

Journal of Catholic Education

Volume 21 | Issue 2

Article 14

June 2018

Teaching in the 21st Century: Perspectives from a Catholic University Partnership

Barbara Stacy Rieckhoff Ph.D. DePaul University

Roxanne Farwick Owens Ph.D. *DePaul University*

Brenda Kraber Ed.D. DePaul University

Follow this and additional works at: https://digitalcommons.lmu.edu/ce

Part of the Curriculum and Instruction Commons

Recommended Citation

Rieckhoff, B. S., Owens, R. F., & Kraber, B. (2018). Teaching in the 21st Century: Perspectives from a Catholic University Partnership. *Journal of Catholic Education*, 21 (2). http://dx.doi.org/10.15365/ joce.2102082018

This Focus Section Article is brought to you for free with open access by the School of Education at Digital Commons at Loyola Marymount University and Loyola Law School. It has been accepted for publication in Journal of Catholic Education by the journal's editorial board and has been published on the web by an authorized administrator of Digital Commons at Loyola Marymount University and Loyola Law School. For more information about Digital Commons, please contact digitalcommons@lmu.edu. To contact the editorial board of Journal of Catholic Education, please email JCE@nd.edu.

FOCUS SECTION

Teaching in the 21st Century: Perspectives from a Catholic University Partnership

Barbara Stacy Rieckhoff, Roxanne Farwick Owens, & Brenda Kraber DePaul University

The 21st Century Learning Collaborative Initiative was a project designed to understand the role of blended learning in conjunction with the development of a community of practice to support the goals of Catholic elementary and secondary schools in providing engaging teaching and learning. This initiative was part of a foundation grant provided to a large Midwestern urban university in collaboration with area Catholic schools. One purpose of this two-year grant was to continue the university and its College of Education's commitment to Catholic schools by encouraging and supporting a pedagogical shift through the use of blended learning to engage and influence students while also meeting their various academic needs. Another purpose was to provide instruction with these K-12 teachers to enhance technology use in their classrooms.

Keywords

21st Century, university partnership, blended learning

Parents and other constituents expect that schools are preparing students for the "21st century world"-but what exactly is this defined? At a minimum level of understanding, to many people this means that students will be prepared to work with technology tools. In reality, there are many issues involved in this concept of 21st century world learning.

Schools administrators spend increasing portions of their budgets on technology tools. Each year it seems that another school advertises its oneto-one technology initiative, or the unveiling of its STEAM Lab. In addition to acquiring the actual tools, the wise administrative and teaching team also considers issues of infrastructure, pedagogical approaches, pros and cons of particular tools, and how the combination of the technology and the teaching approaches help the students to learn not only differently, but better than they did previously.

Journal of Catholic Education, Vol. 21, No. 2, June, 2018, 182-203. This article is licensed under a Creative Commons Attribution 3.0 International License. doi: 10.15365/joce.2102082018

Teacher training in technology and best practice is implemented in a variety of ways. At times extensive professional development is provided; at other times, teachers are provided with a one-day workshop on how to use a few apps, and then are left to discover how to integrate the tools on their own. An additional challenge is the rapid pace with which technology constantly updates.

The Catholic Schools are often under more severe budget constraints for technology purchases and professional development resources than their public school counterparts. Using the latest methods and technology has an impact on enrollment, so the Catholic Schools feel pressure to "keep up with the Joneses." Recent discussions center on whether blended learning can save Catholic schools. D'Agostino (2014) suggests that continued low enrollment and financial struggles will see Catholic schools close unless drastic changes that incorporate more and better use of technology are made. D'Agostino notes "...to really help Catholic schools, blended learning needs to be more than a marketing strategy or a financial fix. It must strengthen the quality of the product..." (n.p.).

The 21st Century Learning Collaborative Initiative was a project designed not only to answer the above stated questions, but also to understand how the development of a community of practice would support the goals of Catholic elementary and secondary schools in providing engaging teaching and learning. This initiative was part of a foundation grant provided to a large Midwestern urban university in collaboration with area Catholic schools. One purpose of this two-year grant was to continue the university and its College of Education's commitment to Catholic schools by encouraging and supporting a pedagogical shift through the use of blended learning to engage and influence students while also meeting their various academic needs. Another purpose was to provide instruction with these K-12 teachers to enhance technology use in their classrooms.

The target audience for this initiative was teachers and principals at Catholic elementary and secondary schools in an urban archdiocese with priority going to high needs schools. The three university researchers invited principals to select teachers with at least 2 years' experience who were willing to attend the face-to-face and online professional development. Through these sessions, participants examined how technology would be used to engage students, what tools would be appropriate, and whether pedagogical practice needed to be changed to increase student learning. Areas of impact measured during both years of this initiative were the integration and technology usage by teachers, and the level of student engagement and teacher collaboration. With any classroom enhancement, it is the *how*, *when* and *why* of implementation, rather than the tool itself that determines the level of impact on student engagement and learning. Through this project we examine how the development of a community of practice supports the goals of implementing blended learning in Catholic elementary and secondary schools. Consideration is given to the infrastructure and other factors for successful technology implementation. Implications for future professional development and classroom practice to increase student achievement are discussed.

Literature Review

Professional development (PD) for teachers is one way to support continual growth and development from their first year of teaching throughout their entire careers. Effective professional development has been defined in numerous ways over the past two decades. Guskey's (2003) review of effective characteristics of professional development includes "enhancement of teachers' content and pedagogical knowledge" among the most frequently cited indicators of quality PD. Effective PD requires sufficient time and other resources; this learning should be site or school-based thus responding to specific needs. Further research suggests effective professional development requires "...considerable time, and that time must be well organized, carefully structured, purposely directed and focused on content and pedagogy" (Guskey & Yoon, 2009, p. 497).

Lawless and Pelligrino (2007) posit the most effective methods of professional development are those that are longer in duration, provide access to new technologies for teacher and learning, actively engage teachers in meaningful and relevant activities for their individual contexts, promote peer collaboration and community building, and have a clearly articulated and common vision for student achievement. Consensus about high quality professional development indicates characteristics should include a focus on content and how students learn content, in depth-active learning opportunities, links to high standards, opportunities for teachers to engage in leadership roles, extended duration, and the collective participation of groups of teachers from the same school, grade or department (Garet, Porter, Desimone, Birman & Yoon, 2001; Desimone, Porter, Garet, Yoon & Birman, 2002). Regardless of its form, professional development is effective when ongoing, long-term and related to the teacher's content area (Zepeda, 2008). Furthermore, effective professional development models constructivist teaching in a setting that supports reflection. "... Teachers need opportunities to explore, question and debate in order to integrate new ideas into their repertoires and classroom practice" (Corcoran, 1995, as cited in Zepeda, 2008, p.15). Professional learning within communities requires continuous improvement, promotes collective responsibility, and supports alignment of individual, team, school, and school system goals.

Learning communities convene regularly and frequently during the workday to engage in collaborative professional learning to strengthen their practice and increase student results. Learning community members are accountable to one another to achieve the shared goals of the school and school system and work in transparent, authentic settings that support their improvement. (Learning Forward, 2001).

In addition to the effectiveness of professional development, recent federal initiatives (NCLB, IDEA, RttT) have raised expectations on the use of technology in classrooms and how such technology impacts student learning. Researchers caution about professional development that trains teachers in the use of technology vs. that which supports teachers' understanding in how to use technology to advance and further student growth and learning. Specifically, Lawless and Pellegrino (2007) suggest the importance of separating training focused on the integration of instruction and technology with that focused on learning how to use a particular piece of software. Pahomov (2014) cautions that the digital divide puts a misguided focus on the "what" of technology instead of the how and why. Additionally, technology training for teachers lags behind in high poverty schools (Herold, 2017).

Professional development in Catholic schools builds upon similar themes. Rogus and Wildenhaus (2000) suggest teachers must be involved in developing shared school goals, collaborating, engaging actively in their own learning... "discussing with other professionals and committing themselves to making a difference in the lives of children" (Rogus &Wildenhaus, 2000, p. 165). Lucilio's (2009) study of secondary Catholic schools found contentspecific experiences and their application in improving student learning outcomes were the most critical needs for professional learning. Research from urbanCatholic schools identified success with the implementation of technology when it included training with the actual tools, thus suggesting teachers need to be ready and willing to implement new technologies into their practice (Gibbs, Dosen, & Guerrero, 2009). In this study, both teachers and students increased in use of technology and benefitted from professional development training. Catholic schools need to keep pace with public school peers with regard to technology training. Vanderkam (2014) suggests blended learning implementation can actually lower the costs of Catholic education. "If done correctly, such programs can improve academic rigor, an important goal of Catholic schools" (Vanderkam, 2014).

Teachers must have adequate training in technology in order for their students to be technology literate (Herold, 2016). Howery, McClellan, & Pedersen-Bayus (2013) highlight the need for strong teacher preparation and training in technology so they can support every student on the learning continuum.

Blended learning and flipped classrooms have become key features in teacher training and professional development in the last decade. Over that time a number of definitions for blended learning have emerged. For example:

[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 students control over time, place, path and/ or pace and at least in part at a supervised brick-and-mortar location away from home. (Vanderkam, 2013, p.14)

Blended learning is an instructional approach that combines different instructional modalities, instructional methods and delivery methods to meet specific communication, knowledge sharing and information needs. (Akkoyunlu & Yilmaz-Soylu, 2008)

The flipped classroom is further defined as:

Flipped learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic interactive learning environment where the educator guides students as they ap-

186

187

ply concepts and engage creativity in the subject matter. (Bergmann & Sams, 2014, p. 6)

The effectiveness of such models is still being discussed with a growing body of research regarding their direct impact on student learning. To date, blended learning appears to outperform traditional classroom instruction in terms of effectiveness (Kuo, Belland, Schroder, & Walker, 2014). While used successfully at the higher education level, blended learning and its outcomes are still being identified at the K-12 level.

Blended learning has been described as transformative, allowing the teacher to take on even more of a facilitative role than previously possible in a classroom. Technology makes content readily available; time can be focused on learning deeper frameworks and contexts. "...they (students) can apply these understandings to any content they encounter in the future" (Pahamov, 2014). Additionally, technology and its use to blend classroom instruction provide more student engagement. Oliver and Stallings posit three broad considerations for implementation of blended learning; these are contextual considerations, instructional strategy/teaching considerations and technology considerations (Oliver & Stallings, 2014).

While there are numerous models for implementing professional development, the issues of collaboration, active engagement and working alongside other professionals are continually identified as important components. Professional learning communities have served as a useful model to support the goals of implementing effective professional development (DuFour & DuFour, 1998). A more specific examination of the integration of technology indicated the environment best suited to teach 21st century skills is a professional learning community—one that enables educators to collaborate, share best practices and integrate 21st century skills into classroom practice (Bellanca & Brandt, 2010). Considering how blended learning supports professional learning students are more connected to their peers (Rovai & Jordan, 2004), while blended teachers have open time and space to focus on building community (Fleck, 2012; Story & DiElsi, 2003).

Models for effectively implementing professional learning have been carefully examined; however, the process of bringing teachers together outside of their own settings and visiting classrooms in each other's schools has been less utilized in training Catholic school teachers. City, Elmore, Fiarman and Teitel (2009) present the instructional rounds model, a process by which teachers can develop a shared understanding of what high quality instruction looks like. The instructional rounds model was developed from the medical rounds model; together teachers analyze teaching practices through observing teaching and visiting classrooms as a team. This type of professional learning occurs in the classroom, watching teaching practice as it occurs; the authenticity allows teachers the opportunity to analyze and develop a shared understanding of good teaching and what it should look like. As a result, this study attempts to fill a gap in the literature by examining the impact of Catholic teachers' learning when they acquire strategies in blended learning, spend time with colleagues reflecting on best practices, and visit each other's classrooms for implementation.

Overview of 21st Century Learning Collaborative Initiative

During the first year of the initiative, 21 teachers participated representing 16 Catholic schools (5 elementary and 11 secondary) in the archdiocese of a large Midwestern city. Over a six-week period, teachers attended three faceto-face instructional sessions on the university campus, which included an introduction to the Flipped Classroom and blended learning, identifying and writing content and learner objectives, and hands-on experiences with various technology tools to integrate into the classroom. In addition, three online sessions were offered. The online sessions allowed the opportunity to practice new technologies as well as create a collaborative learning culture. At the end of the training, teachers were grouped by school location to begin the creation of smaller learning communities. Because they would be visiting each other's classrooms during the subsequent months, close proximity was identified as an important factor in forming learning groups. The expectation was that the groups would meet, observe each other's teaching, fashioned after the instructional rounds model, and engage in collaborative feedback sessions on teaching practices.

After the six-week training in the fall, the teachers began observing each other in January and these observations lasted throughout the spring term. The Year One culminating project involved each of the six groups visiting different graduate education courses to share their experiences and outcomes. Three College of Education faculty coordinated this project: one who serves as Department Chair of Teacher Education with a background in literacy, a second faculty member with a background in literacy and a third faculty member with a background in leadership.

Year Two of the initiative implemented the same model of collaborative learning in a professional community followed by integration of teaching and observing practice. There were some changes based on feedback from Year One. The faculty team determined that including more than one teacher per school would provide internal support during the implementation phase. During Year Two, 24 teachers participated, representing 11 schools, (5 elementary and 6 secondary). Six teachers who had participated in the previous year were invited to serve as mentors. Mentors attended summer training to establish the goals and objectives for the groups. They provided feedback on Year One experiences, and suggested revisions to the face-to-face and online course modules. Their roles were outlined and identified in three main areas: instruction, resources and communication. Mentors modeled blended lessons in keeping with best practices and provided resources for pedagogy and technology. They led discussions during post-observations of teaching, assisted with scheduling observations, and communicated within their groups and schools.

Additional changes included grouping the collaborative teams by subject and content areas rather than school proximity. Teacher feedback indicated they would rather travel farther in order to observe their own content and subject areas. Year Two saw structural changes to better prepare observers for classroom visits. Teachers scheduled for observation were asked to provide the following information 24 hours prior to the visit:

- 1. What is the lesson we will be observing?
- 2. What would you like us to notice/or look for when we visit?
- 3. What technology tools or technology goal are you connecting your lesson with? Information about logistics for site visits such as where to park, enter the building, sign in, and anything else to be aware of was shared. Observers were responsible to bring copies of the blank Observation Protocol (Appendix A) and their technology device to actively collect data during the observation.

The Observation Protocol was used throughout both years of the project. Comments and feedback from each observation were collated by the research team and sent back to the presenting teacher.

At the end of Year Two, the collaborative groups shared their learning in various ways. Instead of all groups completing a similar culminating project, the groups designed their own final project to demonstrate what they learned. One group created a video to explain blended learning. Another group created a series of blog posts describing how to flip a classroom. Others groups designed videos that explained the challenges and successes in using technology.

The grant funded an iPad or tablet for each participant. In Year Two a \$150 iTunes gift card was given to each teacher to purchase apps for use in their classrooms. The grant supported guest speakers and technology trainers who shared apps for classroom instruction and answered questions on challenges and best practices. The group took one field trip, visiting a local charter high school which had adopted a total flipped classroom model. Time was spent observing classrooms, interviewing students and teachers at this site, with teachers considering which aspects would be applied to their own school settings. Finally, teachers had to work with whatever tools their school had available for classroom use. Some schools were one-to-one that required the students to acquire the same device; others were "bring your own device" schools. There were also schools that shared a cart of older laptops with several classrooms and had limited access to technology.

Method

The following research questions were used to guide this study and analysis:

- 1. How can an urban Catholic university partner with a diverse group of Catholic schools to develop communities of practice that will enhance teacher learning and instruction?
- 2. How did teacher pedagogy and practice shift as a result of participation in the 21st Century Collaborative Learning Initiative?

Participants

The participants were 35 elementary and high school teachers in an urban archdiocese. 34 of the 35 teachers had more than two years of teaching experience. 16 of the teachers had graduate degrees. Eleven of the teachers were male and 24 were female. Table 1 provides enrollment information on the participating schools. While some principals recommended teacher leaders or those who were technology experts, others recommended teachers whom they felt were in need of professional development and could benefit.

Table 1					
Participating Schools and Student Populations					
School	Enrollment	% High-need Students ¹			
Elem 1	225	85			
Elem 2	235	97			
Elem 3	960	50			
Elem 4	232	13			
Elem 5	313	86			
HS 1	700	91			
HS 2	802	76			
HS 3	532	28			
HS 4	324	85			
HS 5	1214	12			
HS 6	238	79			
HS 7	190	70			
HS 8	88	86			
HS 9	526	31			
HS 10	626	52			
HS 11	710	14			

¹ High-need students include economically disadvantaged students and English learners.

Data and Analysis

Formal and informal assessment measures were used throughout the term of the grant. Five key data sources were analyzed in response to the research questions. They are as follows: I. Classroom observation notes were collected for each observation over the two year grant cycle. 2. End-of-the-year culminating projects were developed by the groups after each year. 3. An-end-ofthe year electronic survey was administered after Year One to capture participants' reactions and learning outcomes as well as gain feedback on the first year of implementation. 4. Mentors were interviewed and provided informal feedback on participation in Year One and Year Two. 5. An outside evaluator was used to interview each participant at the end of Year Two to collect feedback pertaining to each individual school site. This analysis will focus on the observation notes which were collated, results tabulated and themes identified. Other data collected included the end of year culminating projects and survey results which were analyzed by theme. Mentor feedback was recorded and used for making improvements and changes between Year One and Year Two. Finally, the outside evaluator was helpful in making recommendations to each school site on next steps in consideration for a technology plan.

Results

Observation Notes and Themes

The observation tool (Appendix A) asked teacher participants to record what they noticed during classroom visits under three separate categories: student-centered learning; 21st century skills; and the use of technology. At the end of the observation, the groups discussed these categories with perceptions of their implementation in the classroom. That information was collated and themes emerged. What was evident was that the student was at the center of each of the categories.

Student-centered learning. Student engagement was perceived as high when working with technology and within the groups. Teacher observers noted that open-ended questions led to increased student engagement as determined by time on task. Students answered authentic probing questions successfully. The use of video instruction allowed students to watch the directions over and over, and repeat content until they understood or mastered the information. Specific comments included:

The teacher was readily available to assist the student groups. Group members were also very supportive and helpful.

Each group member was actively participating in solving the problem.

Students were observed working in groups; these groups facilitated more problem solving and more independence when using technology.

2rst century skills. Participants indicated that technology needs to be used as an intentional tool for it to be effective. It allowed students to have multiple perspectives, multiple responses, and to be more active and self-directed in their learning. There was less risk taking at times, when they could see others' responses. There was strong consensus that technology needs to have a purpose in order to be useful to enhance learning. Appendix B provides a Wordle depiction of the comments presented from the observation notes.

Direct teacher comments from the observation sheets included:

I was impressed how active the students were in each group. It did not seem that any student was not contributing.

The kids were sitting around her as she explained the lesson. She has them participate rather than lecturing.

Active involvement because of the blogs.

It was evident the students watched the video at home in preparation for the in class work. Allowed for more time in class for interactive learning.

Technology. In most cases, the technology tools worked well during the observation visits. There were a few instances when the internet wasn't working and the teachers needed to adapt their lessons. There also were times when connectivity was slow because all students were trying to access particular sites at one time. Direct teacher comments from observation sheets included:

Students are responsible for their learning; access to many resources.

Everyone knows exactly how to use apps so no time is wasted.

Some kids took pictures of the screen; others took notes on the ipad.

Very little teacher talk. Kids got right to work.

Survey Results

At the end of Year One participant surveys revealed how often they used a variety of tools and strategies that were covered throughout the year. Implementing group work, utilizing specific tech tools, and being able to reflect on their own practice during the debriefing increased. Even though it was a challenge arranging to be released from their own classrooms and traveling to each other's schools they found it valuable. Table 2 presents these results.

Table 2

Frequency of Use of Blended Learning Strategies: Pre-Project vs. End of Year 1

Strategy	Never/Not often (%)		Sometimes (%)		Very often/ Every day (%)	
	Pre- project	End Y1	Pre- project	End Y1	Pre- project	End Y1
Group work	17	0	33	33	50	67
Collaboration w/ other schools	92	33	8	50	0	17
Centers	83	58	9	17	9	25
Quizlet	67	67	25	25	8	8
PowerPoint/Keynote	27	17	45	50	27	33
Voice thread	92	75	8	25	0	0
Google Classroom	75	58	0	17	25	42
iPads	45	42	18	17	36	42
Observing other teachers	50	8	33	42	17	42
Reflecting w/ colleagues about my teaching	50	17	33	42	17	42
Other	42	43	42	14	14	43*

Note. Some numbers do not add up to 100 due to rounding. * "Other" tools/strategies specified: Kahoot, Socratic app, blogging, Google Docs

Mentors provided feedback during summer training in between Year One and Year Two of the project. Mentors attended two training sessions in person and one online. Feedback included changes to the course, both for face to face and online sessions as well as perceptions about how the observations and corresponding feedback should be constructed and shared. Mentors identified model demonstration lessons as a useful way to show the participants what was expected of them on the classroom visits. Each of the mentors developed a model demonstration lesson utilizing best practices incorporating technology as a way of enhancing learning. These lessons were not all demonstrations of how to use technology tools per se; rather, the technology was used to improve upon or engage students in a way that the face to face would not have done as well. An outside evaluator was contracted at the end of the project to assess the work completed and to work with the teachers on next steps for their own technology and pedagogical growth. Each teacher participated in virtual and face to face meetings and interviews with the evaluator and incremental next steps were identified for the teacher to consider. For example:

Strengths

- Teacher name] has a clear vision for innovative and effective teaching and learning.
- [Teacher name] has a variety of technology tools at her disposal.

Opportunities

- [Teacher name] needs a way to create formative assessments so that she can group students quickly and adjust instruction.
- [Teacher name] needs a way to share student work digitally, including audio and writing samples.

Strengths

- [Teacher name] has experimented with flipping the classroom by having students watch tutorials outside of the classroom.
- [Teacher name] has integrated collaborative work for students.

Opportunities

- [Teacher name] needs a way to ensure that all group members are contributing to projects.
- [Teacher name] needs a clear vision for how blended learning could apply to his media class.

Discussion/Implications

Strong leadership is needed to move any school initiative forward. Without a leadership vision, the course for change and implementation is not clear to the stakeholders. Anderson & Dexter (2005) identify technology leadership as a critical factor in successful technology implementation in Catholic schools. Leaders need to be part of the technology's utilization and implementation, with support for teacher training, equipment and resources. Kelly (2002) presents a model for Catholic schools to merge technology and Catholic education together, suggesting faith development can become more pronounced with technology used as an avenue for a Catholic education to emerge. As with many initiatives, this project found that vision was key. Where did the leadership intend for the school to "go" with the technology? The point needed to not be to *have* the technology available. Teachers and students needed to know how to use it as a meaningful element of the learning community.

Implications for practice within this project align toward three specific areas: roles of students, teachers and leaders; collaboration in relation to professional development; and enhanced teaching and learning.

Shifting roles of teachers and students proved an important consideration in this type of initiative and in a professional learning community. The same cultural shifts needed for PLCs are necessary for moving into teaching 21st century skills and using technology effectively (DuFour, Dufour, Eaker, & Many, 2006). The teacher is a facilitator and teachers work alongside each other to address needs and problem solve best practices. Likewise, the student's role shifts from passive to active learner, with increased engagement and responsibility for their learning.

Oliver and Stallings' (2014) three broad considerations -- contextual considerations, instructional strategy and teaching considerations, and technology considerations -- apply to the remaining themes of collaboration and teaching and learning, and provide additional insights for discussion. Contextual considerations were evidenced when teachers had to make decisions about when and how to use technology in order to enhance teaching and learning, rather than using technology for the sake of the latest tool. Teachers need to determine when blended will enhance instructional based on the content or topic of study. Dzubian (2005) suggests teacher preparation for blending should include opportunities to discuss the lesson goals and outcomes in conjunction with the teaching style and experience as all are contributing factors. Collaboration with peers is an essential component of training and learning about implementing technology. Instructional strategies emerged when teachers found themselves in new roles--how to integrate themselves and their teaching style into the blended teaching presentation. Teachers will need to become comfortable and align new strategies with their own teaching strengths, integrating blended teaching within their own teaching repertoires. Benson, et al. (2011) posit the advantage of blended learning is the ability to mix various instructional strategies; blended instructors need time to plan and identify their own teaching strengths and styles. It is not sufficient to implement technology without these additional steps in the process. Technology considerations include thinking about what technology to

choose and when to choose it—to enhance their teaching and enhance learning outcomes—rather than defaulting to the convenient choice.

There are implications for Catholic schools when implementing technology. Implementing 21st century skills meets the needs of the wide and diverse range of learners that such schools support and help. Technology can engage students in their own learning and shift the responsibility from solely on the teacher to one that is shared with the teacher and the student, thereby reinforcing Catholic school goals for life long learners. Technology can move teachers out of their comfort zone and stretch them in a positive way, but they need direction, training and support. The focus should not be on implementing technology, but rather using technology to develop and enhance one's teaching for better learning

References

- Akkoyunlu, B., & Yilmaz-Soylu, M.Y (2008). A study of student's perceptions in a blended learning environment based on different learning styles. *Educational Technology & Society*, 11(1), 183-193.
- Anderson, R. E., & Dexter, S.L. (2005). School technology leadership: An empirical investigation of prevalence and effect. *Educational Administration Quarterly*, 41(1), 49-82. <u>https://doi.org/10.1177/0013161x04269517</u>
- Bellanca, J., & Brandt, R. (Eds.). (2010) 21st century skills: rethinking how students learn. Bloomington, IN: Solution Tree Press.
- Benson, V., Anderson, D., & Ooms, A. (2011). Educators' perceptions, attitudes and practices: Blended learning in business and management education. *Research in Learning Technology*, 19(2), 143-154. <u>https://doi.org/10.1080/21567069.2011.586676</u>
- Bergmann, J & Sams, A. (2014). *Flipped learning: Gateway to student engagement*. Arlington, VA: International Society for Technology in Education.
- Bonk, C., & Graham, C. (2006). *The handbook of blended learning*. San Francisco, CA: Pfeiffer & Company.
- Borrero, N. (2010). Urban school connections: A university K-8 partnership. *Catholic Education: A Journal of Inquiry and Practice*, 14(1), 47-66.
- Butcher, J., Bezzina, M., & Moran, W. (2011). Transformational partnerships: A new agenda for higher education. *Innovative Higher Education*, 36(1), 29-40. <u>https://doi.org/10.1007/</u><u>\$10755-010-9155-7</u>
- City, E., Elmore, R., Fiarman, S., & Teitel, L. (2009). Instructional rounds in education. Cambridge: Harvard University Press.
- Corcoran, T.C. (1995). *Transforming professional development for teachers: A guide for state policymakers* (ED384600). Washington, D.C.: National Governors Association.
- D'Agostino, T.J. (2014). Can blended learning save Catholic schools? Retrieved from <u>https://</u> www.edsurge.com/news/2014-09-09-can-blended-learning-save-catholic-schools.
- Dallavis, C., & Johnstone, J. (2009). An evolving university-school partnership: The University of Notre Dame Magnificat Schools. *Catholic Education: A Journal of Inquiry and Practice*, 13(2), 224-247. Retrieved from http://digitalcommons.lmu.edu/ce/vol13/iss2/6

198

- Desimone, L., Porter, A., Garet, M., Yoon, K., & Birman, B. (2002). Effects of professional development on teachers' instruction: Results from a three-year longitudinal study. *Educational Evaluation and Policy Analysis*, 24(2), 81-112. <u>https://doi.org/10.3102/01623737024002081</u>
- DuFour, R., DuFour, R., Eaker, R., & Many, T. (2006). *Learning by doing: A handbook for professional learning communities at work*. Bloomington: IN: Solution Tree Press
- DuFour, R., & DuFour, R. (1998). *Professional learning communities at work*. Bloomington: IN: Solution Tree Press.
- Dzubian, C.D., Moskal, P.D., & Hartman, J. (2005). Higher education, blended learning and the generations: Knowledge is power no more. In J. Bourne & J.C. Moore (Eds.) *Elements of quality online education: Engaging communities*. Needham, MA: Sloan Center.
- Fleck, J. (2012). Blended learning and learning communities: Opportunities and challenges. *Journal of Management and Development*, 31(4), 398-411. <u>https://doi.org/10.1108/02621711211219059</u>
- Garet, M., Porter, A., Desimone, L., Birman, B., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. American Educational Research Journal, 38(4), 915-945. <u>https://doi.org/10.3102/00028312038004915</u>
- Gibbs, M., Dosen, A., & Guerrero, R. (2009). Bridging the digital divide, *Urban Education*, 44, 1, 11-29. <u>https://doi.org/10.1177/0042085908318528</u>
- Guskey, T. & Yoon, K. (2009). What works in professional development? *Phi Delta Kappan*, 90(7), 495-500. <u>https://doi.org/10.1177/003172170909000709</u>
- Herold, B. (2017, June 14). Tech-training divide, technology counts. Education Week.
- Herold, B., & Doran, L. (2016, January 16). U.S. Ed Tech-plan calls attention to 'digital-use divide.' *Education Week*.
- Howery, K., McClellan, T., & Pedersen-Bayus, K. (2013). Reaching every student with a pyramid of intervention approach: One district's journey. *Canadian Journal of Education*, *36*(1), 271-304.
- Kelly, J. (2002). Catholic virtual schools: Real possibilities or oxymoronic dreams? *Catholic Education: A Journal of Inquiry and Practice*, 5(4). Retrieved from <u>http://</u><u>digitalcommons.lmu.edu/ce/vol5/iss4/</u>
- Kuchey, D., Morrison, J. Q., & Geer, C. H. (2009). A professional development model for math and science educators in Catholic elementary schools: Challenges and successes. *Catholic Education: A Journal of Inquiry and Practice*, 12 (4), 475-497. Retrieved from http://digitalcommons.lmu.edu/ce/vol12/iss4/7
- Kuo, Y., Belland, B., Schroder, K., & Walker, A. (2014). K-12 teachers' perceptions of and their satisfaction with interaction type of blended learning environments. *Distance Education*, 35(3), 360-381. <u>https://doi.org/10.1080/01587919.2015.955265</u>
- Lawless, K & Pelligrino, J. (2007). Professional development in integrating technology into teaching and learning: knowns, unknowns and ways to pursue better questions and answers. *Review of Educational Research*, 77(4), 575-614. <u>https://doi.org/10.3102/0034654307309921</u>
- Learning Forward (2001). Standards for professional learning. National Staff Development Council. Retrieved from <u>https://learningforward.org/standards</u>

- Leahy, W. P., & McShane, J. M. (2011). Host President's address: A discussion on ways Catholic higher education institutions can assist Catholic elementary and secondary schools. *Catholic Education: A Journal of Inquiry and Practice*, 15(1), 87-95. Retrieved from http://digitalcommons.lmu.edu/ce/vol15/iss1/6/
- Lucilio, L. (2009). What secondary teachers need in professional development. Catholic *Education: A Journal of Inquiry and Practice*, 13(1), 53-75. Retrieved from <u>http://digitalcommons.lmu.edu/ce/volt3/isst/4/</u>
- Montejano, F. (2010). A Catholic higher education collaborative: Focusing on new ways of supporting Catholic elementary and secondary schools. *Catholic Education: A Journal of Inquiry and Practice*, 13(3), 368-379. Retrieved from http://digitalcommons.lmu.edu/ce/volt3/iss3/6/
- Oliver, K., & Stallings, D. (2014). Preparing teachers for emerging blended learning environments. *Journal of Technology and Teacher Education*, 22(1), 57-81.
- Pahamov, L. (2014). *Authentic learning in the digital age*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Rogus, J. F., & Wildenhaus, C.A. (2000). Ongoing staff development in Catholic schools. In T. C. Hunt, T. E. Oldenski, & T. J. Wallace (Eds.), *Catholic school leadership: An invitation to lead* (pp. 113-128). New York: Routledge Falmer.
- Rovai, A.P. & Jordan, H. M. (2004). Blended learning and sense of community: A comparative analysis with traditional and fully online graduate courses. *International Review of Research in Open and Distance Learning*, 5(2), 1-13. <u>https://doi.org/10.19173/irrodl.v5i2.192</u>
- Story, A. E., & DiElsi, J. (2003). Community building easier in blended format? *Distance Education Report*, 7(11), 2-7.
- Vanderkam, L. (2013). *Blended learning: a wise giver's guide to supporting tech-assisted teaching.* Washington, D.C: The Philanthropy Roundtable.
- Zepeda, S. (2008) What works in professional development. New York: Eye on Education.

Barbara Stacy Rieckhoff, Ph.D. is Associate Professor and Director of Educational Leadership Master's Program in the College of Education at DePaul University. Correspondence regarding this article may be sent to Dr. Rieckhoff at <u>brieckho@</u> <u>depaul.edu</u>.

Roxanne Farwick Owens, Ph.D. is Associate Professor in the College of Education and Chair of the Teacher Education Department at DePaul University.

Brenda Kraber, Ed.D. is an Adjunct Professor in the College of Education at DePaul University.

Journal of Catholic Education / June 2018

Appendix A

Observation Protocol for a 21st Century Skill Classroom

Teacher:		Date:	Grade Level:			
Student-Centered Learning						
	Very Evident	Evident	Somewhat Evident	Not Observed	N/A	Comments/What I notice
Lesson designed to support learning objectives	4	3	2	1		
Instructional support is student-centered	4	3	2	1		
Students are involved in meaningful tasks	4	3	2	1		
21st Century Skills						
	Very Evident	Evident	Somewhat Evident	Not Observed	N/A	Comments/What I notice
Students work and collaborate effectively with each other	4	3	2	1		
Students use informa- tion accurately and creatively for the issue or problem at hand	4	3	2	1		
Information, media, and technology skills are built through classroom instruction	4	3	2	1		

200

Technology						
	Very Evident	Evident	Somewhat Evident	Not Observed	N/A	Comments/What I notice
Helps the teaching and learning process and makes it more ef- ficient and productive	4	3	2	1		
Helps enrich or extend student learning in a way that would not have been possible without the technology	4	3	2	1		
Technology increases student motivation	4	3	2	1		
Technology is used effectively during the lesson	4	3	2	1		
When using technol- ogy, students remain on task and engaged	4	3	2	1		

Questions or comments for the presenter:

Appendix B

Additional Themes

Student Centered Learning



21st Century Skills



202

Technology

