THE IMPLEMENTATION OF
PROJECT-BASED LEARNING

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ABSTRACT

School leaders search for ways to equip students with 21st-century skills. In this phenomenological study, the shared experiences of 15 middle school leaders who implemented the instructional approach project-based learning (PBL) were examined. Themes that emerged included the need for autonomy in PBL implementation, the need for scheduling and organization redesign, the realization that teachers needed support as they redesigned instructional methods to incorporate process teaching, and the necessity of a dedicated administrator for the implementation of PBL.

Introduction

Students attending school at the start of the 21st century was born in the age of technology. Referred to as digital natives (Prensky, 2001), these students do not know a world outside of digital technology, cell phones, and Internet access on demand. Technology is an extension of who they are. Through advancements in technology and globalization, 21st-century skills are required by the workforce to be successful. Unfortunately, in many instances, based on a traditional approach to teaching and learning, schools do not adequately prepare and equip students with these requisite skills. Consequently, a different instructional and philosophical approach to teaching and
learning is needed to meet these demands. An approach that is being implemented increasingly by schools and educational leaders to equip students with 21st-century skills is project-based learning (PBL). Designed as "a systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process structured around complex, authentic questions and carefully designed products and tasks" (Markham, Larmer, & Ravitz, 2009, p. 4), PBL fosters and develops the aforementioned skills.

Purpose of the Study

Research has shown that PBL provides a platform on which students develop the skills needed to be successful at the start of the 21st century (Ravitz, 2008). The purpose of this study was to record and analyze the shared experience of how 15 campus leaders implemented, supervised, and evaluated PBL, an instructional approach with which they were unfamiliar. Based on the academic performance of the schools in which these 15 campus leaders worked, the leaders and district officials decided to try something different. As a result, PBL was selected as the instructional approach to be used by these campuses.

Theoretical Framework

Through the acceleration of technology and globalization, the world has changed dramatically. These changes have impacted all facets of life, including business and school. As a result, schools unable to keep pace with these changes risk graduating students unable to maintain their competitive edge globally (Silva, 2008). According to Gardner (2007), formal education in the United States still prepares students primarily for the world of the past, rather than for possible worlds of the future. More specifically, Pink (2005) indicated that abundance, Asia, and automation have changed the economic landscape for the United States, both domestically and internationally.
For these reasons, school stakeholders must change the way they view teaching and learning. Fortunately, throughout the 20th century, educators and researchers have challenged the status quo of teaching and learning. John Dewey (1938) pushed for a student-centered approach to teaching and learning, Paulo Freire (1970) advocated for a more humanizing form of education, and Lauren Resnick (1999) offered a different perspective on intelligence. All three theorists recognized that the traditional approach to teaching and learning, in many instances, hinders the educational experience and development of students. As the world becomes flatter (Friedman, 2007), educators must look at their practice critically and soberly to determine the most effective ways to prepare their students for the real world.

Historically, the purpose of education in the United States has changed over time. According to Schlechty (2005), “When America’s schools were created it was never intended that all students would learn at high levels” (p. xi). All students not only were not expected to learn at high levels but also were expected to play a different role in society, one of compliance and obedience. Whether individuals worked in fields or factories, the primary purpose of education was to produce a citizenry that was law-abiding and civil. This aim was ensured through a unilateral relationship between the school and its student body.

Many schools across the United States still maintain the common structure and curricular framework established in the late 1800s. The Committee of Ten, a group of 10 educators made up of mostly university professors, suggested “that all students, whether college bound or work oriented, should be taught the same curriculum” (Jacobs, 2010, p. 8). This curriculum included English, history, civics, mathematics, biology, chemistry, and physics. In addition, the committee decided that schooling would take place over 12 years, 8 for elementary grades and 4 for high school (Jacobs, 2010).

Moreover, schools were not designed for children, rather they reflected the factory model of organization resulting from the
The ascension of industry and economic expansion between 1897 and 1921, which ultimately was applied to education as well as business. (Feldman 1999, p. 9)

Similarly, the school calendar, consisting of roughly 180 days of 6-hour instruction on eight subjects, was based on the agrarian calendar (Jacobs, 2010). Although these societal structures and influences no longer exist a century later, most schools still operate according to these social norms and parameters.

The world has changed drastically, as have advances in technology and globalization. These changes have impacted all areas of life, including education. Formal U.S. education often prepares students for the world of the past, rather than for the world of the future (Gardner, 2007). Michelman (2007) reported Americans are deeply concerned the United States is not preparing children with the skills they need to compete in the global economy. Many jobs that were once a secure source of employment for U.S. employees are now being outsourced to other countries, such as China and India (Pink, 2005). According to the New Commission on the Skills of the American Workforce (2006), technology and global competition have changed the employment outlook for American employees.

Learning in the 21st century necessitates redesigning what learning looks like, teacher and student roles, and content to be learned (Cramer, 2007). Students must exhibit a new form of literacy—digital literacy, which corresponds to an individual's "ability to perform tasks effectively in a digital environment, with 'digital' meaning information represented in numeric form and primarily for use by a computer" (Jones-Kavalier & Flannigan, 2006, p. 9).

Specific skills are needed for millennial learners. Gardner (2007) posited the appropriate adjustment to globalization and a technology-driven society will come through the development of five minds: (a) the disciplined mind, (b) the synthesizing mind, (c) the creating mind, (d) the respectful mind, and (e) the ethical mind. Pink
(2005) wrote this adjustment can be made through the six senses of (a) design, (b) story, (c) symphony, (d) empathy, (e) play, and (f) meaning. Educators who are preparing students for the 21st century must take into consideration the six senses and five minds elucidated by Pink and Gardner.

**Project-Based Learning**

As noted by Ravitz (2008), an increased interest in PBL has developed from the recognition that students are not being prepared for productive lives in the workforce and society by traditional instruction. Initially designed for medical school programs, problem-based instruction, the forerunner to PBL, was developed when instructors realized that young physicians were graduating with a wealth of information but without the necessary problem-solving skills to use the information wisely (Gallagher, Sher, Stepien, & Workman, 1995). Since that time, PBL has evolved and developed into a pedagogical approach that fosters authentic learning experiences and develops 21st-century skills.

Although there is no one accepted definition of PBL, Markham et al. (2009) defined PBL as “a systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process structured around complex, authentic questions and carefully designed products and tasks” (p. 4). Through the use of interdisciplinary projects that involve student presentations and community participation, PBL serves to do the following:

1. Recognize students’ inherent drive to learn, their capability to do important work, and their need to be taken seriously by putting them at the center of the learning process.
2. Engage students in the central concepts and principles of a discipline. The project work is central rather than peripheral to the curriculum.
3. Highlight provocative issues or questions that lead students to in-depth exploration of authentic and important topics.
4. Require the use of essential tools and skills, including technology, for learning, self-management, and project management.

5. Specify products that solve problems, explain dilemmas, or present information generated through investigation, research, or reasoning.

6. Include multiple products that permit frequent feedback and consistent opportunities for students to learn from experience.

7. Use performance-based assessments that communicate high expectations, present rigorous challenges, and require a range of skills and knowledge.

8. Encourage collaboration in some form, either through small groups, student-led presentations, or whole-class evaluations of project results. (Markham et al., p. 5)

Through the use of PBL, students are pulled through the curriculum by a driving question or authentic problem that creates a need to know the material covered. In doing so, PBL enhances the quality of learning and leads to higher level cognitive development through student engagement with complex and novel problems. Students learn complex processes and procedures, such as planning and communicating, through the use of PBL (Markham et al., 2009), all of which are necessary skills for the 21st century.

**Leadership for Change**

If public schools are to remain viable options for parents and students in the 21st century, they must remain relevant. Like other institutions that have undergone drastic change at the start of the 21st century, schools must do the same. In order for change to occur, educational leaders must have a clear understanding of the change process itself. Ultimately, one’s approach to school leadership is built upon his or her philosophical approach to education. Whether or not school leaders will meet the challenges of the 21st century depends greatly upon their philosophical approach to change and leadership.
Looking into the future, astute leaders realize the world has become flat, and the educational process is wide open. In many instances, school districts and school leaders still focus on compliance and attendance, rather than on engagement and commitment (Schlechty, 2005). Therefore, due to the entrenched nature of public schools, something drastic must occur. For many schools and school leaders, this "requires education and reeducation, or what Fullan referred to as reculturing" (Schlechty, 2005, p. xii). Reculturing can only occur if disruptive innovations are employed. By definition, disruptive innovations require dramatic alterations in both the structure and the culture of an organization (Schlechty, 2005). These alterations include changes in beliefs, values, and commitments as well as changes in rules, roles, and relationships. For many educators, this will necessitate a new approach to teaching and learning.

**Distributed Leadership and Content Knowledge**

The accountability movement, culminating with the federal No Child Left Behind Act of 2001, has put pressure on principals to become more heavily involved in assessment, instruction, curriculum, and data analysis (Butler, 2008). Therefore, the role of the principal has shifted from the management of the structures and processes surrounding instruction to the management of instruction itself (Elmore, 2000). As the level of accountability increases for principals, so does the amount of responsibilities. Realistically, however, these responsibilities are often shared.

For leaders seeking to improve the instructional performance of their teachers, distributed leadership is crucial. It means the job of a principal is primarily about enhancing the skills and knowledge of people in the organization, creating a common culture of expectations around the use of those skills and knowledge, holding the various pieces of the organization together in a productive relationship with each other, and holding individuals accountable for their contribution to the collective result (Elmore, 2000).
If public schools are to continue to be feasible options for parents and students in the 21st century, they must remain relevant. Like other establishments that have experienced drastic change at the start of the 21st century, schools must do the same. The educational approach to teaching and learning must change in order to prepare and equip students with the necessary skills needed to be successful in a technology-driven economy. It is critical to gauge how well educators are meeting this challenge. An approach used to meet this challenge is PBL.

Methods

Research has shown PBL is an instructional model that produces 21st-century skills (Ravitz, 2008). According to Markham et al. (2009), PBL is a “systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process structured around complex, authentic questions and carefully designed products and tasks” (p. 4). Hence, this study focused on how staff at three middle schools in a 5A district in Texas took on the challenge of equipping their students with these skills.

The research conducted for this study is based on the collective phenomenological experience of middle school campus leaders who were trained in PBL and then implemented it on their campuses. These leaders included a total of 15 participants: five campus administrators, one university liaison, and nine teacher leaders. The educators interviewed for this study represented three of the six middle schools located in the district in which this research was conducted. The middle schools, along with the district, formed a partnership with the local university to be trained and supported in PBL. Prior to the start of the 2010–2011 school year, administrators and teachers from Johnson Middle School, Kennedy Middle School, and Lincoln Middle School participated in a weeklong summer training presented by the Buck Institute.
Data Collection

The campus leaders were asked to comment on their PBL training experience and the steps they took to implement PBL on their respective campus (Guevara, 2010). Data were collected from persons who had experienced the same phenomenon to develop a composite description of the essence of that experience for all of the individuals involved (Creswell, 2007). In this case, the shared experience was the training and implementation of PBL of each campus leader. A set of interview questions was created and used to interview middle school campus leaders.

A criterion sample was used for this study. The two criteria used for this sample were campus leadership and PBL training participation and attendance. The campus leaders selected varied in age, experience, and gender. Of the six middle school campus administrators interviewed, two were principals, three were assistant principals, and one was the director of the two lab schools who served as a liaison between the school district and the university. The primary investigator conducting this research was also a principal of one of the three middle schools selected for this study. Through the method of bracketing, the researcher as participant sought to remain as impartial and objective as possible, fully noting and disclosing whatever biases might be possessed in relationship to PBL and the personal experience of leading a campus implementing PBL for the first time. As principal of Kennedy Middle School, the researcher was entering his second year in that position. The principal of Lincoln Middle School was entering her fourth year as principal, whereas the principal of Johnson Middle School was entering his first year as principal. Each of the three assistant principals interviewed had served on his or her campus for at least 3 years.

Of the teachers selected to be interviewed for this study, all served in a leadership capacity on their campus, either as grade-level chair or departmental chair. Like the administrators, teachers varied in years of experience and expertise. All of the teachers were fully
certified and deemed highly qualified, as defined by No Child Left Behind of 2001 (U.S. Department of Education, 2004), to teach their content area. All of the teachers interviewed attended the same PBL training as the principals.

The decision to implement PBL on these three campuses was made by the district and the local university. District and university leaders believed providing assistance to these campuses would ultimately improve achievement of students at the high school into which they fed. Although the district possesses more than one high school, the university and the district wanted to provide assistance to this particular feeder pattern, as it has struggled academically in recent years. As a result, the principals of the schools selected became involved in the PBL initiative.

Data Analysis

Once all interviews were completed, the data were transcribed. The transcript of each interview was then reviewed and coded to identify any reoccurring statements or ideas (Bogdan & Biklen, 2007). Words and phrases were then written down to represent these topics and patterns. They are also used to write a description of the context or setting that influenced how participants experienced the phenomenon (Creswell, 2007). Ultimately, these words and phrases became coding categories (Bogdan & Biklen, 2007). From these categories, a second list was created, based on these shared statements. Final categories were determined and analyzed.

Findings

Since the end of the 20th century and the start of the 21st century, new initiatives and changes have altered how students are being educated in the United States. Leaders of schools and school districts are searching for ways to equip their students with 21st-century skills. The school leaders interviewed for this study trained
alongside their teachers and then were expected to go forth and evaluate the teaching. No training was dedicated to how to facilitate or otherwise evaluate the process. After being trained in PBL, administrators were expected to know independently and automatically how to implement PBL in their building. Four overarching themes emerged: (a) leaders had a need for autonomy in PBL implementation, (b) traditional scheduling and school organization was in need of redesign, (c) principals realized teachers needed support as they redesigned instructional methods to incorporate process teaching, and (d) principals sought a dedicated administrator assigned to the oversight and implementation of PBL. An additional theme surfaced from the data, above and beyond the boundaries of the research questions. This theme centers on the notion that the implementation of PBL, by any campus, likely will be received differently by faculty and students alike.

Freedom to Implement PBL Authentically

One of the biggest tensions that surfaced when interviewing teachers and administrators alike was the struggle between implementing PBL fully and the need to meet the curricular and benchmark demands of the district. Although the district superintendent asked staff at Lincoln Middle School, Johnson Middle School, and Kennedy Middle School to implement PBL, these campuses were still required to follow the district’s benchmarking calendar. This expectation, combined with the natural learning curve of implementing a new instructional approach, created additional stress among the faculty and staff of all three middle schools.

As with any change, the campus leaders’ knowledge base of PBL prior to its implementation created management challenges for all three campuses. Administrators and teacher leaders alike had very little knowledge of PBL prior to this year. Among the five administrators interviewed, two indicated they knew “very little” or “not much” about PBL, whereas the remaining three stated they “knew about it,” “read about it,” or knew “somewhat” about it. The university
liaison indicated he had “read some about PBL” but still considered himself a novice in reference to PBL.

Among the teacher leaders, all nine indicated they had “never heard of” PBL or knew “very little” about it. Three teachers indicated once they found out their school would be implementing PBL during the school year; they began researching and reading about PBL prior to their summer training. None of the campus administrators or teacher leaders knew a great deal about PBL prior to their training and implementation of PBL. Based on the responses of the teacher leaders and administrators, they did not have much more knowledge than their colleagues and staff prior to their summer training.

The stress level of teachers and administrators increased when they were still expected to meet the curricular and assessment demands of the district. As expressed by one teacher,

The biggest challenge that I have faced has been implementing PBL along with the district requirements, trying to make sure that they fit and trying to make sure that I’m doing what the district requires, as well as implementing PBL.

Another teacher expressed a similar sentiment: “I think that my biggest challenge is making sure that whatever the project is about, the kids get the meat of what they’re supposed to get and not just that it’s a project just to say that we did a project.”

From an administrator’s perspective, one building leader indicated she needed the curriculum department of the district to “understand that what we are doing may not be the exact same activity or lesson that everyone else is doing, but that we are more than willing to be open for the same accountability.” This particular administrator’s frustration was sparked by the reality that although her staff and the staff of the other two campuses were trained in PBL, critical district personnel were not. The freedom to implement PBL fully, without
additional district-level demands, became a major theme among administrators and teacher leaders.

**Needed Changes to the Structure and Flow of the School Day**

When implementing PBL on their campuses, administrators and teacher leaders alike referred to both the structural and curricular changes they had to make. All campus administrators indicated they had to change their master schedule to accommodate PBL. All three schools went from a traditional eight-period day, in which each class period lasted 45–50 minutes, to some form of a block schedule, in which core classes (if not all classes) were lengthened to 90 minutes a day and were scheduled every other day. For Lincoln Middle School and Johnson Middle School, these schedule changes only impacted grade 6, as that was the only grade level implementing PBL. For Kennedy Middle School, the changes made to the master schedule impacted all grade levels, as PBL was implemented campus wide. All three schools embedded a common planning period for the teachers who implemented PBL in their classrooms.

Another adjustment that had to be made by all three campuses was in the area of curriculum. The district implemented a district-wide curriculum, therefore planners at Lincoln, Johnson, and Kennedy middle schools had to decide how their projects would mesh with that curriculum. As indicated by many of the administrator and teacher responses, this was a challenge. One administrator believed the existing curriculum used by the district fit with PBL, as evidenced by her response:

The scope and sequence part of the curriculum is conducive to PBL because it helps plot out what needs to be taught by the end of the 6 weeks. It gives us timelines. It says you have 15 days, for example, to get this done, and so you need to be able to have that scope and sequence that could be . . . a necessary part of PBL.
On the other hand, another campus administrator was not certain how PBL fit with the district’s existing curriculum. The leader stated, “We are learning how to bring them together. . . . They don’t necessarily fit, but with the right implementation and the right resources they will fit.” Similarly, another campus administrator believed that marrying PBL with the existing curriculum “has been a challenge, because at this point the curriculum and project-based learning [have] been presented by two different entities.”

The teachers’ perspective offered more clarity as to how PBL fit with the district’s existing curriculum. Succinctly stated, one teacher indicated, “The existing curriculum gives me what I need to teach, and PBL gives me the how to do it.” Another teacher reported, “district curriculum and PBL were extremely similar, except the paperwork.” A third teacher indicated, “PBL is so open that it lets you use a number of different things in your project . . . so if you need ideas you don’t have to reinvent the wheel.”

**Process as Well as Content**

The third theme to evolve was the reality that teachers needed to teach process as much as they needed to teach content. Even though teachers and administrators indicated that many of their students have responded favorably to PBL, they indicated many students lacked specific skills needed to be successful while using PBL.

Through trial and error, and upon completion of the first round of projects, the participants reported that it was evident most students were not prepared for the type of learning prompted by PBL. Teachers and administrators indicated students lacked skills in collaboration, organization, speaking, and time management. “Our students need the ability to work together, to work in teams, the ability to do research, and the ability to work with different types of media technology,” offered one administrator. Another administrator believed students needed “to be organized and make sure that they know how to handle deadlines and timelines.” Several teachers
questioned whether their students were mature enough to handle PBL. One teacher compared PBL to her past elementary teaching experience: "Coming out of elementary school they are so used to the teacher just giving it to them that they are not used to thinking on their own." Another teacher alluded to "spoon feeding" the students. This teacher characterized the struggle as the difference between linear and nonlinear thinking:

Sixth graders are very linear in their thinking, and PBL requires a lot of nonlinear, problem-solving thinking, which sixth graders are just learning to get. . . . By the time they reach us they come to us and say, "Tell me what to do," and it's very hard to get them to understand what they need to do. . . . I'm struggling to find the right amount of scaffolding without spoon feeding them, but at the same time giving them enough support because they are very linear thinkers. They are just learning how to really problem solve the way they need to. I think problem-solving skills is the biggest thing they need.

Some teachers indicated appropriate skills were taught through modeling; others believed they would develop over time. One administrator, however, indicated staff members had been very deliberate in teaching these skills. The leader stated teachers "had to build in time to teach . . . how to take notes off of the website," so teachers "created research templates" to assist their students with note-taking skills.

A Sole Administrator to Oversee PBL Implementation

The fourth theme that surfaced was the need for one administrator to oversee the implementation and planning process of PBL. Due to the multifaceted nature of implementing and supporting PBL, the need to appoint a sole administrator to oversee the PBL process was critical. For example, although the principal of Kennedy Middle School had assigned one of his assistant principals to oversee the implementation and planning of PBL on his campus, Johnson and
Lincoln middle schools shared the support of the university liaison and a master teacher to oversee the implementation and planning of PBL on campus. As a result, the outcome of having a campus-based administrator to oversee the implementation and planning of PBL was quite different than having someone report to the campus a few times each week.

Many of the teachers believed they needed greater support in the area of modeling, as most believed that the 5-day summer training was not enough to prepare them for full PBL implementation. "I feel I need modeling of this. I don't feel a 5-day training was enough. I feel that I need for this to be modeling," stated one teacher. Another teacher echoed this sentiment: "I believe . . . we need to have more than 1 week of training. . . . we actually need to sit and actually see a model lesson from beginning to end . . . from the entry document to the final project."

In addition to wanting more training and modeling, other teachers indicated a better system for ordering and receiving supplies was necessary. "I think there needs to be a streamlined ordering process if you need materials . . . that if we put it in, we will get it in a timely fashion so that you don’t have to abandon things midstream," expressed one teacher. Another teacher from another campus reiterated this sentiment, It's one of those things where if you do not have the supplies or the things that you need in order to get that project launched and off the ground when it's planned, you're kind of dead in the water. Either you have to push your project back, which means that everything else has to be shortened, but that just gyps the kids. Secondly, if you go ahead and try to launch it without the necessary supplies, it makes you look bad in front of the kids. So the kids don’t have as much of a vested interest in PBL.
As stated, all administrators and teachers indicated their campus had been assigned or had designated a point person, consultant, or master teacher to assist with the training, implementation, and planning of PBL. Not all agreed upon the effectiveness of this support. For example, one administrator indicated her campus received “planning time, monetary resources, technology training, and a designated person to implement PBL,” whereas another administrator believed her campus received “very little” support to implement PBL. A third administrator stated he needed a point person or an instructional leader on the campus [who] is in charge of implementing project-based learning, because when you have something that is so new . . . implementation can’t occur 1 day a week or a couple of times during the month in terms of working with teachers.

This same variation existed in teacher responses. One teacher indicated that having “an assistant principal that focuses just on PBL has been a great help in giving us what we need and making sure that we have our planning guides.” Another teacher believed the support teachers received from their master teacher and consultant had not been consistent.

PBL Will Be Received Differently by Different People

The fifth theme that emerged was that the implementation of PBL, on all three campuses, received mixed reviews from faculty and students alike. As is common with most new initiatives, different people respond to change differently (Senge, 1999). From an adult perspective, this meant that some of the faculty from all three middle schools initially embraced PBL, whereas some did not.

Although each individual shared concerns, challenges, and frustrations with the implementation of PBL, the participants almost unanimously agreed that PBL was a good thing. As one teacher stated, “PBL is a good thing; it’s a lot of work on the front end for teachers,
but the kids will have skills that are going to be very beneficial not only in high school but also in the business work and in life.” Another teacher shared, “Project-based learning is a phenomenal tool, but it requires a lot of work.” Similarly, a third teacher indicated, “PBL is a great thing, just as long as it is implemented and supported correctly.”

Along the same line, administrators reported PBL was a good thing, as long as it was supported properly. “I think it’s fantastic, I think it’s the way to go. I believe that if it is implemented correctly, that it’s exactly what this campus and our students need to grow,” offered one administrator. Another administrator reiterated this point, stating, “PBL is something that can work” if teachers are “given all of the tools and materials they need” to support their projects. For one administrator, the strength of PBL is in the context that it provides:

I think PBL is a strong instructional model that builds context for kids. I feel like that’s where we have failed to this point. Teaching in isolation, we have had so many times where we have taught a formula in math, but we can’t use the same formula in science because they have nothing to transfer. So the biggest plus of PBL to me is context. Students have a reason to know the information we are presenting. I also think it gives teachers an opportunity to actually facilitate learning as opposed to directing it.

Two teachers shared their concerns with PBL. One teacher believed PBL was something that could be successful at the high school level but questioned whether it could be successfully implemented in middle school:

When I went and saw it happening at the high school, it looked wonderful. The students seemed to love it. It looked ideal, but when I came back here to my campus, I feel that my students benefit more from the district curriculum than they do from PBL. Maybe it is because of the grade level and their age.
Another teacher expressed PBL was beneficial, but only in moderation. "I don’t see the implementation as being in a perpetual state of projects as being a successful model in my classroom," he stated.

In the area of resistance, administrators believed resistance to PBL came from teachers. For example, one administrator indicated, "During the 1st week of PBL, I had several veteran teachers come to me and talk to me. . .they did not think they could do this and. . .they didn’t think our kids were capable of doing that kind of constructivist learning." Another administrator indicated,

The biggest issue with teachers is that there is a concern about scores dropping and that there is a certain amount of risk associated with it, and so there is a tendency to fall back into classic modes of teaching.

Teachers also expressed resistance “when the design of the project was not clarified and when...they didn’t have what was needed for their projects.”

Unlike their administrators, teachers believed resistance had come from their fellow colleagues, as well as from students. “There have been teachers to gripe about it and complain. ...I think that one reason is people like to teach their own lesson plans," responded one teacher. When asked about any resistance to PBL, another teacher answered more emphatically:

Absolutely. I think that it’s natural when you are set in the way of doing something for so long and then something comes along, or even if you have been successful the way that you have been teaching, and then it’s just something else that people feel that they have to do. Or this is not going to work, or our kids are not ready for this.

The school leaders reported the students’ response to PBL had
been mixed also. Teacher leaders indicated some of their students showed signs of resistance to PBL. One teacher expressed,

I have experienced resistance in the classroom with my students and I don’t feel it’s because they don’t like it, I just feel like a lot of them at this age want to do the smallest amount of work that they can do to get by.

Another teacher stated she experienced resistance “from a few of my students, only because it’s not spoon feeding them answers and that frustrates them, because they are used to being told what to do step by step.”

Although some of the teacher leaders indicated a few of their students had not responded to PBL favorably, most of their students had. One teacher responded,

I’ve had a great response. I’ve had students [who] wouldn’t do anything I asked them to do, but when it came down to the PBL project ... they really came around and actually did more than I thought they would do.

Another teacher reported her students “like the freedom, especially when it pertains to them. ... If it’s something that they are all about, they are gung ho.” A third teacher stated that at first her students were “unsure because this was new to them,” but they became used to it and knew what was expected of them.

Administrators shared similar findings. For example, one administrator reported students had “become more engaged” and were “a lot more willing to ask questions and construct their own learning.” In fact, the leaders also stressed students were “pretty much going to demand PBL so that by the time they are in high school, we are going to have to have a high school that fits it.” Another administrator stated he had seen “more engagement, more participation, and more attentiveness” on the part of students. A third administrator expressed,
Providing a nurturing environment for the students has been one that has been very rewarding and that in terms of the spirit of collaboration and working together, this has been something that has definitely been a positive from starting project-based learning this year.

Based on the different responses from teacher leaders and administrators, although each campus’s faculty struggled with certain aspects of the implementation of PBL, positive elements of implementation were evident as well.

Implications for Practice

As school leaders increasingly seek ways to prepare students for a world that continues to change due to globalization and advances in technology, PBL likely will become more popular as an instructional model. School districts increasingly will begin to employ this particular method in middle schools and elementary schools, in addition to high schools. The research conducted for this study becomes valuable. As middle schools increasingly implement PBL, many school leaders are going to seek out examples of prior implementation experiences in other middle schools. School leaders will seek out the lessons learned from those who have gone before them. Like Freire (1970), Dewey (1938), and Resnick (1999), educators who seek to engage students through the use of PBL, and researchers who seek to research this practice, have the opportunity to change the landscape of education in the United States and beyond.

Recommendations for Further Research

As history has shown, every new century is steeped with possibility and challenge. The 21st century is no different. The world has changed dramatically, through the acceleration of technology and globalization. If schools do not keep pace with these changes, students
will fall short of realizing their full potential. If educators do not change the way they view teaching and technology, schools will not change. In order for educators to change, something radical must occur. In the words of Schlechty (2005), educators must experience an educational conversion: “To get teachers to renounce a tradition-based view of teachers as persons who have authority because they are adults or because they have mastered a body of professional knowledge requires more than a better theory of teaching and learning” (p. 105). One of the easiest ways for teachers to convert from a traditional style of teaching to one that prepares students for the 21st century is through a better understanding of how teaching and learning has changed throughout the years and will continue to change. This effort would signify a major shift in the teacher–student relationship.

The intent of this research was to capture the shared phenomenological experience of the campus leadership who were trained in PBL and implemented it at three middle school campuses. Based on the initial findings from this research, further research needs to be conducted on middle schools that have implemented PBL on their campus. Research highlighting the quantitative success of PBL on a middle school campus would greatly add to the body of knowledge of PBL. A case study should be conducted on a group of students who were taught using PBL as the primary mode of instruction versus a group of students who were taught through a traditional model of teaching and learning. An interesting study would be to determine the high school readiness of middle school students to enter a high school environment after experiencing a middle school in which PBL was utilized. A school district that has implemented PBL at both the middle and high school levels would be an interesting topic of research.

Conclusion

The campus leaders interviewed indicated all three campuses struggled with implementing PBL authentically while being required
to meet the curricular and assessment demands of the district. As indicated by all interviewed, added stress and confusion arose when having to meet the PBL demands of the campus and the ongoing demands of the district created by district-wide benchmarking. All teacher leaders and administrators interviewed commented on the necessary changes they had to make to their master schedule, as well as other structural items, in order to accommodate their implementation of PBL. All participants indicated the students were not ready for PBL. The teachers realized, through trial and error, they would have to spend time cultivating the prerequisite skills needed to engage in PBL. These skills included teamwork, collaboration, time management, and public speaking. Although all three middle schools implemented PBL, the management and oversight of the PBL implementation differed among two of the three campuses. Two of the three middle schools shared the support of a university liaison and a master teacher, whereas the third middle school had assigned an assistant principal to manage PBL implementation exclusively. As responses to the interview questions indicated, this difference made an impact on the perception and feel of PBL from campus to campus.

The implementation of PBL, by any campus, will likely receive mixed reviews from both faculty and students alike. As a result, although most of the teachers and administrators interviewed indicated PBL has had an overall positive effect on their campus, they also indicated not all teachers and students have openly accepted PBL.
REFERENCES


