruction using online and blended learning. Challenges of traditional instructional models are solved through teachers empowered with technology tools to better personalize learning for each student's needs. Near and far—students are able to engage in learning that meets their needs for preparing for college and careers.

The potential for blended learning to transform the education system and enable higher levels of learning through competency-based approaches is significant. Several early studies are highlighting the effectiveness of pioneering schools and models. While longitudinal studies are underway to provide a more comprehensive picture of academic achievement and other measures, it is important to provide frequent examinations to cultivate emerging practice in the field from educators regarding the transformation of their practice.

This qualitative study was developed to investigate and share the perspectives of rural educators transitioning to blended learning and paints a powerful picture of the effects new learning models have on teachers, students, and expanding learning environments. A theme of transformation runs throughout this work—transformed engagement, transformed roles for both teacher and student, transformed expectations for learning, transformed use of time and place. It is this transformation that is central to the shift toward personalized learning for every student through blended, online, and competency-based learning pathways.

iNACOL's mission includes a mandate to support the ongoing work of researchers studying the field of innovative practice in K–12 education. This report from partners at Northwest Nazarene University's Doceō Center, the Idaho Digital Learning Academy (IDLA), Michigan Virtual University (MVU), and members of the iNACOL Research Committee provides meaningful insights necessary to inform and equip the field with an understanding of what is emerging and where we need to go.

Susan Patrick

President and CEO
The International Association for K–12 Online Learning

Executive Summary

A qualitative study exploring rural teacher perspectives on the impact of blended learning on students and teachers was conducted in Idaho during the Fall of 2013. Researchers from Northwest Nazarene University's Doceō Center in partnership with Idaho Digital Learning Academy (IDLA) and the International Association for K–12 Online Learning (iNACOL) collaborated in interviewing, transcribing and analyzing responses from rural Idaho teachers on their perspectives of blended learning. Nineteen teachers were randomly selected to participate in the study based on the knowledge that they had participated in blended learning training provided by IDLA and were actively using blended learning in their classrooms. Eight teachers consented and participated in the semi-structured interview process conducted by members of the iNACOL Research Committee.

The study sought to solicit teacher perceptions related to the following three questions:

1. What is your understanding of blended learning?
2. How has blended learning changed the way you teach?
3. How has blended learning changed your students?

Researchers at NNU's Doceō Center evaluated and analyzed the results of participants' responses. Eight significant themes emerged from the analysis, with the most frequently reported theme related to an increased level of student engagement in blended learning classrooms. Other significant themes related to teacher perceptions of students' experiences in the blended learning classroom included a more personalized learning environment, the ability for students to be self-directed, the opportunity for students to create their own pace, and increased levels of student motivation.

Significant themes emerged related to the teaching experience in the blended learning classroom. Teachers confirmed the role that blended learning plays in cultivating a student-centered environment, describing their role as facilitators of learning. In addition, teachers spoke to the importance of professional development in improving their quality of experience in implementing blended learning. Finally, teachers shared personal stories about the significance of just starting, of diving into the experience of creating blended learning classrooms.

Results from this study were compared to a previous study conducted in Idaho (Werth, Werth, & Kellerer, 2013). Conclusions from this study supported many of the conclusions from the previous study including the positive impacts on students in the areas of motivation, student engagement, personalized learning and self-directedness. In addition, several of the themes reflect the positive benefits of blended learning on teachers as well, including an increased level of self-efficacy after "jumping in" and being able to meet the needs of individual students.

Introduction

> Change does not roll in on the wheels of inevitability, but comes through continuous struggle.
>
> – Martin Luther King, Jr.

Fostered by waves of change in technology and society in general, K–12 education in the United States is being placed under increasing pressure to provide students with the skills needed to thrive in careers that may not even currently exist. In this vein, many educators have begun investigating the potential "blended learning" holds to develop 21st century skills in students of all ages. Blended learning is a formal education program in which a student learns at least in part through online delivery of content and instruction with some element of student control over time, place, and at least in part at a supervised location away from home (Clayton Christensen Institute, 2014). Blended learning allows for thoughtful reflection and differentiated instruction across a diverse group of learners (Werth et al., 2013), and may be accepted more readily by parents, teachers, and students who do not want to give up the face-to-face contact characteristic of traditional education (Wolpert-Gawron, 2011).

K–12 blended learning is one of the fastest growing areas in the educational system today. Allen and Seaman (2013) suggest that students taking at least one online course increased dramatically from 570,000 to over 6.5 million students. Researchers have predicted that by 2019, 50 percent of all high school courses will be delivered in an online format (Horn & Staker, 2011). Characterized as "disruptive innovation," the move to blended or online courses in K–12 schools holds the potential to revolutionize education by making it more accessible and individualized (Horn & Staker, 2011). Blended learning is a formal education program in which a student learns at least in part through online delivery of content and instruction with some element of student control over time, place, and at least in part at a supervised location away from home (Watson et al., 2012).

Although likely an underestimate, a 2013 report entitled *Keeping Pace created by the Evergreen Group* found that 75 fully blended schools exist in 24 states (Watson, Murin, Vashaw, Gemin, & Rapp, 2013). In addition, from 2009-2010 in K–12 schools there were nearly 2 million enrollments in distance education courses and 200,000 students enrolled in full-time online programs (iNACOL, 2013). Considering the increasingly important role blended and online learning plays in K–12 education, teacher training for this new learning environment is essential.

In an effort to discover the ways in which blended learning is impacting teachers and students, the International Association for K–12 Online Learning (iNACOL), Northwest Nazarene University, and the Idaho Digital Learning Academy partnered on research aimed at teachers throughout Idaho who have integrated blended learning into their classrooms. The goal was to determine how this technique emerging as an ever more important component of student education impacts critical facets of education such as student academic achievement, student engagement, communication and teacher efficacy.

Mixed methods research was conducted in two phases. The first study component included a survey of teachers who had taken a course on blended learning through the Idaho Digital Learning Academy. Over 600 teachers were asked to participate with nearly 150 responding. Research revolved around investigating the impact of blended learning on the following aspects of the classroom environment:

1. Student mastery and comprehension of academic material
2. Providing targeted instruction/support to students
3. Self-paced learning
4. Communication between teachers, students, and parents
5. Student engagement
6. Teacher self-efficacy
7. General responsibilities of teachers (class preparation, monitoring learning, etc.)
8. Professional development

The resulting report, *Transforming K–12 Rural Education through Blended Learning: Barriers and Promising Practices*, uncovered a number of findings suggesting that blended learning was beneficial to both teachers and students. Published in 2013, the full report is currently available (Werth et al., 2013).

The second phase of the study was intended to provide deeper understanding of the experience of teachers utilizing blended learning in the classroom. This paper reports on semi-structured interviews with eight teachers who share their thoughts about blended teaching. Specifically, it answers three questions from the teachers' perspectives:

1. What is your understanding of blended learning?
2. How has blended learning changed the way you teach?
3. How has blended learning changed your students?

Throughout this report teachers' names have been changed to provide assurance of confidentiality. Participation in the interviews was completely voluntary. Following the description of the study design and data collected, a summary of the major themes discovered in the interviews, and practical implications for those themes are also shared. The interview protocol can be found at the end of the report.

Methodology

Participants

Interview candidates originated from a potential pool of over 600 teachers in the state of Idaho who had participated in blended learning training provided by the Idaho Digital Learning Academy. From this population, a sample of 19 teachers were contacted and invited to participate in the interview process based on knowledge that they were actively using blended learning in the classroom on a regular basis. Of the 19 candidates, eight teachers were able to be contacted and gave consent to be interviewed.

All 8 teachers in this study serve in schools with rural populations. The rural environments these teachers originate from align with a large portion of teachers in the United States. According to the National Center for Education Statistics (2012), 57.6% of public school districts are considered rural. Five of the teachers had more than 20 years of teaching experience. Two of the teachers had been in the classroom 10-19 years, and one participant had taught 5-9 years.

The age range of the teachers was closely related to their years of service. Two participants were over 50 years old. Three of those interviewed were 40-49 years old while another three were between the ages of 25 and 35. Participants had a wide range of self-reported classroom experience with blended learning. Table 1 summarizes the experience of each participant with blended learning as a teacher.

Table 1: Participant Experience and Age

PARTICIPANT NAME (PSEUDONYM)	YEARS OF TEACHING WITH BLENDED LEARNING
Anthony	2
Joe	1
Brian	5
Jess	2
Mike	10
Nathan	2.5
Kristy	4
Susan	1

The Interview

Semi-structured interviews were conducted with each participant during the fall semester of 2013. The structured interview protocol (see appendix A) was constructed with six main questions. Interviewers were given the freedom to explore responses in depth as needed. Prior to the interview itself, participants were provided with the interview protocol and questions so that they were aware that the purpose of the interview was to explore three major elements:

1. What is your understanding of blended learning?
2. How has blended learning changed the way you teach?
3. How has blended learning changed your students?

Each interview was conducted by a member of the iNACOL Research Committee as well as recorded for subsequent analysis. Verbatim transcripts were created from each audio recording. Independently, multiple researchers from Northwest Nazarene University coded interview transcripts. Frequencies of themed responses were recorded for each question and majors themes were identified. These lists were then compared and the final themes for the study determined. Best practice in interview protocol suggests audio-recording and transcription be conducted during the research process (Creswell, 2014; Merriam 1988; Yin, 2014). Creswell (2014) provides a detailed data analysis process to authenticate the accuracy of the data, which was followed by the researchers in the process including audio recordings, transcription, coding, and identifying emergent themes and best practices in blended learning.

Findings

Findings from this qualitative study are organized by the three major elements of the interviews described above. Insight from each teacher is provided to give a more holistic view of the impact of blended learning on the teaching and learning environment. In addition, Table 2 summarizes the major themes which emerged from teacher responses.

Table 2: Interview Themes

OVERALL THEMES	FREQUENCY
Students are engaged in the Blended Learning (BL) environment	30
BL helps meet the needs of students at various academic levels	25
Importance of self-paced learning in the BL environment	23
BL motivates students in the classroom	22
BL cultivates a student-centered environment	15
In BL, you kind of 'dive in' feet first	12
Professional Development is integral when trying to implement BL	9
Students were self-directed learners in the BL environment	8

In the following sections, each of these themes will be discussed from the perspective of teachers using blended learning in their own classrooms.

After this, the themes that emerged from this qualitative study will be compared to the findings of Idaho teachers using blended learning who were surveyed regarding the impact blended learning had on their classroom and students.

This report will conclude by highlighting the implications of the study for teachers and administrators who are considering or have made the decision to pursue blended learning in their classrooms.

Element #1: What is your understanding of blended learning?

Teachers may interpret the term "blended learning" in a variety of ways (Imbriale, 2013). Although each of these teachers had completed training on blended learning with the Idaho Digital Learning Academy (IDLA), the interview questions began by investigating each teacher's understanding of the concept.

In the training the teachers received, they were taught that blended learning is a formal education program in which a student learns at least in part through online delivery of content and instruction with some element of student control over time, place, and at least in part at a supervised location away from home (Clayton Christensen Institute, 2014).

Participants described their understanding of blended learning as a combination between live teacher-student interaction and interaction within a digital environment. All participants reported that they taught in classrooms where students spent at least 50% of their time interacting with a computer or tablet. The range was 50-100 % of the time, with an average of 75% of student's time in class spent engaged in some type of digital environment.

Anthony described his understanding of blended learning as, "using the best of the online world to supplement what works best in [a] traditional brick and mortar structure, … giving students control of time, pace and manner of learning."

Joe's definition concurred with this understanding when he said that it is a "Blending together or merging together the traditional face-to-face form of education with various technology tools, learning management systems and, Internet capabilities that are out there. So it is blending together modern tools that we use, technology tools, with a face-to-face classroom setting."

For Kristy, blended learning was "taking your classroom from being teacher-centered to student-centered and allowing the students to have some say in what their learning is and what is needed for support from me as the teacher or the instructor." Kristy described the ownership students have in her classroom by saying, "they're learning it; they're controlling it; it's not me doing it."

Participants however were quick to point out that an effective blended learning environment includes more than just the presence of technology. Teachers described a progression in their own learning process that went from simply using computers to focusing on educational outcomes where computers simply became the tool.

"When I started," Mike said, "it was more about computers in the classroom and now it's more about touching base on different learning styles."

Although four teachers did talk about technology element of blended learning as a tool to prepare students for real world experiences, teachers emphasized technology as a tool to reach education outcomes and rarely saw the learning of the technology an outcome in and of itself. Anthony reflects this thinking when he shared "… students can prove their knowledge and their proficiency in a variety of ways and the technology gives them the platform to do that."

Element #2: How has blended learning impacted your students?

While all eight of the teachers interviewed came to the same technical conclusion that blended learning included both technology and human interaction and their definitions were similar to that which they were taught, the interviewers also probed the teachers with questions to see if they had an understanding of how blended learning had impacted the students in their classes. From the interviews, four themes emerged that described the impact of blended learning on students: student engagement, personalized learning, self-directed learning and student motivation.

Student Engagement

Student engagement has been shown to be an important characteristic associated with success in school (Carroll & O'Donnell, 2010; High & Andrews, 2009; Mo & Singh, 2008). Participants were asked, "If I were to visit your classroom, what would I see that is different than what I would have seen before you took the IDLA blended learning training?"

Nathan's response was "Everything. Everything. Honestly. Students are more engaged. It's the darndest thing. We have an online textbook in Earth Science. I couldn't have gotten those kids to read those textbooks in 100 years in a regular classroom." He went on to describe that his students now read every paragraph.

Anthony described the biggest change in the word "engagement." He went on to say, "Students are constantly asked to be active learners and to prove their knowledge through doing it instead of just sitting passively and proving that every 1 or 2 weeks through a formal evaluation…. Engagement has definitely increased, students are being forced […] to become active learners, and so you constantly see students who are exploring online. They are becoming exploratory learners online."

Kristy described her class as being almost 100% engaged and when she, herself, did not believe that could be possible, she had an instructional coach come to her class and verify it. Kristy said, "They're not doing texting or just daydreaming. They're engaged on what's going on because they're actually enthused about what they come in and work on."

Personalized Learning

The goal of personalized learning is to provide students with learning options which fit their strengths, needs and interests. This choice involves the topic studied as well as the location and time learning occurs (iNACOL, 2013). Salman Khan popularized the phrase "personalized" learning as he developed the online tool Khan Academy. Khan underscores the value of personalized learning saying, "… in a traditional classroom- the spread between the fastest and slowest students grows over time, putting them all in one class cohort eventually makes it exceedingly difficult to avoid either completely boring the fast students or completely losing the slow ones" (Khan, 2012).

When interviewed, all eight teachers reported that students experienced a more personalized approach to learning in their classroom. Some indicated that students had freedom to explore options in demonstrating their knowledge or accessing new learning. Jess reported that students "… have the freedom to learn in their own methods, their own style, their own time frame."

Students are able to work at various academic levels depending on previous knowledge. Nathan explains one of his perceived triumphs was his ability in "… not having to re-teach to kids who [knew] it already … they [had] a chance to go on."

Mike shared the importance of his ability to support students as they worked with different topics and different paces as he shared that he could "sit a kid down at a computer and … have another one at another computer and they can be at two different levels and you can see both of them side by side." He went on to say that he wouldn't know how to accomplish this without the computer in his classroom.

"Every student has an individual learning platform that you are able create for them using blended learning that you traditionally would not be able to create for them" are the words that Anthony used to frame this idea of personalized learning.

Several studies have supported the idea that not all students learn in the same time frame (Hughes, Phillips, & Reed, 2013; LeBlanc, 1992; Tatum & Lenel, 2012; Tullis & Benjamin, 2011). The ability to allow some students to review, return, and relive instruction while others continued to new learning was enhanced in the blended learning classrooms in the study. Kristy reports that "… if they [students] need something else, or if we need to go back because what they watched so far as a video online, they didn't really get, um, you know there's the opportunity for those kids who got it, they can go on and do the lab for the day, whatever, … homework assignment they can get on, or they can go on and do a small group lecture." Other students in the classroom have the freedom to return to content until they have mastered it.

Self-Directed/Self-Paced Learning

In the first study conducted on teachers using blended learning in Idaho, nearly 90% of respondents indicated that blended learning facilitated student self-paced learning better than their previous teaching methodology (Werth, Werth,

& Kellerer, 2013). Participants in this study were asked to talk about whether it is the student or the teacher that sets the pace of learning in the blended learning classroom. All teachers agreed that setting the pace was an important consideration. Most teachers, (7 out of 8), stated that the student had a greater degree of control for their own pacing in the blended learning class. One teacher continued to maintain the pace for their students. It is important to acknowledge that all teachers felt a great deal of pressure to get students through a given body of material, a common concern of teachers in an era where student scores on objective exams is often viewed as the ultimate gauge of student academic success (Macpherson, 2009; Mora, 2011). Jess expresses both the positive and negative sides of this pressure when he referred to the "constraints due to curriculum mapping we had to use but on the other hand it was good to have them because it would be super easy to just get hung up in this as a great project and keep expanding on it."

Mike connects blended learning with his ability to meet the needs of various students, some with disabilities. "It's going to work towards students learning at their own pace, and it helps in a lot of different areas as far as the different learning capabilities of the students, whether they're advanced or they're IEP kids." Mike's comment was congruent with participants in the first study who indicated that blended learning made differentiating instruction based on ability level and learning styles more effective (71.8% and 69.3% respectively). 84.6% of teachers in the first study indicated that assisting those with special needs was better or the same after implementation of blended learning (Werth et al., 2013).

Anthony sees the ability for students to be self-directed as one way of ensuring students are consistently challenged. In his classroom, "… students are working in their own module, at their own pace. There is a lot of grouping based on ability and based on students' test scores. So every student is being challenged to their capability." He continues to advocate for blended learning as an effective tool for the second language learners he serves in his classroom. "I think the blended learning has broken down a lot of those barriers, as second language learners are allowed to go at a slower pace, they are allowed to use online dictionaries, they are allowed to rewind, and they are allowed to re-listen."

Kristy also shared her perceptions of student self-pacing as a result of the blended learning environment in her classroom. "I think the pace has changed … to the students determining it. The curriculum was what we have to meet, but the students are controlling how quickly they are going through it."

Student Motivation

The importance of student motivation in effective learning is commonly accepted and backed by empirical evidence (Alivernini & Lucidi, 2011; Cavas, 2011; Christophel, 1990; Meyer, McClure, Walkey, Weir, & McKenzie, 2009). In the first study on blended learning in Idaho, 56.4% of teachers who responded to the survey indicated that students motivation was better or much better following implementation of blended learning in their classroom.

Student motivation was a consistent theme in the teacher responses to the structured interview questions. Many of the teachers connected student motivation to student choice. Joe shares, "I kind of give them the end goal. Here is the objective, this is what we need to get to. Use whatever tools you want to use to get there. And I think by them having the ownership of completing the activity, allows them to, you know, be more motivated into what they do and what they create. And just dealing with the curriculum and day to day activities that, I think that, that allows for that ownership to take place."

Anthony shared similar thoughts related to student's ownership of their learning. "I think that students are excited to be able to prove their knowledge on their own terms. I think a lot of times in traditional classrooms teachers expect or demand students play by their rules, and in the blended learning world the students kind of get to write their own rules of how they want to show competency and show acquired knowledge. So in that way I think that motivation has increased because students have a lot more ownership over their work and a lot more creative option, and I think that that improves their motivation to want to be in the class."

Other teachers connected student motivation to the student's ability to "see and manipulate" concepts. Brian noted the blended learning approach has "… added motivation. It's just interesting to conceptualize atoms other than someone writing it up on the board or reading it out of a book. They [students] can go in and mess or manipulate [the atoms] themselves with models."

Element #3: How has blended learning impacted your teaching?

One of the most significant findings of the first study on blended learning in Idaho related to how this teaching methodology impacted teachers themselves. A number of survey questions addressed how blended learning influenced the way teachers facilitated their classes. Survey responses indicated that blended learning improved the teachers' self-confidence (62.5%) as well as their ability to manage the classroom (64.1%), monitor student learning (77.5%), be innovative (82%), and provide 1:1 instruction (74.4%)(Werth et al., 2013). To further determine the impact of blended learning on teaching, interviewees were asked to explain this influence.

Student-Centered Facilitators of Learning

Perhaps one of the most significant findings emerging from work on blended learning is emphasis on a student-centered environment in the classroom. Marsh (2012) states, "Blended learning is, by its very nature, 'student-centered.' As the classroom is the 'familiar' learning environment for our students, then it follows that this is the starting point for promoting student-centered learning practices" (p. 8).

Qualitative data collected from teacher interviews indicates that in blended learning, an increase in student motivation, engagement, self-direction and personalized learning were reinforcing for teachers as they purposefully planned their instruction to create more student-centered classrooms. For Kristy, blended learning has allowed her to "… take [her] teaching outside being [her]- focus to student focus and work and where they [students] want to go and what they are learning in the math classroom."

Several teachers commented on their ability to adjust lesson planning based on the student learning occurring in the classroom. For Nathan, blended learning allows him to "… talk to them [students] and [he is] able to adjust assignments on the fly for the kids who are struggling a little bit more." In addition, Nathan noticed his increased ability to meet the needs of those students who are accelerated or who have already mastered key concepts by challenging the "… higher level kids with higher level work."

Several teachers commented on their role as a teacher changing in the blended classroom. Susan explains this as "I may not be the teacher at the front of the room. I may be the teacher sitting beside the students. I probably was the teacher that loved the sound of my own voice, [but] I may not be the lecturer anymore." Jess reflects this same idea. "With this [blended learning] it is more … I am just like a facilitator." Kristy used the same words to describe a significant change in her teaching behavior. "I'm no longer a quote unquote, traditional teacher in that I'm more of a facilitator."

When one teacher was asked by their administrator what they did in the blended learning classroom, he responded by saying, "Well, if it's working right, I don't do anything. Until somebody raises their hand, I don't do anything. Realistically, my job is, it's not obsolete, but I'm spending a lot of time with kids who are having trouble. And that's one thing I wasn't able to do … That's another thing he sees…me sitting with a group of 2 or 3 kids going…'Ok, you guys all missed this concept on this assignment. Let me go over this with you.'"

Diving In

A significant theme shared by all eight teachers interviewed was the idea that blended learning involves the courage to just "dive in" feet first. Implementation of blended learning, at times, involves significant challenges in technology. Particularly in the initial stages of implementation, Nathan shares that the questions students have are more likely to relate to a technology issue than a content issue. Teachers felt that their level of expertise related to technology issues increased as they faced and learned how to address various issues related to connecting devices to the internet, finding applications for multiple devices, working around security issues and troubleshooting other technology-related issues.

However, teachers relayed the idea that the challenges were important barriers to overcome. "I'm not usually a dive in head first kind of person," Nathan said. "But it seemed like it was important enough to the kids that I needed to do

something." Susan echoed the amount of work it took to implement blending learning in her classroom. "It was a lot of work up front, a lot more than I intended when we jumped in feet first." She goes on to explain that she is still not fully implemented in all 10 of her different classes. However, she affirms the hard work by saying, "but I love blended learning. I wanna get there someday."

Nathan, who says that if he hadn't found blended learning he would already be retired, states it this way, "… if it's important enough for the kids to do it this way, I need to be here for a while." Mike also sees the challenges and rewards of jumping in to blended learning. "I guess it's always a work in progress. It seems like … Now we got Common Core coming out so we got to redo a lot of stuff and it's kind of crazy in that aspect … And better, 'cause I think students learn more."

The insight provided by experienced teachers through interviews supports the earlier survey research on blended learning in Idaho. The emerging theme from this previous study indicated that blended learning takes time, technology, training and tenacity. Moreover, the most common suggestions by experienced teachers indicated that while there are initial struggles with blended learning that must be overcome, the benefit to both the students and teacher make the overall change worth the effort (Werth et al., 2013).

Professional Development

Previous research on teacher use and integration of technology in the classroom has demonstrated the teacher-technology dynamic as complicated and involving many variables. Many researchers have demonstrated that both barriers to technology integration in class as well as factors encouraging its use are dependent on intrinsic and extrinsic factors. Intrinsic factors determined important include personal beliefs about teaching, technology, and classroom practices. These factors also include knowledge, self-efficacy, a willingness to change, and the teacher's perceived value of technology. Extrinsic factors include school culture, time, training, and support (Ertmer, 1999; Ertmer et al., 1999; Ertmer & Ottenbreit-Leftwich, 2010; Ertmer, Ottenbreit-Leftwich & York, 2006; Niederhauser & Perkmen, 2010). Among the extrinsic factors identified, professional development appears to be one of the most influential (Ertmer, 1999). In the first study conducted on blended learning in Idaho, training was identified as a major theme both as a factor supporting those using blended learning successfully and when absent in presenting a barrier to those not using blended learning in their classroom (Werth et al., 2013).

The teachers in this study were chosen because of their involvement in Idaho Digital Learning Academy's training program for blended learning. Their districts participate and receive support for blended learning through membership in a blended learning coalition. All eight teachers shared the importance of professional development, collegially support and administrative support in the implementation of blended learning in their classrooms.

Teachers in this study spoke to the importance of the timeliness of the training and the availability of the training. Although some jumped into blended without initial training, once they received training, their vision was expanded. For Jess, "Differentiating … was the big light bulb moment for me in my training." Nathan shared how he tried on his own to find training and then "IDLA came to my rescue. They showed me how to use this so that I could actually do something educational."

Many teachers shared the importance of collegial relationships. Susan spoke to the importance of her teaching partners in her development of blended learning. During a common planning time, they "solve problems as well as share [their] successes and … get excited and feed off one another, and help one another when necessary."

The support of the local administration also was a key for many teachers in the study. Support was mentioned in the areas of providing or allowing access to professional development, providing common planning times for grade level or content area colleagues and in providing encouragement to try new ideas.

Connection to Previous Research

The qualitative study was designed as a follow up to the previous report, *Transforming K–12 Rural Education through Blended Learning: Barriers and Promising Practices* (Werth et al., 2013). In this previously published report, survey results were collected from 145 teachers in Idaho who had received some formal professional development in blended learning from IDLA. Designed as a branching questionnaire where those who had used blended learning received a different set of questions than those not using blended learning, questions were organized into five general areas: general uses of blended learning, student academic achievement, student engagement, communication and teaching impact.

Significant findings from the first study suggest that blended learning has a positive impact on both teaching and learning dynamics within a classroom. Teachers experienced in blended learning indicated that keys to an effective implementation include the understanding that integration takes time and that one must persevere through initial struggles to be successful. Other suggestions from those using blended learning include that a teacher should build lesson materials as they go rather than be concerned with creating everything for a unit before starting and that it is important to seek both formal and informal training during the implementation process. The most common barrier cited by those not using blended learning included a lack of time, technology, and training (Werth et al., 2013).

Correlations run on survey data provided by teachers in the first study indicate a positive correlation ($p<.001$) between self-paced learning and 1) quality of student work; 2) interest level of students; 3) general excitement of students; and 4) student perseverance. The study also found positive correlations ($p<.001$) between a teacher's ability to be innovative and 1) ability to provide 1:1 instruction; 2) self-efficacy/confidence of teacher; 3) ability to monitor student behavior; and 4) enjoyment of teaching (Werth et al., 2013).

Werth et al. (2013) reported additional findings categorized in five general areas: general uses, student academic achievement, student engagement, communication, and teaching impact. In the next section, we review the latter four of these areas and compare the findings of the quantitative data analysis to the eight qualitative responses from teachers participating in the interview process for this study.

Student Academic Achievement

In the quantitative study, the report shared five areas where over 50% of the teachers responding reported student academic ability was either better or much better in their classrooms that used blended learning models. Teachers reported the development of higher level thinking skills, improvement of homework and test scores and higher levels of student perseverance. teachers responding to the survey reported increased levels of student responsibility for learning and student-led location of resources for learning. In addition 71.8% and 69.3% of teachers indicated that differentiating instruction based on ability level and learning styles was better or much better following implementation of blended learning respectfully (Werth et al., 2013).

Interview themes related to student academic achievement from the qualitative study on teachers in Idaho can be found in Table 3. The most common theme in interviews with teachers was that blended learning helps meet the needs of students at various academic levels, where this characteristics of blended learning was mentioned on 25 separate occasions. This concurs with findings of the qualitative study regarding the ability of a teacher to differentiate instruction due to blended learning methodology. Other commonly mentioned characteristics of blended learning were that the pace of learning in these courses was determined by the student as opposed to the teacher or curriculum, and that attendance was better when blended learning methodology was implemented.

Table 3: Themes Related to Student Academic Achievement

OVERALL THEMES	FREQUENCY
Blended Learning (BL) helps meet the needs of students at various academic levels	25
The pace of BL courses were not determined by the teacher and curriculum	6
Attendance has been better in the BL environment	3
BL provides opportunities for proficiency	2
Test score data (slightly) increased	2
BL helps students dig deeper in the content	2

Student Engagement

Student engagement was the second area of concentration in the quantitative study. Over 40% of teachers identified an increase in student excitement in the blended learning classroom. In addition, over 55% of teachers related an increase in student time on task and interest level of students during instruction. Classroom behavior issues were reported as better or much better in blended learning classrooms. Finally, the study reported that 65% of teachers perceived students to be more motivated to participate in the classroom (Werth et al., 2013).

Many of the themes which emerged in the qualitative interviews focused on aspects of student engagement (see Table 4). Teachers indicated that when blended learning is utilized students are engaged (30 responses), motivated (22 responses), and the environment is student-centered (15 responses). Those interviewed also stated frequently that self-paced learning is an important component of blended learning (23 responses). Interestingly, on several occasions teachers indicated that blended learning helps prepare students for the real world and helps students take ownership and be accountable for their own work. In this way, both the qualitative and quantitative study components support the argument that student engagement positively changes when blended learning is utilized.

Table 4: Themes Related to Student Engagement

OVERALL THEMES	FREQUENCY
Students are engaged in the Blended Learning (BL) environment	30
Importance of self-paced learning in the BL environment	23
BL motivates students in the classroom	22
BL cultivates a student-centered environment	15
Students were self-directed learners in the BL environment	8
BL helps prepare students for the real world	4
BL empowers students to take ownership	3
Students are more accountable in the BL environment	3
BL allows for flexibility in the classroom	2
Students enjoy the freedom of BL	2

Communication

In the area of communication, the quantitative study reported that 61% of teachers indicated that communication between teachers and students was either better or much better in their blended learning courses. Communication between parent-teacher, student-student and teacher-teacher were consistently reported to be the same or better after the use of blended learning (Werth et al., 2013).

As in the quantitative study on teacher and blended learning, qualitative data did not demonstrate increased communication as being a major benefit of blended learning by those interviewed. Although the ability of blended learning to foster classroom collaboration and increase communication were mentioned, this occurred relatively infrequently with each only being referenced twice (see Table 5). Considering that nearly two-thirds of those surveyed indicated that teacher-student communication was improved with blended learning, it is somewhat surprising this did not emerge during interviews.

Table 5: Themes Related to Communication

OVERALL THEMES	FREQUENCY
Blended Learning (BL) fosters collaboration in the classroom	2
Increased communication was evident in the BL classroom	2

Teaching Impact

The 2013 study by Werth et al. explored teacher perceptions regarding classroom management, monitoring student learning and teacher efficacy. Nearly 78% of teachers reported their ability to monitor student learning was better or much better with blended learning. Over 64% of teachers shared that their ability to manage their classroom was improved as a result of implementing blended learning. In addition, nearly 63% of teachers reported an increase in their own efficacy and confidence was improved after implementing blended learning.

While the elements from the quantitative study did not emerge specifically during interviews, a number of themes indicate that blended learning positively impacted the teachers utilizing this methodology. As can be seen in Table 6, 12 times it was mentioned that when beginning to use blended learning one needs to just dive in and start the implementation process. Along with this, however, were nine responses indicating that professional development is an integral part of a successful effort. On several instances, those interviewed stated that in blended learning, technology is used as a teaching tool and not simply an avenue for socialization or entertainment.

Table 6: Themes Related to Teaching Impact of Blended Learning

OVERALL THEMES	FREQUENCY
In Blended Learning (BL), you kind of 'dive in' feet first	12
PD is integral when trying to implement BL	9
Technology is used as a teaching tool	5
Grant opportunity that increased technology and BL as an initiative	3
BL is a digital classroom where content is delivered in a variety of ways using technology tools	3
Pre-service teachers should take a course online	3
The teacher is actually a facilitator in the BL classroom	2
Flipped classroom model has been used	2
Pre-service teachers should have access to technology/tools	2
BL allows for flexibility in the classroom	2

Implications and Conclusion

Analysis of rural teacher perceptions indicate that blended learning has benefits for both teachers and students. Teachers feel empowered to be facilitators of learning, adjusting opportunities to meet the needs of individual students. Teachers perceive that students are more highly engaged in the blended learning classroom, creating their own pathways to demonstrate understanding, moving through the curriculum at a pace that supports individual mastery of content and creating intrinsic levels of motivation to learn.

Responses from teachers also indicate they are empowered to meet the challenges of a 21st century classroom by learning and incorporating new technologies to meet the needs of a more diverse student population.

Participants also share a key idea in regards to implementing blended learning. Their advice to "just get started" and seek professional development is important in moving classrooms and teachers forward in blended learning.

Future studies could add to these findings by seeking the perspective of students who participate in blending learning environments. Similar mixed-methods research focusing on the students themselves would be valuable in determining and expanding our knowledge on the impact of blended learning on the student.

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Appendix A

IDLA Blended Teaching Study- Interview Protocol

Interview Protocol

Hi _____. My name is_____. Thank you so much for taking the time to interview for this very important study on blended teaching. As you know, I am helping to conduct research in association with the International Association for K–12 Online Learning and Northwest Nazarene University, and we are working in partnership with Idaho Digital Learning Academy researching effective practices in blended learning. Before we get started with the interview, I'd like to remind you of the three research questions guiding this study. First, we would like to know "What is the teacher's understanding of blended learning?" Then we want to know, "How has blended learning changed the way teachers teach?" And finally, through the perspective of the teacher, "How has blended learning changed the student?" We understand that you have already been invited to take an online survey. That survey was anonymous. I have no way of knowing if you completed that survey, and if you did complete it, what your answers might be. I need to inform you that participation in this interview is completely voluntary. If there is a question you do not wish to answer, or if you wish to quit at any time, you are free to do so. Also, your answers will be kept in strict confidence. Your name will never be shared in the results of this research.

Are you willing to continue? (If yes, proceed. If no, thank them for their time and end interview.)

1. When you think of blended teaching and learning, what are some of the words that come to mind?

2. The reason that you were selected for this interview was because IDLA records indicate that you have been involved in professional development through IDLA and that you are either teaching in a blended learning environment, or plan to be using blended learning in your classroom. How much experience would you say that you have had using blended learning with your students?

(IF THEY SAY I HAVE NO EXPERIENCE, GO TO BULLETED LIST BELOW; IF THEY SAY THEY DO HAVE EXPERIENCE, MOVE ONTO QUESTION 2)

- Have you had time to work towards implementation? If so, what have you done so far?
- What are some barriers that are keeping you from implementing blended?
- Describe an ideal situation in which you'd feel comfortable blending your course.

3. The term blended learning means a lot of different things to different people. In your own words, describe what blended learning means with your classes. [If stumped, prompt them to talk about a typical day/week for one of their students in the blended learning environment.}

3.1 If I were to visit your classroom, what would I see that is different than what I would have seen before you took the IDLA training?

3.2 What percent of time would you say that your students spend in a digital learning space? (Ex. A space in a classroom or lab in which students work primarily on the computer or mobile device.)

3.3 Is the pace and sequence of the blended learning course determined by you and the curriculum? Or is it determined by the pace of the student?

3.4 Reflecting back to the time you first began using blended learning in your classroom, was there any program or initiative that helped provide the technology for implementation? If so, what was that program/initiative? If not, what kind of program/initiative would you like to see in place in order to set the stage for your blended learning environment.

3.5 Reflecting back to the time you began using blended learning in your classroom, how did you deal with common barriers such as: Technology? Time? Training?

4. You said that you have had (SEE QUESTION 1) experience using blended learning.

4.1 Talk about your teaching experiences using blended learning. Include your triumphs and challenges. [If he/she shares challenges, ask "How did you overcome those challenges?"]

4.2 Has blended learning changed how you teach or how you see yourself as a teacher? Please explain.

4.3 Imagine your classroom 2 years from now. What do you hope it will look like?

[If blended learning is not mentioned—Will you be using blended learning more, or less? Please explain.]

[If Technology is not mentioned—Will there be more or less technology in the classroom? Please explain.]

[If home use is not mentioned—How much will you expect students to be using technology to do homework at home within the next 2 years]

5. I would like for you to think about the blended learning and your students.

5.1 How has the use of the blended learning model impacted your students (generally)?

[Talk about how you have observed student engagement in your classroom since implementing blended learning.]

[Have you seen any change in attendance or discipline issues?]

[Do you think they are learning more or less or the same as they did prior to using blended learning? Please explain.]

[How have traditional constraints on learning, such as seat time, place/space, learning paths, and pacing been impacted by your implementation of blended learning?]

5.2 When they leave your class and go to a teacher who is not using any form of blended learning, do you think students have any trouble adjusting? Has it changed their expectations for their learning environment? Please explain.

5.3 Reflect on how blended learning has affected the motivation of your students' learning.

5.4 Think about times when you have worked with unmotivated students in your learning environment. You probably had strategies to engage them in the traditional environment. What types of strategies have you tried to engage them in this blended learning environment? Talk about how these strategies may/may not differ from those that you used in the traditional environment. Reflect on what did and/or didn't work and why.

6. Imagine that you were going to talk to a group of college students preparing to teach. What would you tell them about blended learning?

iNACOL
International Association for K-12 Online Learning

TOLL-FREE 888.95.NACOL (888.956.2265) DIRECT 703.752.6216 FAX 703.752.6201
EMAIL info@inacol.org WEB www.inacol.org
MAIL 1934 Old Gallows Road, Suite 350, Vienna, VA 22182-4040

iNACOL, The International Association for K–12 Online Learning, http://www.inacol.org/