SPECIAL EDUCATION TEACHERS’ PERCEPTIONS ABOUT PROJECT-BASED TEACHING: IMPLICATIONS FOR TEACHING OF COMPUTER ASSISTED LANGUAGE LEARNING (CALL) FOR HEARING IMPAIRED (HI) CHILDREN

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Abstract
This study investigates special education teachers’ perceptions about project-based teaching methods, teacher roles, success and evaluation in project-based teaching and traditional classroom instruction for HI Children. The analysis is based on qualitative data collected in public and private schools of Hearing Impaired Children. In-depth analysis of interviews and observations revealed the in-depth perceptions of special education teachers. These views were based on degree of experience and environment of school. In general, project-based methods were preferred among Special education teachers, who mostly perceived themselves as facilitators and considered motivation and transmission of values central to their work. Special education teachers appeared to capitalize on the use of CALL and project-based teaching in future for HI children.

Keywords: Special education teachers’ perceptions; Project-based teaching; Traditional classroom teaching; Computer Assisted Language Learning (CALL), Learning Difficulties

Introduction
The UN Development Programme's Human Development Report (2015) declared that the educational system of Pakistan is one of the most serious hurdles in its progress as a developed nation. Pakistan is one of only 12 countries in the world that spends less than two percent of its GNP on education. The adult literacy rate in Pakistan is under 50 percent. Among the problems Pakistan's education system faces today are inadequate government investment, a shortage of qualified teachers and poor teacher training, out-dated curricula, insufficient number and poor quality of textbooks and other teaching materials. Along with this grim picture, poor academic achievements, students with learning difficulties, disadvantaged, learning disabled, and school drop-out etc., all raise concerns for the education of children in Pakistan. The Government of Pakistan has declared education in general and Education For All (EFA) in particular, its top priority. Pakistan is also signatory to International commitments like Millennium Development Goals (MDGs) signed by the world leaders in 2000, and the Dakar Framework of Action for Education For All (April2000) by 2015. Thus with the help of international leaders and UNESCO the Government of Pakistan has been trying to ensure to provide education to all children, particularly, education to students who are often under-served, including children with disabilities, from low-income families, students with learning difficulties and marginalized students for the realization and implementation of Article 25-A.

Article 25-A of the constitution of Pakistan guarantees all children the right to free and compulsory education to all children of 5 to 16 without any discrimination. Along with millions of out of school children there is a dire need for continuous and substantial academic improvement for those students.
who are studying at different levels. Therefore, in line with this policy, the Government wishes teachers to judge which students need special instruction in their classes, whether they are able to learn from the typical classroom instruction or they need some special support like activity based teaching and project based teaching etc., in their regular classroom. This research will help teachers, practitioners and other stakeholders determine the impact of project-based teaching on the academic achievement of students in contrast to typical classroom teaching.

Students with HI often lack understanding and consequently fail in the education system when teachers consistently use traditional teaching strategies such as lecture methods, grammar translation methods etc., (Hilliard, 1990). However, there is a moving away from a passive teacher-lecture/student-listen mode of instruction to a more active encounter of learning activities (Punjab Education Department, 2000). The assumption that students need more than just engaging in passive learning programs to be successful in school and the real world, motivated the researcher to study project-based teaching as a teaching strategy which can help improve students’ academic results.

Students participate in an extended process of inquiry in response to a complex question, problem, or challenge, and this is also assumed that students who find school boring are encouraged to learn with the help of project based teaching((Hilliard, 1990)). Project-based teaching helps students to engage in their own learning and provides them the opportunity to explore their own interests as they make decisions to solve real problems (Buck Institute for Education, 2011; Harada, Kirio, & Yamamoto, 2008).

Researchers conducted studies over the last two decades that confirm students’ engagement and motivation lead to higher academic performance (Brewster & Fager; Anderman & Midgley & Lumbsden) as cited in Harada, Kirio, & Yamamoto (2008, p. xviii). Researchers have assumed that project approach cultivates a child mentally, which includes not only knowledge and skills, but also emotional, moral and aesthetic development (Katz & Chard, 1999). Therefore, the researcher deems it an important task to investigate the perceptions of students about the impact of project-based teaching on their academic achievements.

A fewer studies have addressed special education teachers’ perceptions about project-based teaching, their views about traditional teaching methods such as lecture method and the ways in which special education teachers can capitalize on opportunities provided by 21st-century innovations. In this context, the effectiveness of students can be increased by the help of project-based teaching. Further in 21st century traditional teaching has no more place because this century demands knowledge which is generated via intellectual means because knowledge that is acquired and applied mechanically is short-lived; thus, new approaches are necessary and creativity assumes a greater role in 21st century teaching and learning. Moreover, there is need to promote practice-based learning such as classroom learning and practical knowledge, which is an everyday necessity and a regular expectation on the labour market. Similarly, good communication, excellent problem-solving skills and the ability to work individually and in a team are also among the most frequent requirements in job advertisements. Consequently, the development of such skills should be focused in our day to day teaching and learning. Project-based teaching is not merely an extra activity to boost learning, but an important part of the curriculum and that project-based teaching is based upon scientific approach and the development of skills, which would also be necessary for learning situations in general (Bell 2010).

Literature Review

Campbell (2012) observed the use of project-based teaching in ESL classrooms with 15–16-year-old students. The study used mixed methods including observations and a collection of artifacts, direct instruction times and attendance. During the analysis of over 60 h of observation, various themes were
identified, including direct instruction, missing directions, wasted time, computer distractions, attendance, follow-through, vocabulary instruction, grouping, class size, percentage of ESL students, student motivation, use of resources, differentiated instruction such as project-based teaching, and student confidence and ability. It was concluded that the development of communicative competences enhanced collaboration (Campbell 2012).

Language teaching and intercultural education offers yet another context in which the notion of authenticity is rooted. Real-life applications and authentic materials are especially relevant for language learners, who otherwise would not encounter such contexts in their everyday lives. Presenting cultural and social aspects of language learning was a central goal in the project-based teaching project implemented by Wu and Meng (2010). They emphasized that project-based teaching facilitated the acquisition of such knowledge even for learners with low language proficiency. The development of communicative competence and the accomplishment of communicative goals were fostered by cooperation and ‘learning by doing’. This development was also clearly visible in the posttest scores of the experimental group, who were seen to be more motivated than the control group. The benefits of project-based teaching were observed in the development of cognitive and metacognitive strategies and the increase of motivation, which resulted in an increase in English proficiency. During the evaluation of the programme, learners reported increased intercultural knowledge, highly positive attitudes towards project-based teaching and increased cultural sensitivity, motivation and language proficiency. Moreover, development of metacognitive skills was also reported. Furthermore, enhancing English proficiency and communicative competence also involves pronunciation teaching. Metacognitive skills and metalinguistic awareness can be developed by using visualization tools in pronunciation teaching, especially with the use of ICT tools in Computer Assisted Pronunciation Teaching (Nagy 2014).

Hallerman et al. (2011) defined the essential elements of project-based teaching categorized into two main groups: significant content and 21st-century skills. Significant content consists of three elements, driving question, in-depth inquiry and public audience, and focuses on teaching subject-based knowledge and skills. 21st-century skills include the need to know, student voice and choice, revision and reflection, skills which facilitate critical thinking, problem solving, collaboration and communication. According to Hallerman et al. (2011), a successful project is based on meaningful learning and authentic tasks and products, student discovery and real-world application.

The involvement of real-life application and real-world objects in interdisciplinary CALL projects produces considerably improved learner experience and frequently results in increased motivation even in heterogeneous groups involving low-achieving students. In a qualitative study, Baumgartner and Zabin (2008) analysed the effect of students’ scientific knowledge and attitudes. The results demonstrated the positive effect of project-based teaching on students’ understanding of scientific processes and attitudes. Similarly, Beneke and Ostrosky (2008) examined teacher perceptions and revealed a positive view on the part of Special education teachers and increased motivation among learners, including differently-abled learners, who also benefitted from project-based teaching. They also reported the positive effect of involving real-world objects in the preschool world. These results also show that project-based teaching can cater to a variety of learner types. These results were supported by Cheng et al. (2008) who also demonstrated that project-based teaching is effective in heterogeneous groups as well, since it was group processes, and not the structure of the group, that were identified as predictors of self-efficacy, irrespective of the performance level of learners. Chu et al. (2011) used mixed methods and combined inquiry project-based teaching and the collaborative teaching method with Year 4 students and found that information literacy and ICT skills developed. Similarly, Grant and Branch (2005) carried out a project-based teaching to map individual differences and abilities and found evidence for the flexibility of this method, which was used in various contexts.
Doppelt (2003) maintains that the use of project-based teaching reinforced motivation and positive self-concept among low-achieving students in 3 years of training, thus improving their performance during that time. Throughout the programme, students developed their metacognitive skills by solving interdisciplinary problems and managed their own work, while documenting the steps of the process. Real-life applications were intertwined with the original goal of the electricity track. In addition to professional skills, students developed their ICT skills while researching the topic and documenting implementation. Furthermore, Duncan and Tseng (2010) applied project-based teaching in biology and concluded that concept learning was successful, however not to the level that had been hypothesized.

In short, Project-based teaching also determines the role of teacher as a facilitator and guide who provide scaffolding during project-based learning (Holm 2011; Bell 2010). As teacher guidance is commonly claimed to be important in the implementation of project-based teaching. However, this is difficult to accomplish unless the Special education teachers receive adequate training. Besides theoretical training, Special education teachers also need practical training to be able to fully exploit the potential of this method (Wu and Meng 2010). Tal et al., (2006) identified teacher skill as a predictor of the success of project-based teaching. Hertzog (2007) has mentioned difficulties in the implementation of project-based teaching with Year 1 students, stemming from the perceptions of Special education teachers about teaching methods and children’s needs. Most of the Special education teachers showed reservations about project-based teaching due to time restraints. Among the hurdles in the implementation of project-based teaching, school policies and curriculum requirements are most identified factors in literature. However, the final results pointed to the importance of project-based teaching as a more student-centred approach that could engage students for an increased time. Balasubramanian et al. (2014) measured the perceptions of 249 students on the use of project-based ICT learning environment and found that students preferred this platform for the management of learning via forums and development of social skills. However, in other contexts, it was noted that the responsible and critical use of ICT tools posed extra tasks for the teacher in terms of planning and management of class activities (Campbell 2012).

Research Design

In the present study, the researchers explored Special education teachers’ voice with regard to Project-based teaching. An open-ended in-depth interview and class short-time observations were designed for elementary and secondary school Special education teachers. Participation was optional, and the interviews continued for almost 60 to 70 minutes were carried out at the participants’ convenience. Schools were contacted via telephone to ensure that all respondents actually used Project-based teaching in their teaching practice. Direct confirmation from each educational institution was necessary, as not all schools use Project-based teaching and it is occasionally confused with cooperative learning or problem-based learning. As the first step of the recruitment procedure, school principals were contacted and were entrusted with the decision whether the interviews and observations could be possibly conducted to Special education teachers in their institution. The letter for invitation to participate in the study included detailed information regarding the aim of the study and ethical issues.

Participants

In total, special education teachers from eight schools participated in this study. Both public schools and private secondary schools offer learners various forms of teaching, but only learners in private secondary schools enjoy the option of taking project-based examinations, which grant them access to practical education. In terms of teaching experience, the sample included a wide range of special education teachers. During the analysis, we included 05 special education teachers in the group...
of novice special education teachers, who have 10 or fewer years of practice, 05 special education teachers in the group of experienced special education teachers having 11–20 years of practice, and 05 special education teachers in the group of expert special education teachers, who have more than 21 years of practice. But we conducted interviews with only 06 special education teachers due to lack of time and an extended data of interviews transcriptions for analysis afterwards.

Interviews were routinely conducted as part of the school program evaluation. These interviews provided a snapshot of special education teachers’ perceptions about project based teaching. We got qualitative data such as: (a) artifacts, (b) classroom observations and consultations, and (c) individual interviews. Interview data were transcribed and coded. Observations were recorded as thick descriptions and coded. The constant comparative method identified emerging themes (Glaser & Strauss, 1967). Formal, time-dependent data collection resides alongside informal, ongoing observations. Individual interviews provided opportunities for member check to authenticate findings from all data sources. The researchers observed participants within high school contexts, with ample prolonged exposure to ensure observations of typical classroom practices. Analyses focus on qualitative cohesiveness as well as differences in experiences across the participants. Individual responses are decontextualized and then grouped together into qualitatively different categories across the group. To protect confidentiality, all campus and participant names are pseudonyms.

**Research Question**

To explore Special education teachers’ teaching methods and to discover their opinions about Project-based teaching the researchers used the following research question:

1. What are the perceptions of Special education teachers about Project-based teaching for Hearing Impaired Students?

**Results**

Special education teachers in this study actively sought an educational environment that supported their personal philosophies of teaching. Special education teachers with graduate degrees in English indicated that project-based teaching resembles the work of scientists, “If you don’t teach science the discipline, the processes, then you’re really not teaching science. A lot of the stuff that I might teach them now might be outdated by the time they’re adults. So if they’re not learning how to think like a scientist, how to use data to actually make inferences and to come to conclusions….then I have failed.” In contrast, the other two Special education teachers emphasized the difference between project-based teaching or CALL and how they learned language, “I was miserable in high school - did not see the point - and I was hoping that with the project-based model there would be a point.” Special education teachers believe project-based teaching causes students to think deeply about content. One teacher commented, “Last year, I heard over and over again, ‘This school is hard. I go home with a headache every day,’ ‘I didn’t have to think like this at my other school.’” Another stated, “If you scaffold [project-based teaching] carefully, it can be really intense and it can get really at these misconceptions as opposed to if you did a direct teach, which I sometimes have to do to clarify but, if I were to do everything like that, there’d be, these conversations would be missing from my classroom and I think a lot would be lost.” Importance of collaboration. All Special education teachers commented that collaboration with their peers was necessary for successful project implementation and they all indicated that being forced to collaborate as Special education teachers helped them adopt that strategy. One summarized, “I could not get through a day if I hadn’t been a more, really open to collaboration with other Special education teachers and the institute forced you to do that all the time.” Third year transitions. As Special education teachers transitioned into their third year of teaching, they shifted from focusing on producing units and struggling with project-based teaching as
a method to strategically targeting skills they felt would have the most impact on student success. Two Special education teachers felt that their focus during their first two years of teaching was on being true to the method. One stated, “Last year I was still worried about ‘what does project-based teaching mean?’ and sticking to it.” Both felt comfortable enough with project-based teaching in their third year to begin integrating other methods within their projects. They indicated they were better able to seamlessly integrate labs during their third year and they no longer felt guilty if they need to direct teach concepts. Two Special education teachers pinpointed rubrics as key to student success in project-based teaching. One focused on aligning her rubrics with state content standards: And I get really anal about it to the point that per rubric on the left column, I’ll say what the [state standard] is and I really think deeply about proficient and advanced. Is it really demonstrating the skill that is described in that [state standard]? And if that rubric is solid, then I can almost be guaranteed that all of the support materials I’ll prepare to get them to satisfy the rubric will be aligned as well. The other added, I think one of the things I tweak a lot now is the unsatisfactory column. Instead of putting, “did not do this, did not do that,” I find myself putting mistakes I expect them to make there like "confuses genotype and phenotype." Those are things you can check against. I tell them to make sure they don’t do the things in the unsatisfactory column. One teacher also noted that she was also getting better at assessing students. She stated that she was implementing “more frequent assessments that help me actually adjust what I’m doing. I’m doing better at recognizing what they need.” One of the Special education teachers indicated that attaining rigor in her projects was difficult. “Coming from my own high school background and student teaching where it was just worksheets made it really difficult [to achieve rigor]. At the beginning I was just scratching the surface and now I feel like I’m digging deep.” Interestingly, Special education teachers who taught courses outside their major field of study indicated that it was difficult initially to come up with long projects saying they "compartmentalized things too much.” They both expressed pride at finally implementing several big projects as opposed to lots of little ones. Rich (1993) found that subject matter proficiency was key for expert behavior in novel situations. Managing student groups was a struggle for all case study Special education teachers even in their third year. One surmised, “I still feel frazzled with the group dynamics – managing the appropriate use of time.” Another admitted, “One thing I need to get better at is using their group contracts to make them accountable.” Group contracts are written agreements devised by students using a template. The goal of the contracts is to give students guidance about their behavior in the group and to empower students to hold each other accountable. Groups can “fire” unproductive members who then must find another group or work alone. A third teacher concurred, “I lose track of time. We get to the end of the project and haven’t had a collaboration evaluation.” Even in her third year, one teacher admitted, “I can’t picture it in my head. I see groups who use it well and those that don’t and I can’t figure for the life of me how to tell those who don’t [use group contracts well] how to do it.” Special education teachers also struggled with level of structure needed for students. Many of the Special education teachers indicated feeling guilty if they provided too much structure for students. One teacher noted, “One of the misconceptions in project-based teaching is that you just give the students an entry document and they will work independently. Special education teachers think they’re doing something wrong if that doesn’t happen. Really, they’re just kids and they need guidance.” Another reflected this attitude when she described her perfect project as one in which the students "could do whatever the task was without asking me and know that they were right.” Special education teachers were beginning to realize that they needed to differentiate the level of support for younger students. It’s almost like there’s too much freedom for them at first. It seems like the younger you have them, the more you need to micromanage the process for them or scaffold. You almost have in your mind that you present this project to them and let them go and with the younger kids, it doesn’t work. I have in my mind that if I micromanage, I’m doing something wrong. I’m finding with the sophomores that there’s more micromanaging that I should be doing. One teacher suggested aligning project-related skills to increase student success in the project-based teaching environment. "What I would like to do is look at a vertical alignment. By the end of freshman year we want them to be at this point with using the group contract and by the end of sophomore use it."
Discussion and conclusion

Special education teacher participants repeatedly stated that the best way for them to ensure that project content was aligned to the standards was to start with the standards and work backward. Peer review of projects prior to implementation also serves as a check for centrality as well as providing opportunities for interdisciplinary links. Their use of backwards curriculum design with a detailed rubric for the final project helped them stay focused during the project so that students met state requirements. Project-based teaching goes hand-in-hand with national professional standards for teachers. It provides a vehicle to posit the standards in everyday practice and, when project-based teaching is implemented with fidelity, the student achievement results show that the standards work. Teachers who regularly utilized project-based teaching did more than achieve content success; they created classroom learning environments where a normative culture of collaborative learning/teaching was the typical, everyday experience. Participants in this study clearly indicated that designing projects around national standards was essential for addressing testing requirements. Yet, our findings went beyond testing successes. This study showed that through deeply embedded project-based teaching instruction and a continued trajectory of project based teaching that these participants were able to create classroom communities that imitated how teaching and learning is done in real world in working contexts. The participants used project-based teaching to bridge the gaps between a) theory and public school actions, b) real world teaching and public school learning, and c) when the standards become goals for language teaching and learning, the standards become reality in reflecting actual student achievement. Moreover, this study showed how teachers’ believed that project-based teaching would fill gaps between stated goals and actual student achievements in schools with large pockets of students who were identified with low socioeconomic status, rural, and English language learners. A large portion of students interviewed indicated that they would like to use CALL as project-based teaching methodology in their classes; yet, like their fellow project-based learners, they held high hopes of using project-based teaching and CALL despite traditional methods of teaching.

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