

Attainment of 21st Century Skills through Collaborative Educational and Cultural Exchange Programs

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Abstract

In the doctoral dissertation proposal, a mixed method study is proposed to evaluate the attainment of 21st century skills among K-12 educators and students engaged in collaborative educational and cultural exchange program among schools of North Carolina and Pakistan. To foster 21st century skills, an educational and cultural exchange program has been initiated by Appalachian State University-Public School partnership, features online collaboration among middle school students and teachers of Ashe county schools, North Carolina and Education City, Pakistan. Language Arts, Social Studies and Science are identified as core subject areas. Educators identified common curriculum contents to develop a semester long projects where students are engaged in collaborative learning experience through cultural activities like digital photo sharing, storytelling, cultural and artifact exchange to improve their cultural competency and development of global citizenship. Teachers and students share their learning experience online through blogging and skyping.

In the proposed study, survey of five collaborative groups engaged in educational exchange program will be conducted to determine the participant readiness for acquiring 21st century skills. Moreover, interview of ten educators and students engaged in same programs will be taken to understand how such programs foster 21st century skills among educators and students. The research will be helpful for school administrators to make progress in international collaborative programs and implementation of 21st century skills. The outcomes of this proposed research will provide an opportunity to improve relationship among different countries and open new avenues for future joint ventures in addition to improve perceptions about each other.

Keywords: 21st century skills, collaboration, students exchange programs, Online communication, Global awareness, Multiple modes of learning.

INTRODUCTION

Background of the study

In the summer of 2007, I came to Appalachian State University to participate in US-Pakistan Biology teacher exchange program. The exchange program involved fifteen Pakistani biology teachers and Appalachian State University faculty from multiple fields to make optimal use of the university's strong partnership with North Carolina school districts. The training program contributed to the important goal of developing science and educational technology skills while strengthening relationship among Pakistani and American educators. The program was a great opportunity for capacity building of educators in Pakistan and the United States that resulted in development of positive attitude for the use of innovative methodologies, integration of technology in classroom and improvement of English language. In addition to these professional accomplishments, the program helped the educators to broaden their world view and improve their cross-cultural competency.

That was my first visit to the United States and the first opportunity to engage in any educational and cultural exchange program. The program helped me to improve my professional and pedagogical skills. As the result of my engagement in the exchange program, several new skills were developed which include global awareness, communication, collaboration, innovation, creativity, integration and cross-cultural skills. Many of these skills are classified as 21st century skills. Educational and cultural exchange programs are expected to foster these skills among the students who are engaged in such exchanges. The exchange programs are anticipated to help students to attain 21st century skills.

On my return to Pakistan, I tried to practice the newly learned skills and successfully applied the learning experience at my workplace. I realized that the skills I developed in the program are essential for success in the 21st century. I was amazed with the application of technology in education that I never experienced before. I used technology like emails, social networking, electronic documents and spreadsheets, etc just for my personal connections and work. After the exchange program, I engaged my students and staff in using and integrating computer and communicative technology in their work to improve their efficiency and quality of work. The students and staff found the experience interesting, innovative and useful in their learning process.

After living and understanding a different learning environment in the United States, I noticed that my ability to envision issues and problems has greatly improved. I started appreciating the value of multicultural diversity and multi-perspective thinking. The program provided me an opportunity to learn from working collaboratively with individuals representing diverse cultures which improved my cultural competency. I realized that cultural competency is necessary to become competitive in today's world. The attitudinal change broadens my way of thinking and enables me to see the world with a different frame of mind. The international exposure through educational exchange program helps me to re-conceptualize the globalized world. My worldview has greatly changed and understands the interconnectedness of everything in this world.

In 2009, I received another Fulbright scholarship to return to the United States to participate in a doctoral program at Reich College of Education, Appalachian State University. The doctoral Program at Appalachian State University is based on the principles of diversity, effective communication, cooperation, and collaboration. Theoretical construct of the program is

elegantly supported by the practical learning experience. The unique structure of cohort model provides me with another opportunity to understand and practice the important skills that are essential for success in 21st century. I believe success in 21st century depends on better collaborations, effective communication and broader understanding of this globalized world. Therefore it is important to incorporate these skills among educators and students in order to prepare them for future challenges. Darling-Hammond (2007) recommended that students of 21st century must be able to design, evaluate, analyze, frame, investigate and solve problems using wide range of information resources and digital tools.

The proposed research is intended to contribute towards better understanding of 21st century skills and ways by which one can acquire these skills by conducting mixed method research on students engaged in International exchange programs and collaborative projects. The study will also provide a comparative account of participants' worldview/perception about the 21st century skills attainment while engaged in educational exchange program in geographically and culturally different places. Participants will be selected from a collaborative groups engaged in Cultural and Educational exchange program between Ashe County Schools and HITEC (Heavy Industries Taxila Education City) Pakistan. The students and educators are also engaged in iEarn International collaborative projects. The proposed research study is designed to assess the skills and abilities that students acquire while engaged in cultural and educational exchange program. The study will also examine how students understand and value 21st century skills in their learning process during their participation in international exchange program and Collaborative projects.

Conceptual context

The term “21st century skills” is widely used and refers to a set of skills that educator and students need to compete and succeed in 21st century. These skills are not only important but also essential to sustain in 21st century. The world has dramatically changed in last two decades where economy that was driven by industrial persuade has been replaced with knowledge, information and innovation. The major shift also brings the need for different skills to remain relevant in this changing world. The technological advancements in last twenty years has converged this world into a global village with great interconnectedness. The issues are no more local or international, they become global. In order to comprehend the issues of this globalized world, students must need to develop skills that enable them to develop global awareness, creativity capability to use digital tools and construct knowledge with innovation.

The process of globalization gives rise to the emergence of 21st century skills. Extra ordinary extension of digital technology has transformed the ways we communicate and collaborate with each other. Digital revolution has changed our lifestyle by virtue of which if we are not connected, we don't exist. As the result of such connectedness, the world has become more interdependent. In response to these changes, students of this era must attain specialized skills in order to understand this globalized world.

US-Pakistan Educational Exchange Program

Most of the models of educational exchange are found at higher education institutes in the form of study abroad program and international student exchange programs at the undergraduate and graduate level. There are quite a few examples of educational exchange

programs at the middle and high school level. The proposed study is an effort to investigate the attainment of 21st century skills at middle and high school level.

In September 2010, I joined Appalachian State University Public School Partnership as a graduate research assistant. The goal of Public School Partnership is the development of a strong collaboration among the members of the Partnership, which includes more than one hundred K-12 schools in eight counties of Western North Carolina. All the programs of this partnership are among Western North Carolina K-12 schools, focusing collaboration among educators and students. I found an opportunity to extending this program to a school in Pakistan. I suggested initiating some kind of online collaborative program among the schools in Western North Carolina and schools in Pakistan.

I served as biology teacher at HITEC, an education city in Pakistan, before coming to Appalachian for my higher education. After initial deliberation, the Public School Partnership and HITEC decided to initiate a program called “US-Pakistan Educational and Cultural Exchange Program” with the goal of providing an online forum to educators and students in HITEC, Pakistan and an Ashe County schools, Western North Carolina to engage in educational and cultural collaboration through digital online forum. Initially students of middle and high school are selected for this program. Three groups in the core subjects of Science, Social studies (Geography, History) and Language Art (English) are collaborating with each other through online collaborative forum of NING. The educators and students can create their profiles, write blogs, upload pictures and videos and collaborate with partner teachers and students to do common assignments and projects. The exchange program is aimed not only to enhance cultural ties but also to develop and promote 21st century skills among the participants of the program in both countries. Participants are engaged in online collaborative activities for cultural exchange by using communicative technology in the form of digital photo and video sharing in addition to their participation in collaborative projects.

In the summer of 2011, I got the opportunity to spend six weeks at HITEC as an intern. The internship is comprised of three components; oversee the exchange program, teachers’ development program and organizational structure of HITEC. It was the first time for me to meet the participants of exchange program in person since the beginning of this exchange program. I used that time to organize and strengthen the program by signing a formal partnership agreement between ASU-Public School Partnership and HITEC. During the teacher development program, I conducted workshops on 21st century skills and integration of technology in classroom which provides logical framework for our exchange program. Director Academics at HITEC agreed to work on adoption of 21st century skills after deliberation with key stakeholders of HITEC which includes Principals and Coordinators of different school.

Engaging participants in this collaborative program is a new experience for both institutions in Pakistan and the United States, so they are learning different cultures and develop new set of skills. Participants are engaged in the exchange of routine information about each other in addition to exchanging rituals, tales, festivals, sports, language, etc. In academics, participants are formulating joint projects in core subjects. The exchange program is expected to serve as a useful model in for implementation of 21st century skills among educators and students.

As far as theoretical perspectives are concerned, globalization theory (education in particular), learning theories (behavior, cognitive, and constructive) and multiple intelligence theory are found relevant to my study. Globalization has changed our lives in many ways and its impact is noticed in all fields of life including the education. The digital revolution has redefined

our ways of teaching and learning. It brings new means of communication and collaboration. The role of educator and students has changed due to huge volume of information which demands new ways of handling the information. In this scenario, unique set of skills is required to sustain in this changing world. Learning theories especially the constructive theory which views learning as a process in which the learner actively constructs or builds new ideas or concepts based on his experience and observations. During the exchange program and execution of collaborative projects, students use information to construct knowledge and produce new concepts and ideas. Similarly, the theory of multiple intelligence emphasizes the multiple modes of learning. In the proposed study, the participants are also engaged in multiple ways of learning.

21st Century Skills Models

Several conceptual frameworks and models have been proposed to define and elaborate 21st century skills. Current conceptual frameworks for 21st century skills include the Partnership for 21st Century Skills (2006), the North Central Regional Education Laboratory (NCREL) and the Metiri Group (2003), the Organization for Economic Co-operation and Development (OECD, 2005), and the National Leadership Council for Liberal Education and America's Promise (LEAP, 2007). In addition to the above mentioned frameworks, there are several other models based on technological orientation, include the revised International Society for Technology in Education (ISTE) student standards for technology in the curriculum (2007), as well as digital literacy standards from the Educational Testing Service (ETS, 2007). Individual scholars such as Dede (2005) and Jenkins (2009) have also formulated lists of "digital literacy" that complement reading, writing, and mathematics as core capabilities for the 21st century.

These models of 21st century skills are similar in basic conceptual ideas but different in the ways these models are presented. The major skill categories in one model are mentioned as sub-categories in other models. Similarly, some skills are more emphasized than others. The common themes includes learning and thinking skills (critical thinking, problem solving skills, communication skills, creativity and innovation skills, collaboration skills and contextual learning skills), ICT (Information, Communication and Technology) literacy, Global Awareness and Intercultural skills.

The Partnership for 21st century skills Model

The Partnership for 21st century skills is a most comprehensive model which appeared in 2006. The partnership model reflects all the elements that previous models presented in addition to reemphasizing some of the sub-categories of other models. Partnership for 21st century skills encourages change in how educators prepare their students for future challenges. The model identifies Language arts, World languages, Arts, Mathematics, Economics, Science, Civics, Government, Geography and History as core subjects. The model also identifies learning and thinking skills such as collaboration, communication, creativity, innovation, problem solving, critical thinking and media literacy. In addition to core subjects and learning skills, the model recognizes the ICT (Information and communication technology) literacy as critical skills for success in 21st century. The ICT literacy is the ability to use latest technology to formulate 21st century knowledge contents and skills. The ICT literacy enables the students to use technology to foster learning and thinking skills. The partnership for 21st century skills framework also elaborated life skills required for success in 21st century. The life skills are comprised of

leadership, ethics, accountability, adaptability, personal productivity, personal responsibility, self-direction and social responsibility.

The Partnership for 21st century skills Framework (2006) which explains the conceptualization of 21st century skills is widely adopted than any of the alternative frameworks. When educators implement 21st century skills, they use different methods and strategies to make sure that students acquire these skills. The educational exchange programs are being used as a great tool to develop 21st century skills among educators and students. During the exchange programs, participants are engaged in learning new skills to conceptualize the new concepts. These skills are useful to both students who need these skills for an increasingly technology-oriented future job market and adults who need these skills to sustain with the changing world. The proposed study is important to bridge the gap between the understanding of 21st century skills and its implementation in academic life in context of international educational exchange programs.

Research Statement

In this concurrent mixed method study, I will survey three to five collaborative groups engaged in educational exchange program and International collaborative projects to determine the participant readiness for acquiring 21st century skills. I will also interview five to ten educators and students engaged in educational and cultural exchange program and international collaborative projects to understand how such programs foster 21st century skills among educators and students.

The reason for combining both quantitative and qualitative data is to better understand an issue by converging both quantitative and qualitative data. Though qualitative approach will dominate the mode of research, the quantitative data will complement qualitative data and improves the validity of research. More specifically, I would like to better understand how educators and students living in geographically and culturally different places understand and value 21st century skills and how such collaborative educational exchange programs foster 21st century skills among them.

Research Questions

1. In what ways do educational and cultural exchange programs develop and/or foster 21st century skills among students engaged in such programs?
2. How do students engaged in educational exchange programs in United States envision the skills that they develop during their engagement in educational exchange programs as similar/different from students who are engaged in similar programs in other countries?

Significance and Implications

The proposed study has a great potential for teachers, students, administrators, and institutions engaged in educational exchange programs and implementing 21st century skills. The intent of this concurrent mixed methods study is to understand how educational exchange programs foster 21st century skills among educators and students. The global economy offers tremendous opportunities for everyone who has the required skills to take advantage. The service economy, which is driven by information, creativity and innovation, has superseded the

industrial economy and reshaped education and society in last two decades. Technology has replaced workers with higher-level skills and empowers them to be more productive, innovative, collaborative, and creative. To sustain in this environment, educators and students need to have 21st century skills and it is expected that students will be prepared to think, learn, work, solve problems, communicate, collaborate, and contribute effectively throughout their lives. Even entry-level employees now are expected to use 21st century skills to accomplish their work (Casner-Lotto & Barrington, 2006; Conference Board, 2007; Lichtenberg, Woock, & Wright, 2008).

Ideas regarding 21st century skills have received considerable attention in the last decade and some frameworks have come to surface, but still there is a huge gap between the theoretical model of 21st century skills and its implementation at different educational levels. Educators are very articulate about the concept of 21st century skills but when it comes to implementation, there are few successful stories and projects but rarely found a formal research on the issue in context of exchange programs. Secondly, most of the exchange programs are common at post high school level and there are quite a few programs at middle and high school level. So there is a need to initiate and conduct a research on 21st century skills at middle and high school level to assess the attainment of 21st century skills during their engagement in educational and cultural exchange program.

According to Ken Kay (2010), these skills are rarely incorporated deliberately throughout the curriculum, nor are they routinely assessed. I think there is a need for this study to fill the gap between the theoretical models of 21st century skills and its practical applications. There are several states in the United States and hundreds of schools across the globe trying to implement these models by using different pedagogies. Educational exchange programs have been initiated to help students to acquire collaborative, communicative, creative and critical thinking skills. The study will not only determine the participants' readiness through quantitative survey but also explore the student perspectives about the role of such exchange programs to foster these innovative skills. The study will also assist the participants to better understand the 21st century skills and its implementation. The study comprised of survey and qualitative analysis of multiple groups engaged in collaborative exchange programs which will provide a complex comparative analysis of participants from different countries.

The research will be helpful for school administrators to make progress in international collaborative programs and implementation of 21st century skills. Institutions engaged in such collaborative exchanges will get benefit from this proposed research because this research will help to analyze the progress and dynamics of educational exchange programs and its impact on attainment of 21st century skills. The outcomes of this proposed research may provide an opportunity to improve relationship between among different countries and open new avenues for future joint ventures in addition to improve perceptions about each other.

LITERATURE REVIEW

Gathering the research literature on how students and educators acquire 21st century skills is challenging because it demands the examination of multiple issues where some overlaps. Two general areas of research will inform my study. One is the identification specific skills among the 21st century skills for this study and second is international educational and cultural exchange programs review. The literature review is aimed to find a link between 21st century skills and

international exchange programs. The review will also relate globalization and learning theories with the attainment of 21st century skills in context of international educational exchange programs.

Several models of 21st century skills identified set of skills classified as 21st century skills. Among these skills, I classify some skills in to three main categories for the study that investigates the attainment of 21st century skills through international educational and cultural exchange program:

1. Learning Skills
2. ICT Skills
3. Life and Career Skills

Learning skills include creativity and innovation, critical thinking and problem solving skills and collaboration. ICT skills are comprised of information, communication and technology skills. Finally global awareness, environmental literacy, flexibility and adaptability, social and cross-cultural skills and leadership and adaptability constitute life and career skills.

Learning Skills

Kamehameha Schools Distance Learning (KSDL) strives to provide quality educational opportunities for Hawaiian learners through different programs. (Ledward, B. C., and D. Hirata, 2011). According to this case study, focusing on 21st Century Skills development in these online programs resulted in increased readiness of learners for future educational and career opportunities. Online courses allow students to access learning at any time in order to communicate and collaborate with others in a shared, virtual environment. Warschauer (1997) discussed the importance of students collaborating with each other and with instructors to make educational leaps beyond what they would be able to do on their own. In this online collaboration, reflection and interaction are linked, a group can resolve multiple ideas simultaneously, and improvements in conversational balance, equality and consensus are possible. Goldenberg (1999) listed collaboration as an aid to education. He found that collaborative groups were more motivated and were more supportive of fellow students' efforts. These actions led to the formation of a virtual learning community and formed skills that would be useful for collaborative efforts in the post-educational world.

Educators facilitate students' 21st century readiness through innovative, culture-based curricula and individualized instruction. As a result, students strengthen their understanding and connection to their culture and increase their proficiency with emerging information and communication technologies. In addition, numerous critical thinking and problem solving activities extend learning to include family members as well as the local and global community. (Ledward, B. C., and D. Hirata, 2011). The program emphasis on communication and collaboration, critical thinking and problem solving and technological literacy fosters learner satisfaction and engagement. Aldwin Lauron (2008) believed that collaboration can be effectively used to improve the quality of education in online learning environments. There are numerous tools and methods that can be used to facilitate and stimulate collaboration in online education. These tools have evolved very recently and will continue to evolve as we learn more about how people learn in an online learning environment. Additionally, new methods unique to the online learning environment will likely develop. The collaborative learning in online environment is likely to evolve and make significant benefits to education.

Collaborative learning, allowing students to work in groups and encouraging them to share multiple perspectives of views, seems to be a key to promote the interaction between students (Schrage, 1990). The participants in the proposed study will also get the opportunity to interact with their peers and teachers to share their perspective. Similarly, the students engaged in the projects are provided with an online forum to share their ideas with peers. Vance (2010) believes that building effective instructional teams includes tapping into curricular areas that focus on skill building. Student involvement with global connections sets expectations of multiple perspectives. Multi-faceted projects developed and presented as team efforts live up to and can exceed such expectations. Her research presents examples of such collaborative efforts among teachers of English, Social Studies, Math, Science and Technology.

Thomas (2000) found some evidence that the project-based teaching enhanced the quality of student learning compared with other instructional methods. He further revealed that Project-based learning is effective for teaching processes such as problem solving and decision-making. Regan (2009) evaluated success and found that their skills in collaborating will be significant factors in their success. Multimedia tools can help when students work with each other to pull together multimedia presentations, they learn about sharing responsibility across a project, about stylistic consistency, coherence, and the vital give-and-take skill of constructive criticism. Ernest Gurman (1989) conducted a research to examine the relationship of educational exchange program and creativity. Fluency, flexibility and originality were tested in the study by comparing an experimental group with a control group. The experimental group was engaged in educational exchange program whereas the control group took the same course without involving in any exchange program. The author concluded that the exposure of the experimental group to a foreign culture and a variety of new experience increased the students' creativity.

Digital story telling is an important component of the US-Pakistan educational exchange program where students are engaged in digital photo and video sharing and developing digital stories to share their activities. The exercise of digital story making leads to the development of several skills. Kelly Czarnecki (2009) emphasize that digital story telling can be used to develop several skills among students. Digital storytelling practices are usually collaborative programs. By working in groups, or building stories through interactive games or social networks, participants in digital storytelling build organizational skills. Digital storytelling, like traditional storytelling, is an exercise in communication and a creative process that requires participants to visualize and use their imaginations. At the same time, creating a video as the end result of their work, the participants had to use critical thinking and problem solving in order to convey a coherent message. When making the video, the students had to make decisions about which information to include and about how to most effectively format that information to convey their message.

Howie DiBlasi (2011) believes that collaboration is an essential part of learning, and students should learn to work with others on a task. To foster lifelong learning skills, they need to communicate with others and learn how to work as part of a team. While most teamwork occurs face to face, it is becoming increasingly common to work with others through electronic media such as e-mail, video conferencing and file sharing. Engagement of students in exchange programs is expected to develop collaborative skills among the participants of the program. Trilling and Fadel (2009) argue that communication and collaboration are necessary ingredients for career success. Of particular significance are the abilities to articulate ideas clearly, to listen effectively, to utilize multiple media, and to work efficiently and respectfully in diverse teams.

Although critical thinking and problem solving remain salient assets for learners and career seekers, they are given new dimension in the 21st century via advanced technologies for accessing, analyzing, and creating information (Trilling and Fadel 2009). Likewise, creativity and innovation continue to be prized skills in the global marketplace. Contrary to popular belief, scholars suggest creativity can be developed over time in the same way as other skills (Wegerif and Dawes 2004; Loveless 2002). Hrastinski (2009) argues that online participation is important for understanding online learning, and expresses concerns about measuring online participation by merely counting the number of messages posted on discussion boards. The proposed study will measure the learning outcomes by evaluating the skill attainment through in-depth interviews and participants' observations.

iEARN is a non-profit organization made up of over 30,000 schools and youth organizations in more than 130 countries. iEARN empowers teachers and young people to work together online using the Internet and other new communications technologies. Over 2,000,000 students each day are engaged in collaborative project work worldwide. The main purpose of the organization is to enable young people to undertake projects designed to make a meaningful contribution to the development of better worldview and attainment of educational and cross-cultural skills. The students engaged in US-Pakistan Educational and Cultural exchange programs are being linked to iEARN International collaborative projects.

ICT Skills

In a 1998 report, researchers note that three fourth of the teachers who participated in a survey reported that project-based instruction increased after the introduction of laptops in their classroom (Rockman Report, 1998). The report indicated that benefits of such a project are student engagement, improved analytical abilities, and accomplishment of high-order thinking skills. Throughout the world, educators are interested in integrating 21st century skills in classrooms (Commission of European Communities, 2002; Educational Testing Service, 2002; Lambert, Gong, & Cuper, 2009). This integration will require a paradigm shift in 21st century classrooms where technology is used to support student learning. Lambert & Gong (2010) conducted a research on Pre-service teachers to examine the effect of integrating technology in classroom. Findings indicated that teachers are capable of learning a more advanced curriculum that simultaneously includes technical skill training and conceptual development related to pedagogy, content, and 21st century skills.

Information and Communication Technologies (ICT) and especially advanced learning technologies can effectively innovative learning and instructional strategies that would improve communication, collaboration and interaction between the learner and the educator (Hinger, 2007; Voulgari, & Houssou, 2007). The cognition and technology group at Vanderbilt University (1992) evaluated the effects of a series of video-based adventure simulations. The Adventures of Jasper Woodbury encourages collaborative work by students with video simulations of real-world problems. Compared with the control group, students who used the Vanderbilt series scored higher in solving word problems and in planning. Research confirmed that computer technology can help support learning and is especially useful in developing the higher-order skills of critical thinking, analysis, and scientific inquiry by engaging students in authentic, complex task within collaborative learning contexts. (Roschelle, Pea, Hoadley, Gordin, & Means, 2000).

In the study of Enhancing Missouri's Instructional Networked Teaching Strategies (Bickford et al., 2000) program in which schools across the state were included in a technology program, eMINTS students scored higher on the Missouri Assessment Program than non-eMINTS students. Cooper (2001) found that students could benefit from technology enhanced collaborative learning methods an interactive learning process. In a five-year study, researchers at SRI International found that technology-using students in Challenge 2000 Multimedia Project classrooms outperformed nontechnology-using students in communication skills, teamwork and problem solving. The Center for Learning in Technology (2009) researchers found increased student engagement, greater responsibility for learning, increased peer collaboration skills, and greater achievement gains when students who had been labeled low achievers use online learning.

Universal design for learning (UDL) takes advantage of the opportunity brought by rapidly evolving communication technologies to create flexible teaching methods and curriculum materials that can reach diverse learners and improve student access to the general education curriculum (Rose & Meyer, 2002). UDL assumes that students bring different needs and skills to the task of learning and that the learning environment should be designed to both accommodate, and make use of, these differences (Bowe, 2000; Rose & Meyer, 2002). Information technology makes it possible to address learning preferences through creating learning environments that feature integrated and thematic curriculum, collaborative learning, and an emphasizing language acquisition and literacy skills to meet the challenge of cultural and linguistic diversity (Garcia, 1994). Shared experiences provide students the opportunity to make sense of science phenomena through multi-sensory incidents. Using technology to provide a common experience "bridges" the language gap and provides a common place for language acquisition to occur. By establishing cooperative learning environments, students may contribute to the learning group and gain acceptance and enhance their self-esteem so that they may not feel like "outsiders."

According to James Hollenbeck (2009) a practical application with integrating technology in the classroom is using personal digital assistants (PDAs). These electronic devices when equipped with graphic organizers, electronic dictionaries and word processing programs can assist students in a multitude of learning tasks. The PDAs can help the students take notes, record lab data and even produce short audio-visual files. These electronic "helpers" will provide new language learners the ability to interact more effectively in class, acquire language skills and improve their science learning. The value of technological literacy has been discussed in a variety of circles from e-learning (Lamb and Callison 2005) to web 2.0 technologies (Greenhow et al. 2009). Not surprisingly, 21st century learning initiatives, informed by research on how people learn best, integrate emerging technologies (e.g., smart phones and social media) and embrace collaborative, participatory experiences.

Studies on the role of Information and Communication Technology (ICT) in education indicate that instruction via new media stimulates student learning (McFarlane 2003; Andretta 2005). Using 21st century tools in combination with inquiry- and/or project-based learning is also an effective instructional strategy for increasing critical thinking (Darling- Hammond 2006; Trilling and Fadel 2009). In turn, gains in critical thinking have been shown to produce higher academic achievement (Wenglinsky 2004).

Life and career Skills

Garvey (1994) found that students who participated in exchange programs were more reflective, more prepared to help others, more knowledgeable with respect to international affairs, and more self-confident. The majority of research supported the belief that student exchange programs are a valuable and crucial component in internationalizing colleges and universities. Lovett (2008) believed that academic leaders should address the practical challenge of helping students see the world through the eyes and minds of others, to explore alternative interpretations of events and trends, to find ways to integrate markets, and above all to encourage graduates toward a global mindset.

Brislin (2000) explained that the goals of cross-cultural training are to prepare for intercultural interactions so that students have a greater likelihood of meeting the four criteria of success: (a) developing positive feelings about the development of cross-cultural relationships, (b) benefiting from reciprocation of these feelings from other members of other culture groups, (c) accomplishing specific tasks, and (d) experiencing minimal stress stemming from cross-cultural misunderstandings and difficulties. Juwah (2006) defined collaboration as learning among participants of approximate equality that collaborates to learn with and from each other in authentic situations that leverage educational experience and socio-cultural gains. During such collaborative activities, the students' primary role is to teach their partners about a specific aspect of their own culture which provides students not only to understand others cultures but also rethink about their own. The students put a great deal of thought and effort in presenting their own culture and understanding others.

According to Marilyn DeLong, KeySook Geum, Kelly Gage, Ellen McKinney, Katalin Medvedev and Juyeon Park (2009) engaging in a culturally themed project served to provide a focus for the learning partnership and paved the way for collaboration to take place later. Culturally themed projects are used as an icebreaker to help participants to know each other and also about the culture of partner students in the project which is followed by the curriculum based activities. Edwin Gragert (2011) emphasized that our students need tools and skills, regardless of their future occupational field and current socio-economic situation. No longer can global competence be limited to those who are old enough or financially able to travel abroad. Among the many demands on our country's resources, few are as cost-effective as global competency through interaction with persons of other cultures in meaningful and structured educational programs.

Studies indicate that employers are seeking candidates with more than "book smarts." Instead, they are looking for traits such as adaptability, ingenuity, accountability, and a team-first orientation. These skills were identified as being valuable across a range of industries as well as one's personal life (Murnane and Levy 1996; Levy and Murnane 2004; Casner and Barrington 2006). Students reported gains in intercultural competence as a result of their engagement in educational exchange programs in comparison to their peers who did have that experience. They exhibited higher levels of adaptability, tolerance, and empathy for other cultures (Bates, 1997; Black & Duhon, 2006; Williams, 2005). Drews & Meyer (1996) and Hadis (2005) found that there is an increased comfort and ability to communicate with people from other cultures, especially non-English speakers. Similarly Carlson, Burn, Useem, & Yachimowicz (1990) concluded that the students engaged in such collaborations possessed greater knowledge and interest in global and intercultural perspectives and affairs, cultural relativism and interdependency. Moreover, they had a more thorough understanding of their host country's political, social, and economic issues (Hadis, 2005; Hutchins, 1996).

Educators recognized that the students' conceptions and attitudes towards web-based learning are important prerequisites to effective web-based instruction (Tsai, 2009). While the literature includes an increasing number of studies on student preferences and attitudes towards web-based learning (e.g., Peng, Tsai, & Wu, 2006; Tsai, Lin, & Tsai, 2001; Yang & Tsai, 2008), there is less research that specifically strived to explore students' Perceptions about exchange programs and their approaches to learning and collaboration with online partners.

Globalization: Theoretical context of the study

In an era of globalization and ever changing environment, an extended set of skills and competences are essential for effective learning in the 21st century. These skills and competences include global awareness, collaboration, creativity, communication and critical thinking. For a long time, in educational settings, the role of the teacher was to teach and the student to learn. With the passage of time, due to changes in the global context of education, the role of teacher is not only to present information but also to ensure that all students are learning and the teacher is also learning at the same time. Since the role of teacher and means of learning have been changed, different skills are required to learn better. The world has dramatically changed as the result of globalization in the last ten or fifteen years.

Globalization has made its impact on all aspects of life especially in the field of education. Due to globalization, the ways of learning get changed where students learn, construct knowledge and present information by using variety of digital tools. The rise of internet and communication technologies (Mobile phone and digital social networking) brings education to a level where physical presence in classroom does not matter. Students can access the required data from anywhere in the world. Due to great advancement in technology and interconnectedness of this world, a new global culture has been disembarked where the future citizens of the world are transforming into global citizens with a wide range of skills and expertise to apply in competitive and technology based society.

Educators are determining new skills to cope up with this changing environment. Trilling & Fadel (2009) pointed out that work knowledge, thinking tools, digital life style and learning research are the four powerful forces that are converging and leading us towards new ways of learning for life in the 21st century. These four forces are simultaneously creating the need for new forms of learning in the 21st century and supplying the tools, environment, and guiding principles required to support 21st century learning practices.

Keeping in view the value and need of better skills in a globalized world, there are several theories that explain the process and elaborate distinct aspects of globalization. These aspects include politics, business, culture, economy and ecology. Roland Robertson (1992) views globalization as an accelerated compression of the contemporary world and the intensification of consciousness of the world as a singular entity. Marshall McLuhan introduced the notion of the world community being transformed into a global village in 1960. The newly shared experience of mass media was likely the first expression of the contemporary concept of globalization. Prior to the 1980s, accounts of globalization focused on a professed tendency of societies to converge in becoming modern, described initially by Clark Kerr as the emergence of industrial man.

According to Erwin Epstein (2009), history is witness to many globalizing tendencies involving grand alliances of nations. Globalization involves the diffusion of ideas, practices and technologies. Anthony Giddens (1990) has described globalization as the intensification of

worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa. This involves a change in the way we understand geography and experience localness. Digital revolution and interconnectedness makes this world local where reaction to one incident is noticed thousands miles away from the place where it is originated. The current Wall Street Movement is a result of inspiration from Arab Spring happened earlier this year. In addition, international education can be defined as activities and programs that encourage the flow of ideas and people across cultural and international boundaries (Arum & Van de Water, 1992).

Learning Theories: Theoretical context of the study

Another theoretical model that informs my study is the learning theories. How students learn, is an important question in my study. Generally, three main philosophical frameworks define learning theories, behaviorism, cognitivism, and constructivism. The focal point of behaviorism is objectively observable aspects of learning. Cognitive theories look beyond behavior to explain brain-based learning, how human memory works to promote learning. Finally, constructivism views learning as a process in which the learner actively constructs or builds new ideas or concepts based on his experience and observations.

In addition to these, other modern theories of learning exist such as Multimedia learning theory, focuses on principles for the effective use of multimedia in learning. Another theory proposed by Jean Lave (1988) called Situated Learning Theory posits that learning is unintentional and situated within authentic activity, context, and culture. Learning due to external influence refers to the importance of conditions outside the traditional school environment where the social learning takes place. With social interaction and influence of the outside world, the learner constructs the meaning of his own observations related to this world. Moreover, multiple intelligence theory is also related to my proposed research. Gardner (1983) proposed multiple intelligence theory that informed more than one way of learning. Later in 1999, he expanded his theory of multiple intelligences to include intelligences of the existential and naturalist types and multiple forms of creativity.

The learning and multiple intelligence theories are relevant in context of educational exchange programs. Scholars, educators and students realized the importance of linkages and exchange for learning, developing innovative skills, global understanding, and acquiring multiple modes of learning. The US-Pakistan educational exchange program and iEarn International projects are expected to develop a new mode of learning and attainment of innovative skills. Similarly, the socio-cultural theory of learning is relevant to my study.

The literature that I found so far informed me about the skills that educators and students develop when they are engaged in some exchange program, projects and collaboration activities. Technology remains influential and a key factor in most of the studies. Majority of the studies that I found are quantitative based on statistical data. Thus, there is a need for some qualitative study that addresses the issues related to attainment of 21st century skills among educators and students when they are engaged in exchange programs, projects and collaborative activities. The study will catch the perspective of educators and students acquiring 21st century skills especially when they are collaborating with their partners in different geographical region and diverse culture.

RESEARCH DESIGN

Mode of research

I have chosen mixed methods research to examine how educators and students acquire 21st century skills when they are engaged in educational exchange program and International collaborative projects. The quantitative component of the study includes a survey to assess the readiness of participants which includes students of middle and high school for an educational exchange program as well as their awareness about 21st century skills. As far as the qualitative component is concerned, it involves in-depth interviews with both educators and students engaged in educational exchange program administered and implemented by ASU-Public School partnership and iEarn USA and Pakistan. In addition to in-depth interviews, participant observation will be made when they are collaborating with each other through common assignments and projects. Exchange programs are structured as on-line collaboration and communication; data may be collected from online resources that educators and students are using for collaboration and communication. I will also review documents like partnership agreements between ASU-Public School Partnership and partner institutions, curriculum contents, collaborative assignments, digital photo and videos that participants exchange during the program, and other policy documents related to educational exchange programs. Moreover, an extended review of 21st century skills framework will be made for better understanding of 21st century skills and administrative issues related to implementation of these skills.

The brief description of the methods indicates that the qualitative component looks dominant over the quantitative piece. Concurrent mixed method design will be used in which I will collect both qualitative and quantitative data at the same time. It will provide me an opportunity to combine qualitative and quantitative data. The primary reason for using the mixed method approach is to give strength to data and improve the validity of this study. In educational research, either qualitative or quantitative data does not give a sense of completeness. The mixed method approach provides a complete picture of a study by collection of both qualitative and quantitative data. The quantitative data that I generate from surveys will provide me with outcomes whereas qualitative data will help me to understand the process. Quantitative data will answer the questions related to readiness and awareness of educators and students about 21st century skills and educational exchange programs whereas qualitative data will inform me of the process by which educators and students engaged in educational exchange programs foster 21st century skills. Qualitative data will also provide me the effect of difference in culture and educational standards in acquiring 21st century skills. Therefore two different types of data will answer two different questions, which support the overall analysis and will provide strength to the study. In short, the mixed method approach in this study is suitable for exploring the issue of 21st century skills in connection with educational exchange programs.

Case Study Method

Under the bigger umbrella of a mixed method approach, I opt for case study method to facilitate and precede this study. Hays (2004) explained the application of case study by stating that case study research can involve the close examination of people, topics, issues, or programs. My study involves people (educators & students), programs (educational exchange program and International collaborative projects) and an issue (attainment of 21st century skills). Yin (1998)

elaborated that the strength of case study method is its ability to examine, in-depth, a case within its real life context. I believe that contemporary education and development of 21st century skills is a real life context where educators and students are developing new skills to survive in 21st century. Pedagogical practice is also real life context where educators are learning to equip the students to acquire 21st century skills. Students' learning is also real life context where they realize the value of 21st century skills and the demands for future to develop these skills. My approach (interviews, participant observation, and policy document review) will help me to examine the issue in its depth.

Hays (2004) spotlights the dimensions of case study in that it seeks to answer focused questions by producing in-depth descriptions and interpretations over a relatively short period of time. I have developed questions, which focus on how educators and students acquire 21st century skills when they are engaged in educational exchange programs. In-depth description and interpretation is expected from interviews, participant's observation and document review. Some educational exchange programs are ongoing process with no end date, offers challenge of setting limits/boundaries/time frame. I will collect data from one term (semester), which will provide some kind of timeframe. Moreover, it has smaller units such as semester long projects, digital photo/video sharing etc. that I will use for analysis. As far as boundaries are concerned, one of the educational exchange programs is being operated between two schools (Ashe County School, NC, USA and Education City, Taxila, Pakistan) and there are three focus groups (science, geography/history and language arts). The similar groups will be engaged with other groups that are supervised by iEarn which provide me an access to more diverse group of students engaged in similar exchange programs.

Yin (1998) points out the merits of good study that a good case study designs, at minimum, involves defining the case, justifying the method and adopting theoretical perspective. I believe there is a scope of redefining (making more sense) 21st century skills attainment. Educators define and conceive the concept of 21st century skills in a different ways. The proposed study tries to define 21st century skills and the role of educational exchange programs in developing these skills.

Data Collection Methods

Glesne (2011) believes that rich thick description, persistence, and triangulation would add to the depth and validity to observations. My method includes the collection of qualitative (interviews, participant's observation, document review) and quantitative (survey questionnaire, pre and post assessment test) data that addresses the issue in a broader perspective. The survey will assess the readiness of participants for the exchange program and their understanding of issues related to these programs.

Educational exchange programs are uncommon at the middle and high school level. Most exchange programs are found at the college and university level in the form of study abroad and semester exchange programs. In this study, for US-Pakistan educational exchange programs, the sites are located in two different countries, Pakistan and the United States. ASU-public school partnership is facilitating an educational exchange program between Ashe Middle and High School, NC, USA and Education City, Taxila, Pakistan.

For US-Pakistan Educational exchange program, these are two primary sites for data collection. There are six groups (three each) in both countries. Six teachers, three in each country are engaged in the program. There are approximately sixty students in each group, participating

in this program. In addition to this, principals at both sites and five staff members at ASU-public school partnership are providing administrative and technical support for the program. I will engage all students, teachers, and staff in the quantitative survey to learn about their understanding about 21st century skills and exchange programs. For interviews, I will randomly select five students from Pakistan and five from US. Moreover, I will interview all teachers engaged in this program and the principals for the two schools. There will be multiple interviews from each interviewee.

In addition to the interviews, I will do participant observation by visiting the groups when they are engaged in a collaborative activity. Participant observations will be done at both sites. There are two ways by which I will collect the data. As most of the activities are on-line, it is easy to access the information of all the activities that teachers, students, and staff are doing for the exchange program. Being an administrator of this program, I have the right to access all the information on the web pages designed for this educational exchange program. The second method that I would like to use for participant observation will be my visits to classrooms during the semester when the participants will be engaged in joint projects and assignments. I will also review documents such as partnership agreements, 21st century framework documents, and school policy papers related to implementation of 21st century skills and NC academic standards. These documents will guide me towards a better understanding of 21st century skills and its implementation. I will be visiting the North Carolina Center for 21st century skills to gain access to additional documents that may help me to better understand 21st century skills.

I will use surveys, interviews, participant observations, and document review as data collection methods. For surveys, I will use a questionnaire to examine the readiness of participants and their awareness about 21st century skills and educational exchange programs. The survey should turn out to be a useful data that inform me how participants value 21st century skills and what is the level of their understanding about these skills and exchange programs. The survey will be used to see the change and impact that the exchange program made among participants. It will also measure how much students and educators progress in understanding of 21st century skills and effectiveness of educational exchange programs.

In the United States, the concept of 21st century skills is not new; educators and students have been listening and trying to implement these skills. When it comes to implementation, educators use different ways to understand these skills and incorporate them in their teaching practices. In Pakistan, educators and students are integrating these skills in their learning practices, but they are not completely familiar with the core concept of 21st century skills. Secondly, US-Pakistan educational exchange program is a new experience for educators and students on both sides. Therefore, it is important to generate some data through a questionnaire reflecting their idea of 21st century skills and exchange programs. During the interviews, I will get the in-depth views of participants about 21st century skills and their personal experience of engagement in educational exchange program.

One aspect of interviews will be to understand how individuals construct the meaning of their experience of participating in educational exchange programs and development of the 21st century skills. Moreover, interviews with educators will inform me of their perspective about 21st century skills and its implementation through an educational exchange program. I will also interview administrators and coordinating staff to explore issues related to administrative support for educators and students. I will send each participant a packet of information that contains a survey questionnaire (Appendix A), lay summary (Appendix C) and consent form (Appendix D)

Data Analysis

The initial step in qualitative analysis is reading the interview transcripts, observational notes, or documents that are to be analyzed (Emerson et al., 1995, pp. 142-143). After collection of data through multiple interviews, participant observation, document review and notes from my field log, I will transcribe interviews. I will use a tape recorder during my interviews. During the participant observation, I will use my field log to note the important events and record data relevant to the issue.

I will also use my reflective journal that I will maintain throughout the study. There's an old saying "you don't know what you know till you've written it down". I will write the reflective journal from the beginning of this study to reflect on anything that I feel, think, act, react or understand about the process and the study. I will also note the questions that come to my mind as the result of observations. These new questions will further guide me in the process of research and better understanding of the issue. I will also use my journal to record important text that I will be reading for my topic. I will collect program related documents like partnership agreement, policy documents, Memorandum of understanding and NC-State standards for 21st century etc to enrich my data. I will be using my journal to reflect upon these documents.

After organizing the data, I will code the data for major categories and sub-categories, which describe various components of my study. After applying the coded terms to the data, the codes will be highlighted using different colored highlighters to facilitate identification. After coding, I will look for themes that will emerge from the data. At that point, depending on the depth of data, I will be able to use grounded theory. Grounded theory is an approach that develops the theory from the data collected. This can be a suitable approach for this study to explore a new area of research.

Strauss and Corbin (1990) suggest three stages in analysis in grounded theory: open coding, axial coding, and selective coding. Open coding is the part of the analysis concerned with identifying, naming, categorizing, and describing phenomena found in the text. Axial coding is the process of relating codes to each other whereas selective coding is the process of choosing one category to be the core category, and relating all other categories to that category. The adoption of coding depends on the depth and width of data that I will collect by using various methods like interviews, document review and participants' observation.

Validity

Brinberg and McGrath (1985) mentioned, "validity is not a commodity that can be purchased with techniques" (p. 13). Validity depends on the relationship of your conclusions to reality, and there are no methods that can completely assure that you have captured this. As Maxwell (1995) identified two specific validity threats, researcher's bias and reactivity, I feel reactivity is a big threat to my proposed research. I have initiated an educational and cultural exchange program that I would like to explore in connection with 21st century skills. I am an author of partnership agreements and the documents that describe the vision and objectives of this program.

In addition, I have been administering this exchange program for approximately one year. I also served as a teacher in one of the partnership schools before coming to the US for my higher education. On one hand, it is useful to have an established connection and understanding of the program, but on the other hand my current role as administrator and initiator of this

program may influence the participants engaged in this study. One way to address this aspect of validity is to enrich my data by using multiple sources and intensive interviews. I will also get the participant's feedback to improve validity. Asking others for feedback is a valuable way to check my own biases and assumptions. The best I may be able to do is to report the discrepant evidence and allow readers to evaluate this and draw their own conclusions (Wokon, 1990).

Final Product

In addition to a traditional five chapter dissertation, I will also construct a digital story as an alternate component. I will do the photo and video shooting during my visits to HITEC, Ashe County Schools and iEarn affiliated Schools for data collection.

Strength and Limitation of the study

Strength of the study lies in my affiliation with Public School Partnership and partner schools. I served HITEC as biology teacher for three years before coming to US. I am familiar with the teachers and most of the students participating in this program. Similarly, I developed good relationship with participants of Ashe county schools through ASU International Outreach program. I have been a frequent speaker at several occasions and also closely working with partner teachers. The study is beneficial for institutions engaged in exchange programs to better understand the implementation of 21st century skills. Limitation of this study is the participant pool. For US-Pakistan exchange program, I have limited choices in selecting teachers for interviews to generate data to answer my questions.

Definition of Key terms

1. ASU-OIED-Appalachian State University Office of the International Education and Development, administering, facilitating and promoting international educational and cultural exchange programs. (OIED, ASU)
2. Ash County Middle School-A school in Ashe County, Western North Carolina, USA engaged in educational exchange program with Pakistani school.
3. Collaboration- To work jointly with others or together especially in an intellectual endeavor. (Merriam-Webster online dictionary)
4. Communication-A process by which individuals exchange their views, perceptions and ideas.
5. Core subjects-A set of subjects compulsory throughout each key stage in the National Curriculum.
6. Critical thinking skill-Higher order thinking that questions assumptions. Reasonable reflective thinking focused on deciding what to believe or do.
7. Cross cultural competency-The development of knowledge and skill through experience and training that results in a complex schema of cultural differences, perspective-taking skills, and interpersonal skills, all of which an individual can flexibly (or adaptively) apply through the willingness to engage in new environments even in the face of considerable ambiguity, through self-monitoring and through self-regulation to support mission success in a dynamic context. (DEOMI Internal Report CCC-08-1, 2008, p. 03)

8. Digital literacy-The ability to locate, organize, understand, evaluate, and analyze information using digital technology. (Wikipedia, 2008)
9. Digital storytelling-A short form of digital filmmaking that allows individuals to share aspects of their life story. (Wikipedia, 2011)
10. Educational exchange program-Engagement of Secondary and post secondary students and educators in educational endeavors which involves travelling abroad and/or online collaboration with partner institutions in foreign countries.
11. Educational technology-Facilitating learning and improving performance by creating, using and managing appropriate technological processes and resource. (Januszewski, 2005, p. 45)
12. Fulbright programs-An educational and cultural exchange programs administered by United States Department of State, Bureau of Educational and Cultural Affairs to facilitate students, scholars, teachers, and professionals for their engagements in international exchange programs and higher education.
13. HITEC-An education city located in Taxila, Pakistan engaged in educational exchange program with Ashe county middle school, Western North Carolina, USA.
14. HITEC-Teacher development program-A summer training program for capacity building of teachers working at HITEC.
15. iEarn- iEARN is a non-profit organization made up of over 30,000 schools and youth organizations in more than 130 countries empowers teachers and young people to work together online using the Internet and other new communications technologies.
16. ICT- Information and Communication Technology, merging (convergence) of audio-visual and telephone networks with computer networks.
17. IIE- Institute of International education, a private nonprofit organization for international exchange of people and ideas. In collaboration with governments, foundations and other sponsors, IIE creates programs of study and training for students, educators and professionals from all sectors.
18. Information technology-The use of computers and software to manage information.
19. Integration of technology-The practical application of information technology to allow students to apply computer and technology skills to learn.
20. International education-Developing citizens of the world in relation to culture, language and learning to live together by equipping students with the skills to learn and acquire knowledge, individually or collaboratively, and to apply these skills and knowledge accordingly across a broad range of areas. (International Baccalaureate, 2011)
21. Memorandum of understanding-A legal documentation between partner institutions engaged in educational exchange program.
22. Multicultural competency-Ability to understand, absorb and appreciate different cultures, social values and customs.
23. NC centre for 21st century skills-The nation's first Center for 21st Century Skills focused on improving North Carolina's education system to ensure that students graduate with the skills needed for success in the global economy. (Partnership for 21st century skills, 2006)
24. NC state standards for 21st century-Leadership standards for school administrators and teacher aligned to better deliver the 21st century skills students need to be competitive in the global economy.

25. NING-An on-line forum that Pakistani and US educators and students are using for online collaboration and exchange activities in US-Pakistan educational exchange program.
26. Public school partnership-A department of collaboration at Reich College of Education, Appalachian State University for development of a strong collaborative program among more than one hundred schools in eight counties of Western North Carolina. (PSP, ASU)
27. Twenty First century skills-A set of skills that educators and students required to compete in 21st century. It includes collaboration, communication, creativity, innovation, problem solving, critical thinking and ICT.
28. Partnership agreement-A formal agreement between Public school partnership and HITEC for US-Pakistan educational and cultural exchange program reflecting terms and code of conduct for the partnership.
29. Partnership for 21st century skills-A national organization that advocates for 21st century readiness for every student. (Partnership for 21st century, 2006)
30. University of North Carolina exchange program-An exchange program administered by Office of the International Education and Development which provides an exchange opportunities to NC students in at least seven countries while paying tuition at one's home university. (OIED, ASU)

Appendix A
 Survey Questionnaire for Students
 (At the beginning of the Program)

S. #	Question	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't know	Explain answer
1	I understand what "globalization" means?						
2	I have been involved in projects with other countries before?						
3	I understand what "culture" means?						
4	I understand my own culture						
5	I understand the culture of at least one other country.						
6	Many of my books help me understand about culture of other countries.						
7	I have knowledge of current news and world events						
8	I have knowledge of world history						
9	I can speak English and at least one other language						
10	I can write in English and one other language.						
11	I am confident that I can live in other country.						
12	I am confident that I can work with people of other countries.						

13	I understand why people are different in different countries.						
14	I recognize that people in other countries may not think the way I do.						
15	I have knowledge and skills in the following:						
	a. Typing/keyboarding						
	b. Word processing						
	c. Social Networking						
	d. Internet browsing						
	e. Using media digitally (Photos/videos)						
16	I am willing to step out of my culture and experience the life as individual of other country.						
17	I am non-judgmental about differences in people of other countries.						
18	I am open to new experiences						
19	I understand that diversity and people from other countries are important.						
20	I have gained knowledge and experience by visiting other countries.						
21	I am willing to discuss difficult global issues with people from other countries						
22	In the workplace it is important to interact with people from other countries						

Appendix B
Interview Questions for students

1. What do you know about 21st century skills?
2. How do you feel about the exchange program in which you are participating? Is it exciting, boring or burdensome?
3. Is your participation in the program challenging? How?
4. Do you feel the program in which you are participating contributes towards attainment of some new skills?
5. What are some of the skills that you developed through this exchange program?
6. How do you feel yourself as a different person from the time before this program?
7. Enlist at least three positive outcomes of this program for your academics.
8. Has your worldview change after participating in this program? How? Give some examples to establish that.
9. How do you feel to communicate with a foreigner? Share some interesting story to elaborate your response.
10. How much you have felt the difference in using the technology especially the online communication software? Can you share an interesting incident or story?
11. In what ways your partner follows are similar or different? In culture, language, academics etc.
12. What are the problems, issues or hurdles in the program? What do you want different in this program? How can we improve this practice?

Appendix C

Lay Summary

I would like to invite you to participate in a research project investigating the attainment of 21st century skills through educational and cultural exchange program. I am conducting this study as part of my doctoral dissertation on US-Pakistan Educational and cultural exchange program here at Appalachian. As an International student, I am very much interested in exploring cross cultural issues in academic and understanding more about 21st century skills. Therefore this project will be of great help to me both in my professional work and for my dissertation. I have selected this contemporary issue because it is very familiar to me and I am coordinating an educational and cultural exchange program between schools in Western North Carolina and Pakistan. In selecting individuals to observe or interview, I will identify people like you who are most likely to help me gain insights into this topic.

As a part of this project, I will observe and interview students, teachers and administrators engaged in US-Pakistan educational and cultural exchange program. If you are willing to participate, I would observe you in a collaborative activities and I might ask to tape record the session. I would also interview you for 30-50 minutes. I will tape record the interview. I will be typing and writing notes during observations and interviews. In my data, all names will be replaced with pseudonyms. I only intend to share the specific data from this study with my dissertation committee. If you are interested, I would be glad to let you see the transcript of your own interview. Indeed, in some cases I may ask you for feedback to see that I have accurately captured your comments.

Participating in this study may offer you some benefits in terms of gaining increased insight into the learning process. It will also help you to better understand the concept of 21st century skills and the their attainment through educational and cultural exchange program. I would be committed to prevent or minimize any risks to you due to this study and I hope we would be able to discuss any concerns or brainstorm ways to make sure everyone is comfortable. One risk I might predict is that you could feel self-conscious if you notice me observing the projects or collaborative activities, so this is something you would need to consider. Also, you may find yourself worrying that you have done or said something wrong during your work or during our interviews. While I appreciate your conscientiousness, I encourage you to relax and act as you normally would. I will learn far more if you can answer questions as reflectively as possible without worrying about finding a "right answer" you are, after all, the expert on what is happening when you are in project or collaborative activity.

Please be aware that you can decide not to participate in this study or stop doing it at any time after you have started. If you decide to stop, your decision will have no impact on your ability to be involved in participating in any activity at Appalachian and at HITEC, Pakistan.

Appendix D
Consent Form

Title: Attainment of 21st Century Skills through Collaborative Educational and Cultural Exchange Programs

Principal Investigator: XX XXXX XXXXXX

Department: XXXXXX XXXXXX

1. Purpose of this research

You are being invited to take part in a research study about attainment of 21st century skills through educational and cultural exchange program. If you take part in this study, you will be one of ten people to do so. The proposed research is intended to contribute towards better understanding of 21st century skills and ways by which one can acquire these skills. The study will also provide a comparative account of participant worldview/perceptions in Pakistan and the United States about the 21st century skills implementation in two geographically and culturally different places.

2. Procedures

The research procedures will be conducted at Ashe County Middle School and HITEC, Pakistan. You will need to come three to five times during the study. Each of those visits will take about 40 min to one hour. The total amount of time you will be asked to volunteer for this study is five hours over the next one year. You will be asked to share your experiences of participation in US-Pakistan Educational and cultural and exchange program. I would like to share how you are acquiring or not acquiring the 21st century skills through the exchange program. Initially you will be doing the online survey (Pre and Post program) about your knowledge about the 21st century skills and exchange programs.

3. Risk

No risk is anticipated from the interview and participant observations. Participants will be informed of their rights to not answer any question and to withdraw from the study at any time.

4. Benefits

No financial benefit is promised for your participation in this study. However you may derive intellectual and academic benefits from the study. Your participation in this study will contribute for the better implementation of 21st century skills at your institution.

5. Confidentiality of Information

Your interviews will be audio or video taped and I will be bind to maintain confidentiality of information. The audio and videotapes will be stored under lock and key at my residence. After the research the tapes will be disposed off. Your names and indentifying

information will not be identified in published results. Only dissertation committee will be informed of your identity. Your information will be combined with information from other people taking part in the study. When I write up the study to share it with other researchers, I will write about the combined information. You will not be identified in any published or presented materials unless you have specifically given me permission to identify you. Your audio and videotapes may be used for instructional and research purposes at the partner institutions in Pakistan and United States after your permission.

Please read the following and if you agree, you should indicate your agreement:

- I have read (or had read to me) all of the above information.
- I have had an opportunity to ask questions about things in this research I did not understand and have received satisfactory answers.
- I understand that I can stop taking part in this study at any time.
- I understand I am not giving up any of my rights.
- I have been given a copy of this consent document, and it is mine to keep.

Participant's Name

Signature

Date

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