

## **“A Learning Journey for All”: American Elementary Teachers’ Use of Classroom Wikis**

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### **Abstract**

In response to the needs for understanding teaching practices and approaches with a technology tool in actual elementary classrooms, this paper examines the perspectives of American elementary teachers who use classroom wikis. Specially, it examines three main ideas: (a) teaching approaches and strategies across subject areas in the primary and upper grades, (b) teaching and learning benefits with a wiki, and (c) lessons from the teachers who used wikis. By emphasizing their experience, strategies, and reflections associated with using a wiki, this paper provides their points of view about the wikis, in addition to presenting valuable practical approaches from them that many other teachers and teacher candidates can learn from. It explores the perspectives of using wikis by beginning with the discussions of the concepts of child-centeredness and its relationship with technology—in particular, the wiki.

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Over the last two decades, the importance of developing innovative instructional approaches and technologies for young children of the 21<sup>st</sup> Century have been discussed (e.g., Carroll, 2011; Dyson, 1997; Flear, 2011; Mahiri, 2000; Marsh, 2000; Morrell, 2002; Yelland, 2011; Zevenbergen, 2007). As one of these instructional tools, wikis are used in schools for various purposes such as managing research projects, posting reading notes, publishing course materials, brainstorming and refining topics, and completing writing assignments (e.g., Andes & Claggett, 2011; Brown & Adler, 2008; Bruns & Humphreys, 2005; Cobb, 2008; Downes, 2005; Evans, 2006; Konieczny, 2007; Lea, Stephenson, & Troy, 2003; O’Hear, 2006; Parker & Chao, 2007). In the discussions about this innovative instructional tool described in the studies listed above, a unique feature of the wikis has been emphasized: students’ capacity for collaboration by editing Web content themselves. As a result, a wiki is considered not only to be a tool for teachers to create, refine, or deliver content, but it can also allow students to be empowered based on their collective collaborations engendered by the use of the wiki (Alexander, 2006). Therefore, wikis are seen as capable of providing more possibilities of open learning environments than many other traditional uses of instructional technology (e.g., O’Shea, Baker, Allen, Curry-Corcoran, & Allen, 2007; Pedro, Rieradevall, Lopez, Sant, Pinol, Nunez, & Llobera, 2006).

Given the functions of the use of wikis in many classrooms, the value of using a classroom wiki and its possible benefits can be understood by connecting it to the field of elementary education (Kist, Doyle, Hayes, Horwitz, & Kuzior, 2010; Molen, 2009), where child-centered pedagogical approaches and practices have been emphasized. However, even when teachers acknowledge that a strong relationship exists between child-centered learning and academic performance at school, their implementations of this knowledge about the value of wikis in their actual teaching practices is often challenged due to various factors, such as insufficient time, a lack of access to technology which exists in some children’s homes and schools, and no administrative support in schools (e.g., Lam,

2000; Levin & Wadmany, 2008; Preston, Cox, & Cox, 2000; Smerdon, Cronen, Lanahan, Anderson, Iannotti, & Angeles, 2000; Weikart & Marrapodi, 1999). In addition, the research of learner-centered wiki did not focus on elementary classrooms. Most studies have dealt with the wikis as learner-centered technology in secondary or higher education settings where wikis were used as a place for high level of writing collaboration and discussion forum, electronic scrap books for social studies, and a study guide for a technology course (e.g., Bakke, Faley, & Steinberg 2007; Doolittle & Hicks, 2003; Hannafin & Hill, 2002; Heafner & Friedman, 2008; Huang & Behara, 2007; Kessler, 2010; Schiller, 2009).

This paper thus attempts to provide guidance and implications for many elementary pre-and in-service teachers who want to consider using a classroom wiki as a means of fostering child-centered learning. It especially seeks to understand American teachers' ways of developing and maintaining wikis. As a result, this paper is not simply focused on exploring certain characteristics or certain technological functions of a new technology in the classroom. Instead, it deals more with an in-depth analysis of the perspectives of elementary teachers who tried a novel pedagogical approach by aiming to scrutinize important information that can be applied in a practical manner.

This paper examines three main ideas: (a) teaching approaches and strategies across subject areas in the primary and upper grades, (b) teaching and learning benefits with a wiki, and (c) lessons from the teachers who used wikis. By emphasizing their experience, strategies, and reflections associated with using a wiki, this paper provides their points of view about the wikis in relation to child-centered classroom environments, and valuable practical approaches from them. It explores these perspectives of using wikis by beginning with the discussions of the concepts of child-centeredness and its relationship with technology—in particular, the wiki.

### **Child-Centered Elementary Education**

Child-centered approaches and practices in American classrooms have been derived from the significant influence of several Western theories and philosophies, such as those of Rousseau, Piaget, Vygotsky, Montessori and Dewey. American elementary education has often evolved into discussion about a various means of implementing child-centered practices. Emphasizing the fact that young children's needs for learning are different from those of adults, the major consideration of a child-centered approach was to find alternative aims, objectives, and teaching methodologies of education to meet children's developmental levels, needs, and cultural backgrounds. Although it is difficult to define accurate meanings of child-centeredness due to the complex, contradictory beliefs and assumptions about it present in society (Chung & Walsh, 2000), child-centeredness is considered to be concerned primarily with providing the greatest opportunities for personal choice, so as to give students access to an appropriate curriculum which attempts to emphasize differences between children (Anderson-Levitt, 2002; Cannella, 1997; Hoffman, 2000). In other words, child-centered teaching in the United States can be seen as the kind of education that is carried out by children, and thus, children's work is based on children's current needs and interests. In a similar vein, children's interests are indispensable to lead children to participate in classroom activities and motivate them to learn continuously, because participation and levels of attentiveness in classrooms is seen as being directly connected with their interests (Anderson-Levitt, 2002).

From this perspective, it is critical to understand not only the ways in which a teacher respects children's choices, differences, and freedoms in child-centered learning, but also, how this teacher develops meaningful, effective teaching approaches and activities, which allow children to reach their educational expectations and goals.

## Wikis as Child-Centered Technology

By connecting the notion of child-centeredness to technology, children's use of technology can play a critical role in enhancing their elementary school learning in an engaging way. An ongoing discussion about children's use of technology and media in learning and schools has been an important issue in the field of education for over two decades (e.g., Barker, 1997; Buckingham, 1996; Dyson, 1997; Elkind, 1981; Giroux, 1995; Lee, 2009; Marsh, 2000; Postman, 1994; Steinberg & Kincheloe, 1997; Tobin, 2000; Yelland, 1999). In spite of this longstanding discussion, still, it is difficult to find many elementary classrooms where novel, innovative technologies are actively used to support children's learning.

As Yelland (2011) astutely pointed out, this insufficient use of such technologies results mainly from two reasons in contemporary early childhood education: one is that the use of technology prevents children from free play in the real world with actual objects, and the other is that it interrupts children's acquisition of basic skills that they can learn from materials and methods in schools that were traditionally considered to be of fundamental importance – for example, printed materials. Even though her arguments were focused on early childhood education, these points of view can be pertinent and valuable to apply to elementary classrooms as well by considering the importance of children's enjoyable learning and these basic skills, both of which can be derived from the real world connections in schools. In fact, classroom wikis can provide the possibility of fostering an engaging and fundamental learning environment for child-centered classrooms by prompting children to collaborate and reconstruct knowledge in their learning. In using a classroom wiki, a teacher can develop a concept of “playful explorations” (Yelland, 2011, p. 6), which are open-ended playful contexts designed and offered by teachers in order to embrace children's interests, facilitate their learning, and lead them to accomplish their educational goals. As a result, children's use of a classroom wiki can extend their desire to learn about a phenomenon, an event, or a fact based on their collaboration and their experiences as independent learners, both of which are critical components of child-centered classrooms.

Considering the fact that wikis can serve as a valuable teaching tool in enhancing child-centered elementary classrooms, this paper examines how American elementary teachers use this type of innovative technology in a playful as well as a meaningful way, by discussing their reasons for, thoughts about, and methods of using wikis.

## Methodology

In this study, 17 elementary teachers (4 male and 13 female teachers) who were using wikis participated in the United States. Teachers who served as respondents in this study included seven from grades K-3, six from grades 4-6, and four from K-5 subject areas, including technology, reading, and music. Fourteen respondents used Wikispaces while two had PBworks sites and one used Wetpaint. Eight respondents had used the classroom wiki for six months to one year, five respondents for more than one to two years, three respondents for more than two years, and one for less than six months. Respondents' classroom sizes varied from 19 to 25 students.

To obtain the sample, I first searched for teachers using wikis in the classroom from Wikispaces, Teacherwikis, WetPaint, and PBworks. By carefully searching these wiki sites, I had an initial list of 115 elementary wikis. This list included not only the wikis of American teachers and their classrooms but also those of some other countries (e.g., Canada, New Zealand, and Australia) and those who were not teachers (e.g., school administrators and technicians). In addition, some sites had not been updated recently, which indicated these were no longer being used by teachers at that point. Because this research was focused on American elementary classroom teachers who continually used wikis, I selected 62 American teachers from the list and then sent an email to them

to ask about their interest in participating in the study. Initially, approximately 50% (29 teachers) of those teachers responded that they were interested in participating. However, several of them did not communicate with me after the initial contact or told me again that they could not participate because of their busy schedule. As a result, the total number of participants who actually completed the interview decreased to 17.

The interviews were primarily conducted via email exchanges due to the difficulties of scheduling a physical meeting or a phone interview. Because the teachers' locations were scattered through the United States, it was extremely different to conduct the research with in person interviews. Setting up an initial phone call was challenging to them because many of them lived in different time zones from me. Therefore, considering the obstacle of physical location, I decided to conduct this research by communicating via email.

Each electronic interview included 19 questions. The exemplary questions asked the participants about their name, grade level to teach, teaching beliefs, thoughts about technology, children, teachers and parents, motivation, strategies, and challenges related to the use of wikis in elementary classrooms. Once they wrote their responses and sent them back to the researchers, I contacted them again by email or phone if there were follow-up questions to clarify or make additional comments.

In order to analyze the data, I read all the transcriptions several times in order to look, not only for the participants' shared perceptions, concerns, and interests, but also, for each participant's unique perspective. I scrutinized the data by developing certain major categories or concepts that thematically described the participants' major ideas. I initially reviewed these data for repetitive themes and later for anomalies in their responses. As themes were continuously reviewed, the study's analysis crystallized. For instance, I first developed themes based mostly on teaching approaches and strategies with wikis in each grade. However, as the data were accumulated and my data analysis continued, the themes evolved and related not only to grades but also to subject areas. After settling on certain themes, I used a "negative case analysis" method (Carspecken, 1996; Guba & Lincoln, 1994), to determine which themes did not fit into a specific theme, so as to minimize the possibility of having an invalid construction of meaning. By using these strategies, the ideas and themes that emerged from any stage of the research process were reviewed and newly categorized in succession, in order to classify them according to more appropriate and accurate themes, and make my interpretations more "truthful" (Glaser & Strauss, 1975).

### **Elementary Teachers' Use of Classroom Wikis as Child-Centered Technology**

#### **Teaching Approaches and Strategies across Subject Areas**

In using the wikis, several teachers manifested different strategies depending on the students' grade levels. Thus, this section discusses how the wikis were used as a child-centered technology in subject areas by focusing primary (K-3) and upper grades (4-6) of elementary schools.

**Primary grades.** In the primary classrooms, the children often used the wikis by incorporating some simple parts from the wiki process, instead of completely merging the whole wiki process into their learning. This usage had to do with teaching a particular content reflecting on young children's developmental readiness. For instance, a participant of a third-grade classroom focused on the basics such as how to "edit pages, post and upload." Another example was related to a first-grade's math classroom:

Students would explore with unifix cubes and come up with different equations to make the number of the day. Then we would come together as a class and share one of our equations that was put into the wiki via the SmartBoard. Students were encouraged and learned from each others' equations.

Similar to the teacher mentioned above, several participants used the Smartboard not only to show how to participate in the wikis, but also to enhance the students' motivation to participate in and contribute to the wikis. In demonstrating how to participate in the wiki, these teachers often walked them through the necessary process in a step-by-step procedure so young children could easily follow what to do. From this perspective, these teachers served as "role model[s]" not only for how to behave, but they also fulfilled the role of a "model learner" for problem solving by applying a new instructional technology tool into young children's classroom and manifesting how to use it successfully.

In addition, a teacher mentioned the way that she incorporated the wiki into her first-grade social studies classroom: "I [she] put a symbol on my weekly newsletter that my parents knew meant to check out the wiki since it has been updated. I also asked the kids what they thought we should add each week." The other first-grade teacher also echoed this perspective by having the children write about their "three best things of the day—good, better, and best." Because the children's writing in the wiki "summarizes[ed] and caps[ed] off the events that occurred" each day, this teacher was able to "see what sticks[ed] in the students minds." In these teachers' classrooms, then, the wiki played an important role not only for teaching, learning, and communicating, but also assessing children's learning and progress. The use of the wikis allowed the teachers to use an authentic way of evaluating her young children's work. Moreover, the teachers had a more child-centered teaching strategy because they could understand students' interests and needs.

Moreover, as a third-grade teacher discussed, teaching social studies with the use of wikis enabled them to "take kids to places they would never otherwise be able to go!" To a couple of teachers, their class connections shifted even to global collaborations. They attempted to have partnerships with those students in other countries who also participated in wikis. By having a common science and social studies project with children from a different culture, their students experienced the benefits of "work[ing] together and teach[ing] each other about their communities and environments," as one participant pointed out.

**Upper grades.** When a wiki was used in an upper grade elementary classroom, it became a teaching means more geared toward strengthening peer collaboration and ownership of learning—particularly that of writing. As many teachers also mentioned, once the children in the upper elementary grade classrooms were introduced to the wiki, "they were willing and excited to try it out and use it. It did not take much for the students to buy into the idea of the wiki." Because many children in the upper grade classrooms were already familiar with using online resources, the teachers' roles were more likely to be facilitators and guides for using wikis, similar to the teachers in Fahser-Herro's (2010) study.

In a participant's fifth-grade classroom, the students were responsible learners for their own writing process on the wiki: "After they have completed rough drafts, they collaborate together to edit, revise, and finalize their writing pieces themselves. The students are also able to put their personal writing pieces on the wiki." Some of the classroom wikis developed their writing collaboration to a larger extent. The students in these classrooms not only collaborated within their schools, but they were also able to reach out to other schools. A teacher told me about one of her fourth-grade classes who participated with seven other fourth-grade classes within her district in writing a collaborative story: "Each class had one week scheduled to continue the story until it reached the final class and the story's conclusion." Wikis then became a key tool for helping students understand the writing process and how revision occurs in these classrooms.

The teachers in this study also found that a wiki could lead to the children's academic improvement and a great improvement in the quality of their work in writing. A fifth-grade teacher confessed, "It is truly amazing to see my [her] students realize how they can improve their own

writing. They enhance their writing by themselves without my requests after comments and ideas from their peer. They just want to work.”

Not only are wikis useful for writing, but they also serve as tools for other subject areas in the upper grade classrooms. A fifth-grade teacher noted that when she taught science, her students could collaboratively modify their own areas through the wiki: “Last year, I had a section on our wiki in which they could add a picture related to a science topic, along with an explanation, and a related resource link for extra credit.” In a participant’s music class, wikis had multiple purposes.

With the chorus classes, for instance, a wiki page is set up for each choir. These pages include needed information and rehearsal tracks for each voice part and piano accompaniment. With the wiki, students can practice at home with these tracks and, thereby, become more comfortable with their part. With repeated practice, they can memorize their part and feel more confident when performing it. With such use, the wiki is an extension of the classroom and part of a blended solution to a more effective class. It also helps to individualize or tailor instruction to particular students.

Similar to the primary teachers of the study, the participants who taught the upper grade classes also used the wikis as a meaningful assessment tool. Many participants stated the unique strength of the wikis for assessment. The participants’ students were likely to express themselves in the space of the wiki more freely than the usual classroom with its typical activities such as whole and group discussions in class. As a result, it was possible for them to understand “what the students were learning in class” as well as “what they enjoy learning” in a more comprehensive way. This mode of informal assessment via wikis was discussed by the other teacher of the study as well. In her sixth-grade classroom:

Students could create their own wiki page about whatever topic is being learned. It could be an exploration of a book, an explanation of a math topic, or further research of a topic in science or social studies. Then they would develop it by themselves or with their groups and I could also do summative assessment with it after all would be done.

In this way, the wiki promoted child-centered classroom environments in that the teachers could have comprehensive understanding of the children’s work as well as their current stage of mastery in the overall learning process through wikis.

Like the suggestions of some research studies (e.g., Alexander, 2006; O’Shea, Baker, Allen, Curry-Corcoran, & Allen, 2007; Pedro et al., 2006), the use of the wiki also encouraged children to work together in these participants’ classrooms. In working with peers, their students often “checked back” to see what other students had provided as content, so they could comment on and respond to what they had read. The children’s collaboration in the wikis went far beyond the simple concept of “working together.” The wikis also served as a way to encourage the students to develop essential social skills. The wikis could teach students how to collaborate and communicate with the other students, as well as how to “respect others’ work” which was demonstrated in various ways. Furthermore, students became independent and successfully played such roles as “content creators, co-creators, consumers and evaluators.” As a fourth-grade teacher of the study pointed out, a wiki could motivate students to learn in a social context where the students’ lives are always related: “The children are social by nature. Then why not use that as a way to motivate them to create content and show their learning in a community and society?” This teacher then connected children’s learning to real life experiences, which is one of the salient features of a child-centered elementary classroom.

### **Teaching and Learning Benefits with a Wiki**

In addition to using wikis to teach certain subject areas, the participants included them in their classrooms because of the wikis’ benefits in their teaching and students’ learning. This section discusses more specifically these benefits that led these teachers to continue to use the wikis.

**School-home connection.** The participants found the wiki not only provided a school-home connection but also made this connection stronger and easier to maintain. Several of them thought that the wiki made parents more involved in their children's learning because they knew what their children and teacher were currently doing together without being in the classroom. "Conversation about daily experiences is taking place at the dinner table and this makes learning more powerful," as a participant told me. The parental familiarity with their children's classrooms led the parents to take an active role in their children's learning. According to a participant, this "real-time" family participation conveyed a message to the children that their learning, school, and education were all important matters.

In particular, a teacher expressed her rewarding experience of this family connection, a sentiment which was globally expanded in this study:

The most rewarding experience has been responses from a set of grandparents in India who were able to email and talk with their grandchild about what was happening at school each week here in America. It was so powerful experience for him that he wrote about it often and he and his grandfather wrote a book together about life through the eyes of a 7 year old and a 70 year old. This was all sparked from conversations started from pictures and events posted on the wiki.

By considering her children's families and cultures, this teacher was able to understand students' lives that were not limited to the context of a local community or a given society. Rather, their actual everyday life experiences more broadly extended to different cultures and countries. In this way, the use of the wikis brought a teacher to develop a child-centered learning classroom that was welcoming to and respectful of diverse student backgrounds and experiences. All of the participants articulated that the use of wikis in the classroom was seen as an important tool for them to maintain and develop their students' own senses of family and culture. From this perspective, these teachers tended to take into account the student's learning as well as the importance of their families and cultures by means of using wikis in their classrooms.

**Children's motivation.** The participants considered wikis a technology to make children motivated. For instance, a teacher expressed how much her students were involved in and excited about their work with the wikis:

As our fourth-grade class worked on their part of the story, the willingness to work together was there. They were also motivated to go back and check the progress of the story week by week until the eight week period was over. It was a project they won't soon forget.

Most teachers indicated children's increasing amount of time spent engaged with and interested in the wikis; the children enjoyed contributing to the wiki both in class and at home. As a participant told me, her students continued to create, share, edit, and add certain content, discussions, and comments to the wiki even when they were not with teachers. A classroom wiki then provided a child-centered environment where learning is not only interesting and fun for the children, but at the same time, provided a way for them to be motivated and engaged in learning "beyond the bell," as the fourth-grade teacher put it.

This child-centered learning experience with playful explorations (Yelland, 2011) often enhanced the quality of the children's work as well. Several participants informed me of the children's improvement, particularly in the areas of literacy and language arts "because of the interaction that is in place from peer to peer or teacher." As I remarked before, one of the reasons why technology is often devalued in elementary schools is its potential interruption of children's mastery of basic skills, such as those of literacy and math, which children should be able to obtain in schools. In these participants' classrooms, the use of wikis did not prevent children from learning

about the subject areas which have traditionally been underscored. Rather, it could accelerate children's acquisition of these subjects.

Using a classroom wiki was also a mechanism designed to help students take pride in their work. Many participants often observed "a student smile in ownership of a successful project," which was derived from the fact that "their work was public and others acknowledge its quality." As a teacher indicated, her students realized that "what they put on the wiki is being looked at not just by their teachers, but also their peers, and peers from other classrooms." Therefore, the wikis' open space and possibility of attracting public and external feedback became "the good pressure to make it something of which they can be proud."

**Children's needs.** Considering the wiki as a child-centered teaching tool, a teacher insisted on the importance of integrating the wiki into her classroom by discussing her students' needs in contemporary society: "We must accept our students are digital natives. I have witnessed 4-year-olds sending emails and loading pictures from a camera onto the computers. Do we really want to bore them with an excess of paper and pencil learning?"

Moreover, how differently the children learned and what they needed for their lives in the 21<sup>st</sup> century were emphasized in the teachers' future oriented points of view. Many participants were clearly aware of the significance of different, novel teaching methods so as to prepare the students, who are NetGen (Wehrli, 2009), for a future which can be technologically challenging and advanced. A teacher of the study remarked:

Our students are not served well with "seat time" and our pouring information into them. For one thing, we can never give them all the information they need. Secondly, we really need to teach them how to think critically, be creative and imaginative, and be able to find information which is readily available in many places today.

Considering technology a "huge part of their [children's] life," these teachers took responsibility not only for children's current learning but also, for their future learning. Hence, the inclusion of technology tools such as the wiki was critical for these participants, because the children could not be successful or competent "without their embracing these tools and transforming the way we educate our students" as the other participant put it. These teachers connected children's learning to the real life world of children, and thus, made their classroom more child-centered, by adapting a technology tool to make the children prepared for the digital literacy skills demanded in society.

### **Lessons from the Wiki-Experienced Teachers**

Keeping the teaching serenities with and benefits from wikis the teachers in this study discussed in mind, this section focuses on three important ideas to ponder upon in adapting a classroom wiki for child-centered learning that they shared based on their unique experiences.

**Lesson #1: Understanding the children and trust their abilities.** According to the participants, first of all, a teacher should understand who the children are in the techno-era. A teacher's remark represents this idea clearly: "Teachers need to see the need for preparing students for the information age, rather than the industrial age. They work differently and they play differently [from the teachers]". Therefore, the teachers "must access the knowledge, develop the commitment to find a way to do" what is appropriate and relevant for children who live in a different socio-cultural context.

Furthermore, trusting children's capability to work with a technology is critical. As a participant indicated:

You really need to believe that students can work independently, in small groups, with a partner and that the teacher can control the content of the wiki, but does not have to be in



control of the learning pace. Introduce students to the wiki environment and let them go. Teachers become more of a facilitator than a controller.

It is thus essential for teachers to establish a learning environment where teachers are not “a sage on the stage” any more, so that teachers and students can have complete trust in themselves and in each other in their collaborative use of a wiki. Several teachers of this study insisted that there were more important things than challenging physical environments “that always exist any places any time” that a teacher should consider: rather, teachers should understand and trust the children, and make them be in charge of their own classroom learning.

**Lesson #2: Allowing time and opportunity for trial and error.** These participants also went on to strongly highlight the importance of not only allowing students, but also teachers themselves, time to explore, learn, and reflect on a technology. All of the participants told me that one of the biggest challenges in using a wiki was finding time. They were all pressed by the current test driven educational environments. However, these teachers were those who continuously used the wikis because they had already obtained “an understanding of the benefits the wikis brings” to children and their learning. This experience was gained only through their willingness to spend extra hours to learn what a wiki was, how it worked, and what made it work successfully for their students by educating themselves regarding a new, unfamiliar teaching tool and possibility.

In the process of their constant self-learning and risk taking, these participants often mapped out how to effectively manage a certain challenge. For instance, a participant told me about dealing with her challenges:

My challenging moment was that sometimes students feel there are no “rules” on wikis because it’s not in a monitored classroom. After reflecting, I realized that students have to be consistently reminded that there are certain rules using the wiki. So I overcame this by continually discussing what is expected when they use the wiki and what content on the wiki is appropriate. In addition, there just aren’t enough resources to utilize wikis to the fullest extent. I have been seeking out grants to overcome this disadvantage.

In the long run, their continual attempts to take their own “personal time to grow” led them to develop their own tactics to overcome some particular challenges successfully.

Although long habitual teaching practices and beliefs were regarded as difficult to modify, according to these teachers, it is not impossible to change because these are not permanently stagnant (Becker & Ravitz, 2001; Levin & Wadman, 2005). Rather, these elements of a teacher’s approach can positively evolve when teachers purposefully plan time and flexibility to integrate their own exploration and reflection into their professional practices. A teacher discussed this matter in the study:

There’s no better way to implement wiki use than to get teachers to jump right in and get that experience. Once they see the need [of children] and the power it has, their instruction will change. It will be better.

**Lesson #3: Opening ourselves to changes.** Finally, teachers’ readiness to change themselves was considered important. There have been discussions about teachers’ initial resistance to or hesitancy in using a technology for learning (e.g., Dawson & Rakes, 2003; Jones, 2004; Pedro et al., 2006; Tharp & Gallimore, 1988; Wehrli, 2009; Yildirim, 2000). Several participants talked about this phenomenon: A teacher of the study discussed, “Time to learn and implement will always be a challenge, as will teachers who don’t want to change the ways they are teaching and implement wikis.”

Some of the participants also pointed out that there has always been “a fear factor” when teachers question if they can learn something new. These teachers indicated that such a fear resulted from teachers themselves and “their confidence of mastering a new thing.” According to the participants, this fear seemed not only to have many teachers avoid accepting technology as the valuable resource, but it also tended to cause a challenge to those who were already using the wikis, in that it was not easy for them to get collaborators who would assist them in their usage of them.

Therefore, it is important for teachers to understand that using a new technology such as a wiki is not a threat or a nuisance. Rather, as a teacher described, teachers should not be afraid of changing their practices if they can only understand that “it is a learning journey for all.” As a teacher of this study observed, this learning journey can begin only when teachers think about getting out of their comfort zone. Her statement made me understand that, similar to the teachers in the study of Dexter and Greenhow (2004), these participants were those who tried to overcome their fear, take a risk, and move forward by continuing to reflect and change how they taught.

### Conclusions

This paper discussed how elementary teachers integrated wikis in the classrooms by listening to what they thought about, experienced, and suggested. By examining their ways of developing a different teaching idea or approach with the wikis, this paper aimed at analyzing the standpoints of these teachers who continually tried new teaching approaches in spite of several challenges that they encountered in current elementary schools.

The participants provided their own strategies of using a wiki depending on the grade levels and subject areas they taught, so that they could cultivate a classroom which was more child-centered. The wikis also offered various benefits such as building a strong home-school connection, developing children’s motivation for their learning, and responding to children’s needs.

It is remarkable that these participants were eager to create a child-centered classroom where children could enjoy learning by attempting to create a playful, relevant, respectful learning environment through wikis. The teachers’ constant efforts and authentic ways of using wikis allowed me to rethink how teachers can have reflection, ownership, and empowerment of their teaching and classrooms. In spite of several challenges with current educational objectives and a high-stakes test driven environment, the teachers of this study refused to be trapped by several external factors and outside pressure that created these obstacles and challenges. Instead, they tried to inquire about a new possibility and actively prove how they could use it to work for child-centered learning in their classrooms.

The teachers of this study continued to shape their own child-centered classroom and teaching with wikis through reflection and awareness about who their students are and what is important and vital for their learning and lives in the 21<sup>st</sup> century. Therefore, they showed how to redirect and change a challenging educational reality derived from a school environment and related facilities. They understood how to respond to educational reality and challenges in a transformative way, rather than ignoring or avoiding them. In this regard, their use of a wiki is not merely a matter of adapting a novel instructional technology. Instead, it is also intertwined with how they made an attempt to cultivate the capacity to modify, develop, or suspend a false assumption present in educational beliefs and practices. From this point of view, it is necessary to ask how a teacher education program enhances not only teachers’ skills and knowledge about adapting technology, but at the same time, teacher education programs should consider how to encourage teachers to continually have a self-awakening which will lead them to have visions about how fundamental learning can be, how children can have enjoyable learning experiences, and in what ways teachers can connect their interests, needs, and culture into meaningful school learning for child-centered elementary classrooms.

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