The Connected Learning Framework

Exemplified by a Saudi Arabian Educator via Twitter

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Abstract: The connected learning framework was used to analyze Twitter posts of Saudi Arabian educators for the duration of 1 year while the educators were involved in a training program in the United States. This framework has typically been applied to youth and not to adult learners; however, learning does not stop at any particular age. Through an analysis of the technological trail of posts on Twitter, this paper demonstrates how each part of the connected learning framework, adapted for adult learners, manifested therein. This includes contexts for learning (colleague-supported, inquiry-driven, and improvement-oriented proposed by Eidman-Aadahl [2012]), core properties, guiding design principles, and the role of new media. The ability to expand the connected learning framework to apply to a specific set of adult learners is a step toward applying the connected learning framework to learners of all ages.

Introduction

Education in the United States, as it is in the rest of the world, is changing. As described by Kumpulainen and Sefton-Green (2014), the classroom of the past, which was largely "based on a reproduction model wherein one teacher in one classroom teaches one subject at a time to one class, is increasingly being questioned (e.g., Dumont, Istance, and Benavides, 2010; Facer, 2011; Salj, 2012)" (p. 9). In its place is a focus on students who are actively involved in their learning and developing critical-thinking skills. Learning is no longer done in isolation. It is connected between subjects and student interests, as well as between both formal and informal learning environments. Today, learning can happen at any time, anywhere, and at any age, with the goal of developing the skills needed for career and personal success in the 21st century.

The connected learning framework can be used to observe and analyze participants' learning over time and in a variety of spaces. According to Ito et al. (2013), the focus of the connected learning framework is on spheres of learning, core properties, guiding design principles, and the role of new media. "Connected learning is socially embedded, interest-driven, and oriented toward expanding educational, economic or political opportunity" (Ito et al., 2013, p. 42). This framework has typically been applied to youth but not to adult learners, even though it can be applied to any age group (Ito et al., 2013, p. 8). Broader application to adult learners is needed. As Eidman-Aadahl (2012) stated, "[We] can't expect young people to be powerful learners if not surrounded by adults who are supported in being powerful learners themselves." Around the globe, this is particularly useful when considering educators who are interacting with each other as connected learners in inquiry-driven ways through reading, posting, commenting, and video chatting.

Educators from Saudi Arabia are driven by a goal set forth by their government to expand educational opportunities for students within their country and to help their country become an educational leader. To do this, groups of educators chosen by the Ministry of Education (MoE) in Saudi Arabia are being sent to various educational systems around the world, including the United States, United Kingdom, and Finland, to explore that country's educational system and begin to develop plans to change the

educational system in Saudi Arabia. The overarching goals for these educators are outlined in the government's plan, Vision 2030. According to Saudi Vision 2030, "We want Saudi children, wherever they live, to enjoy higher quality, multi-faceted education. We will invest particularly in developing early childhood education, refining our national curriculum and training our teachers and educational leaders" (para. 2). Without exposure and connections to other educational systems, the Saudi educators have been stuck in a repetitive cycle of teachers' using directed learning to foster memorization. They are committed to making change to the educational system in Saudi Arabia, and in the pursuit of doing so, have the opportunity to be connected learners. These educators are witnessing, documenting, and sharing their experiences in the United States via Twitter.

This paper documents how each of the areas of the connected learning framework were evident in tweets posted over a period of one year to a Twitter account that was used to share a variety of experiences of Saudi Arabian educators before, during, and after their time in the United States. Upon examination, the data that emerged from the adult Saudi educators' tweets demonstrated the key areas of connected learning: spheres of learning, core properties, guiding design principles, and the role of new media. These data also support the notion that the connected learning framework can be applied to learners of all ages.

Saudi Arabia Education System

Formal education in Saudi became established in the 1930s when the Kingdom of Saudi Arabia was established (Elyas & Picard, 2010). At that time, there were three separate systems of education: general education for boys, traditional Islamic education for boys, and education for girls. In 2000, all were combined and fell under the purview of the Ministry of Education (MoE), which oversees a standard curriculum for all teachers and students so that boys and girls are exposed to the similar learning goals, objectives, and materials, even though they are taught in separate schools (Rugh, 2002). As the MoE controls the curriculum and content in textbooks, there is little latitude as to the topics, content, or materials used in the classroom, and Saudi Arabian teaching methods tend to rely on rote memorization focusing on knowledge gained from textbooks. Critics of the educational system contend that the skills needed for the 21st century, including critical-thinking and technological skills, must be emphasized to a greater extent than they currently are (Rugh, 2002). As reported in Courington and Zuabi (2011), "[in] Saudi Arabia, you have to memorize things very well and put it down on paper … it's the same in [Saudi] medical school, we get the theoretical base but have to go abroad to get the technical expertise" (p. 142).

The Saudi Arabia educational system has deep roots in teacher-directed learning in which the teacher is the knowledge transmitter and learning centers on memorizing facts (Alyamani, 2016). This way of teaching is due to teachers' lacking skills in the use of appropriate teaching methods, classroom-management techniques, language-proficiency skills, and assessment strategies (Al-Seghayer, 2014). This cycle is perpetuated by teachers who teach as they were taught and who are not supported with teacher in-service training programs. Teacher training is oftentimes left up to the individual to pursue on his or her own, and resources to do so are limited (Al-Seghayer, 2014).

With the implementation of Vision 2030, education for both students and teachers in Saudi Arabia is undergoing a transformation. Through changes in professional development for educators, a more student-centered learning model is emerging. In so doing, the Saudis hope to promote the development of core life skills and the creation of a school-family partnership. The ultimate goals of Vision 2030 are to "create a vibrant society" with "a thriving economy" for an "ambitious nation" (Saudi Vision 2030).

To support this initiative, six-month programs for educators from Saudi Arabia began in early 2017 at sites around the world, including two sites in the United States. There, the programs were designed so that the Saudi educators learned more about the American educational system and also improved their skills in English. The program that the participant Twitter user attended was at a midsize Midwestern university. This program specifically addressed teacher leadership and student learning, with substantive contributions in the areas of best practices for curriculum, instruction, and assessment; professional learning; technology mobilization; leadership and supervision; equity and cultural awareness; management; English language improvement; and organizational development and growth. Excitement for the program led to a connection being made organically through the use of Twitter between the Saudi Arabian participants in the program and the American educators planning and developing the program. These technological connections were sustained throughout the program and subsequently as the participants returned to Saudi Arabia.

Twitter

The use of Twitter to increase professional connections in the field of education and learning has been well documented. Since 2006, Twitter has created a public way to share and interact with people from around the globe. During the time of this research study, tweets were limited to 140 characters and publicly available unless the account was created as a protected account; then the tweets are available only to approved followers. Public tweets, however, can be found via a Twitter search or through data mining. Users can choose specific people to follow and topics to discuss. It has been demonstrated that Twitter is used to make connections between people, blogs, organizations, and groups related to education. Carpenter and Krutka (2014) found upon surveying 755 K–16 educators who used Twitter that "96% reported they shared and acquired educational resources via Twitter" (p. 428). Additionally, these educators acknowledged that when using Twitter they were learning with other educators while combating feelings of isolationism. Twitter has also been found to help teachers personalize their professional-development needs (Visser, Evering, & Barrett, 2014). Preservice teachers were found to benefit from using Twitter to share resources, communicate, and connect with others inside and outside of the classroom (Carpenter, 2015). As for the content of the tweets, 9,000 tweets of graduate education majors were examined and it was found that learning and transmission of knowledge was supported in formal and informal learning environments (Greenhalgh, Rosenberg, & Wolf, 2012).

Twitter Use by Saudi Educators

This drive for change in Saudi Arabia created an opportunity for connections. These connections emerged between colleagues in the United States and in Saudi Arabia and took place in an informal learning space. They were enhanced and facilitated by technology, specifically the microblogging platform Twitter, and through which the publicly available data were analyzed. This journey was one that was documented for one year: before coming to the United States, while living in the United States, and upon returning to Saudi Arabia via one participant's Twitter account that others followed, commented on, and retweeted. The program ran from February 2017 through August 2017; tweets were mined from October 2016, when the student Twitter account was activated, through October 2017. The educators who participated in the program and maintained the account on Twitter did so without help or encouragement from the American educators involved with the planning and delivery of the United States–based program. Posts were made to Twitter relating information about program experiences in the United States through text, photos, videos, and links to educational information. During this one-

year period, there were 291 tweets with 168 tweets favorited 1,376 times, and 57.39% of tweets posted being retweeted. To someone scrolling through the technological trail of tweets of the participant Twitter account, the themes and characteristics of the connected learning framework were evident.

Of the 291 posts shared from October 2016 through October 2017, all posts contained text. Two original posts did not contain a photo or video while an additional 41 of the account's retweets contained only text. Using a word cloud to begin to examine the data provided by the participant Twitter account, one can see specific words that were used with more frequency in the posts. The most predominant words when examined in this way were *school, learning, educators, leadership, project, plan, immersion, development, support, experiences,* and *ESL.* A more detailed coding of the specific content of the text of the tweets found that the content of the posts focused on leadership, school immersion visits, specific culminating learning activities, and plans for change.

Figure 1. Most common words.

Connected Learning Framework

According to the Connected Learning Research Network (n.d.), "connected learning is about examining learning that cuts across the contexts of home, school, and peer culture, looking at the links and disjuncture between them" ("Dedicated," para. 1). Specifically, according to Ito et al. (2013), research "stressed the importance of civic engagement, connecting schools with the wider world, and the value of hands-on and social learning" (p. 33). The bulk of the research, including information shared in *Connected Learning: An Agenda for Research and Design* (Ito et al., 2013), has focused on young adult learners because it is a critical time for them to develop their social identities and interests as well as to begin thinking about working toward career goals. Nonetheless, as the report stated, connected learning can apply to any age group, including adults. For example, Mirra (2015) focused on teachers who needed to incorporate digital literacy into their classrooms but may

> be unable or unwilling to do so if they do not have the opportunity to develop their own skill sets, find connections between digital tools and the kinds of meaningful learning opportunities they desire for their students, and wrestle with issues of equity and access. (para. 5)

To do this, however, some modifications to the spheres of learning must be made so that connected learning can apply to a wider range than just adolescents. The educators who are connected are more easily able to lead by example. That is,

> to meet the needs of the learners of today and tomorrow, [educators] need to recreate ourselves. We need to rethink how we do our job. We need to redefine our actions as educators so that we are teaching students how to learn, in part by modeling the role of lead learner. We need to stop thinking of a teacher as the giver of all knowledge and students as passive receivers of all knowledge and adopt a learner-first attitude. (Nussbaum-Beach & Hall, 2012, p. 46)

Spheres of Learning

According to Ito et al. (2013), the three spheres of learning of the connected learning framework for youth are: peer-supported, interest-powered, and academically oriented (see Table 1). Eidman-Aadahl (2012) adapted these for adult learners, suggesting that the equivalent spheres of learning for adults in professional environments as a subsection of the connected learning framework are: colleague-supported, inquiry-driven, and improvement-oriented (see Table 1). Viewed through the theory of *andragogy* (Knowles, Holton III, & Swanson, 2012), the needs of adult learners are different from the needs of children; therefore, the spheres of learning need some slight adaptations to account for these differences. Andragogy describes the characteristics of adult learners and discusses the belief that as adults manage aspects of their lives they are more capable of directing or assisting in their own learning (Merriam, 2001), as in being colleague-supported. The adult learner wants to be treated with respect. Adults are ready to learn, and time is valuable to them, so they want to learn what they can use. In addition, they are motivated to learn through problem solving as they are capable and independent learners. Both characteristics point to adults' being inquiry-driven. Last, they view mistakes as opportunities to learn, as it is part of life experiences (Weingand, 1996), which points to adults' being improvement-oriented. Andragogy is not without its critics. First, instead of being a theory, to some it seems as more of a set of best practices for learners who are no longer considered to be youth. Second, it seems as if the theory in question is better to be viewed as a model of assumptions about adult learners. Regardless, andragogy does address the fact that adults' cognitive abilities are different from children's

and should be taken into consideration when adapting the three spheres of learning according to the connected learning framework for adults.

Spheres of Learning		
Youth	Peer-supported	In their everyday exchanges with peers and friends, people are contributing, sharing and giving feedback in inclusive social experiences that are fluid and highly engaging.
Adult	Colleague-supported	
Youth	Interest-powered	When a subject is personally interesting and relevant, learners achieve much higher-order learning outcomes.
Adult	Inquiry-driven	
Youth	Academically oriented	Learners flourish and realize their potential when they can connect their interests and social engagement to academic studies/skills, civic engagement, and career opportunity.
Adult	Improvement-oriented	
(Adapted from Ito et al., 2013, p. 12, and Eidman Aadahl, 2012)		

Table 1. The connected learning framework.

Colleague-Supported. The educators from Saudi Arabia were very adept at using technology to make connections with other educators. They used technology to connect with peers in Saudi Arabia, American educators involved in the program, and colleagues within their country concerning topics and ideas learned while in the United States. Followers of the account reported that they were from such countries as the United States, Saudi Arabia, England, Libya, Canada, South Africa, Finland, Yemen, New Zealand, Scotland, Egypt, Australia, France, and India. Posts included program information concerning the phase of the program the user was involved in, topics observed and discussed, or celebrations of accomplishments related to the program. For example, the Saudi Arabian educators were colleague-supported, as they were chosen by the Saudi Arabian MoE, their colleagues, for this experience. In addition, based on the 662 followers and 1,376 favorited posts they received during a one-year period, others were reading and following them during their time in the United States. Posts were retweeted to be shared with others and comments were written such as "طريقة ناجحة جربتها طيلة تدريسي ولها نتائج إيجابية جدا" ("A successful method I tried throughout my teaching and it has very positive results," posted by Norah) in reply to a tweet with photos of books and text concerning reading. It is important to note, however, that there was no communication in reply to any of the comments posted to the original tweet. The tweets were used as a one-way mode of communication to deliver information. There was no evidence of chats between individuals or sustained discussions. A greater sense of support from colleagues may emerge when such dialogue is evident.

Inquiry-Driven. The Twitter posts also demonstrated that the participants were inquiry-driven. Posts contained artifacts related to a variety of educational themes. For instance, photos of classroom libraries and literacy events were taken and shared via Twitter because reading and the abundance of public libraries in Saudi Arabia are not as prevalent as they are in the United States. This led to one participant's creating a video upon returning to Saudi Arabia that emphasized the need for reading and an initiative for parents to read to their children. The ideas they had begun to delve into and use to create a plan of change were being shared with other teachers in Saudi Arabia, and in turn, shared with all Twitter followers.

Improvement-Oriented. As for being improvement-oriented, the entire experience of observing the American educational process and developing personal plans of action for improving the education in Saudi Arabia was just that—improvement-oriented. By coming to the United States, they demonstrated their desire to work toward improving their educational system not only for themselves and their students, but for their country. Upon their return to Saudi Arabia, they shared events and programs via Twitter to showcase the educational ideas that were being used to improve the schools and train additional teachers. These ideas included the use of technology (using games such as *Kahoot!* with students), using thinking routines, collaborating in small groups, and using Post-it notes to share information. It also included activities that the participants had been a part of in the United States, such as a Gallery Walk to share ideas in a poster presentation–type setting. Ideas that had begun to germinate while participants were in the United States were seen to come to fruition upon their return to Saudi Arabia.

One particular case of an adult learner's exhibiting the three spheres of learning was also evidenced. Student success and leadership were two themes of the program that were topics of book discussions, observations, and school personnel interviews. Upon returning to Saudi Arabia, one participant developed a program he titled مبادرة(فريق دعم المعلم, which translates into "Teacher Support Team Initiative." In short, this program was geared toward bringing all support personnel together in the school to assess students and provide interventions for students when needed so that students were successful. This post was liked 24 times and retweeted 17 times. Not only was this participant bringing educators together within the school, he was sharing his idea with other educators; ideas that began through the experiences in the United States and were interest-driven. He was driven by the desire to help students learn and while in the United States explored how support services are used here. He took this idea and sought the help of colleagues to implement his idea for student success in Saudi Arabia.

Core Properties

The core properties of the connected learning framework were also evident in the tweets of the Saudi educators: production-centered, shared purpose, and openly networked (Ito et al., 2013, p. 12). The tweets gave the participants the ability to share photos, texts, and videos of their experiences. Specifically, videos were created to illustrate the activities the participants had been involved in for that month. Explanations of the photos were included in some of the videos while in other videos recordings of presentations by each participant were shared. The purpose of the tweets was to record and document the activities of the group. Posts were liked and comments were made by others from around the globe. However, no in-depth discussions were evident. The tweets were publicly available and can still be viewed by others. Because of this, not all of the Saudi Arabian women in the group were visually shown in photos or videos. They were recorded and audio of their voices were shared.

Guiding Design Principles

The guiding design principles of the connected learning framework focus on everyone participating, learning happening by doing, challenge being constant, and everything being interconnected (Ito et al., 2013, p. 12). For the Saudi Arabian educators, participants were involved in several different activities in which they were asked to explore areas of interest and then to share this information with others. One activity that was documented through a photo montage shared online via Twitter was that of a conference in which all participated. For the conference, the participants had to create a lesson incorporating active learning. Lesson topics were based on concepts taught in Saudi Arabia coupled with ideas observed and discussed while in the United States. The focus of the presentations was on applying and synthesizing ideas. There were a variety of topics presented with various types of technology used as the focus of the presentation or as support. One participant shared an app for English vocabulary development in the classroom while another showed a video and discussed the importance of eating healthy food. Some asked their audience to use smartphones during their presentations while others asked them to use paper and pencil. All left the conference with the knowledge gained from presenting something they were interested in while being given feedback on their presentation by the audience as well as more formal feedback from the American instructors.

During the program, however, the conference was not the only time participants demonstrated their ability to analyze, synthesize, and evaluate information. When one reviews the time line of activities as shared by the participants on Twitter, it is evident that they were exploring a variety of new concepts while being encouraged to explore areas of personal interest and to think of ways to incorporate and use this information once they returned to Saudi Arabia. New concepts included focusing on student learning, importance of literacy, using technology as a tool, and more. From responding to daily writing prompts, to self-selected book-discussion groups focusing on books such as *Write Like This* by Gallagher, *When Kids Can't Read* by Beers, *Making Thinking Visible* by Morrison, Church, and Ritchhart, and *The Truth about Leadership* by Kouzes and Posner, the participants were challenged to think of how they could use the information in their classroom.

The participants were challenged not only by the use of English, but by the activities they completed. From diving into personal topics of interest to creating and collaborating on a group project that required them to write feature articles, create puzzles, critique movies, take photos, or interview people for a program newspaper, the desire to explore areas of interest was created along with the need to share information that they had learned. The Twitter posts documented the ideas that caught the participants' eye at moments in time along with documenting the staying power some ideas had while others did not. Examining these themes that created a thread throughout the Twitter posts, one sees that literacy was clearly important to the participants. Photos of books, classroom libraries, school libraries, and literacy topics ran throughout the program. At other times, one can see when a topic was introduced to the participants and a new thread was created and ideas related to the first post began to appear in subsequent Twitter posts. For instance, at the midpoint in the program, a book study of the book *Making Thinking Visible* by Morrison, Church, and Ritchhart took place. After a picture of the book was shared documenting the beginning of the book study, photos were shared from classroom activities and school visits that illustrated the routines in action that had been discussed in class, such as Claim, Support, Question, and Circle of Viewpoints. The issues discussed in class were documented and shared in the real world.

New Media Role

The fourth area of the connected learning framework is the role of new media. Within this area, media foster engagement in self-expression, increase accessibility to knowledge and learning experiences, expand social support for interests, and expand diversity and build capacity (Ito et al., 2013, p. 12). The Saudi Arabian educators immersed themselves in the United States to learn about the educational system, the culture, and the language. They interacted with people in person and online to share what they were doing and learning, all through a single Twitter account. In fact, the most popular tweet that was posted by this participant was a thank-you video, which the cohort had created, dedicated, and directed to the university hosting the group. The video was shared with 671 followers and retweeted by four others who had a total number of followers of 16,858. The reach of this one video was extensive.

Scrolling through posts shows that the participant Twitter account contained a variety of educational topics related to personal interests. Others who read the posts commented or provided feedback about the posts, which created an interactive environment. Relationships went well beyond the circle of university educators involved in the program, as the Saudi participants interacted with superintendents, counselors, teachers, paraprofessionals, and other individuals at schools. However, what was not maintained was a back-and-forth discussion of specific topics. In person, a discussion in which one comments, and another responds in real time, may allow for a deeper and more rich examination of a topic. However, at no time did the participant who created the Twitter account respond to a comment.

Not only has Twitter provided American and Saudi educators a platform for communication, it is also helping male and female Saudi Arabian educators discuss their separate systems of education within Saudi Arabia. This discussion began inside of the classrooms in the United States. To continue this discussion in an open public format such as Twitter is necessary if the country is truly going to change the educational system. Through the use of Twitter, educators can share ideas, network with other educators who have the same educational interests, participate in chats to debate educational policies, and begin to work together with an eye toward fulfilling the goals of Vision 2030.

Conclusion

The opportunity to travel to another country to explore its educational system in detail from a myriad of angles, and then to share that experience with others across the globe through posts on Twitter, is a unique situation. Aside from the benefits to the participants, it also serves as a case study for how expanding the connected learning framework to adult learners, with slight modifications, may provide a lens through which to better plan and evaluate similar environments. These modifications do not change the essence of the subcategories of the spheres of learning in the connected learning framework, but they do make each one more pertinent to the characteristics of adults, as adult learners are colleague-supported, inquiry-driven, and improvement-oriented learners and leaders who continue to learn, grow, and connect—all of which appear well facilitated by using Twitter.

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