Children,Parent and Teacher Perception on Project-based Learning Approach in School

TSHEWANG DORJI

Abstract

This paper is a first attempt to throw light on project-based learning approach in schools. The study was qualitative in nature and used non-probability convenient sampling technique. The study was carried out in one Middle Secondary School in Thimphu. Data were collected through focus group interviews, minutes of the meeting and records of observation of children. 10 parents (5 males and 5 females) participated in the focus group interview, two teachers for one to one interview, and 20 children for a group interview. The interviews were conducted in English and Dzongkha after the completion of the project. The findings revealed that project-based learning approach enhanced the quality of learning through promotion of collaboration and teamwork, planning and organization, creativity and innovation among children. Project-based learning also promoted collaboration among teachers, students, and parents in making learning meaningful for children.

Key words: Project-based learning approach, Collaboration, Creativity, Planning, Organization, Meaningful learning

Introduction and Background

Project-based learning approach is a relatively new learning-based-instructional method. The project-based learning approach is different from the traditional mode of teaching that teacher provides structure, guidance and resources, and children are fed with information or skills being taught (Stanley, 2012). Instructions in the schools are changing from teacher-directed and teacher-assigned to student-initiated, goal-driven, independent, and knowledge building (Bereiter & Scardamalia, 1993).

The implementation of project-based learning approach has positive impact on children and teacher on attaining a higher level of professionalism. It is based on the philosophy of learning by doing (Sidu, 2003).According to Harada, Kirio and Yamamo to (2008) project-based learning approach helps children construct meaning and practical skills through the process of inquiry. Project-based learning approach has positive impact on building motivation, and abilities in solving problems (Stites,1998). Project-based learning approach embraces the integration of curriculum, community and home in learning, and the involvement of students in cooperative teamwork (Tomlinson & McTighe, 2006; Yuen, 2009).

In order to change teaching instruction in my class used project-based approach to teach economics to class IXA children of a Middle Secondary School (MSS) in 2013. All 20 children studied their chosen topic of interest on small and

medium enterprise using project-based learning approach. This was my first attempt at project-based learning approach. Prior to this, I had been teaching economics using traditional method of teaching for over nine years. Thus, my classroom activities shifted from teacher-centered lessons to wholesome learning activities that are interdisciplinary, student-centered, and integrated with real-world problems and practices (Yuen, 2009). This paper consists of two parts. The first part is a brief description of the project-based learning approach. The second part discusses the children, parents' and teachers' reflections and their perceptions on the use of project-based learning approach in teaching learning process.

Objectives of the study

The objectives of the study were to

1. examine the effectiveness of project-based learning approach in teaching Economics.
2. Assess the perception of children, teachers and parents on project-based learning approach.
3. investigate the problems and challenges faced by teachers, children and their parents in successfully carrying out projects.

Research Questions

1. What are the challenges faced by children participating in project-based learning approach?
2. What are the reflections of children, parents and teachers in project-based learning approach?
3. How can children's participation in project-based learning approach activities be encouraged in schools?

Research Methodology

The study was qualitative in nature and based on focus group interviews, minutes of the meeting and observations.

Thirty two respondents were selected through non-probability convenient sampling techniques. 20 children of IX A of a MSS who studied Economics and their parents, two teachers of the MSS for one to one interview, and 20 children from same class participated in a group interview.

Data Collection

The study was based on primary data collected through focus group interviews, minutes of meetings and records of observation of children. The interviews were conducted in English and Dzongkha after the completion of the project. I ensured anonymity and confidentiality to all participants and briefed on how the data were going to be used and protected.

Data Analysis

The semi-structured interviews were recorded and then transcribed. The transcribed data were analyzed and interpreted using both open and axial coding. Minutes of the meeting and records of observation of children were analyzed.

Part 1

What is project-based learning approach?

To be able to use project-based learning approach in teaching learning it is important to understand what project based learning approach is. Project is based on John Dewey's philosophy of pragmatism. Acquiring theoretical knowledge only is not useful by itself. Kirkpa trick and Dewey developed project method where learning focus was shifted from single lesson to larger units of time.

There are many definitions of project-based learning. According to Moursund (1999) project-based learning is a systematic teaching method that engages children to learn knowledge and skills through an extended inquiry process structured around complex, authentic questions and carefully designed products and task. Project is an important method of finding the relevance of economic theories to practical life. Project helps students to understand themselves how much they had learnt outside school. Indeed, project plays a very important role in the coursework too (Cohen, Manion, Morrison & Wyse, 2010).

Jones, Rasmussen and Moffitt (1997) outlined a comprehensive definition of project-based learning which states that"projects are complex tasks based on challenging questions or problems, that involve children in design, problem-solving, decision making, or investigative activities; give children the opportunity to work relatively autonomously over extended period of time; and culminate in realistic products or presentations" (p. 1). In short, it is learning through project over a period of time (Stanley, 2012). It begins with difficult task of stimulating and comprehensive than traditional mode of teaching (Stanley, 2012). The project-based learning ap-

proach is developed as a tool to transform classroom in the 21st century.

The Buck Institute for Education (2002) describes the project-based learning as a systematic teaching method of engaging children in learning knowledge and skills through an extended inquiry process. Project has room for children to discovery and creativity. Through project children know how to learn independently as well as become responsible in the society.

Project-based learning aligns with the Confucian saying, "give a person a fish, and you feed him for a day; teach a person to fish, and he'll eat forever". Therefore, through project-based learning children acquire skills of how to get information for the project. Thereby the children learn the process to gather information and finally will become more independent and confident about learning. Thus, the major portion of instruction in schools changed from teacher-directed and teacher-assigned to student-initiated, goal-driven, independent, and knowledge building (Bereiter & Scardamalia, 1993).

Although project-based learning is similar and interchangeable to problem based learning and inquiry based learning, the differences lie in children exercise choice. Project-based learning acts as an umbrella where one can incorporate problem-based learning and inquiry based learning. The differences are elaborated as follows (Table 1):

Table 1

Difference between Problem-based Learning, Project-based Learning, and Inquiry-based Learning

Problem based learning	Project-based learning	Inquiry based learning
I. Generally the problem is prescribed	i. Problems are not specific	i. It involves a lot of choices
ii. Children are given a problem to solve. Children can choose the methods by which they can arrive at the solution	ii. Projects involve simply learning more about a topic and children have more control over the direction of project and project they choose	ii. Learning is open and there is no prescribed target toward which children are heading
iii. It begins with the problem and charges children with finding a solution	iii. It begins with the solution and the children must produce that shows what children have learned. Project-based learning definitely has an end goal in mind.	iii. Inquiry based learning requires more structured in order for children to meet certain requirement and develop as learner although it is valuable in some setting.

Source: (Stanley, 2012)

Project-based learning is intended for applications of enrichment, pullout, whole school, classroom, gifted and normal children, and whole school. The project-based learning model is a child centered learning, where learning is usually done in a small or larger children group of 6-15. It is more appropriate for gifted children (Stanley, 2012).

Research by the Buck Institute for Education (2011) have found that project-based learning can:

i. increase academic achievement on standardized assessment tests
ii. learners master both content and process
iii. increase long term retention of knowledge, satisfaction of teacher and children and skill development
iv. be used to teach economics, mathematics, science, social studies, medical skills and medical subject more meaningfully and effectively than traditional mode of teaching
v. prepare children to integrate and explain concepts better than traditional mode of teaching
vi. enhance life skills such as critical thinking, communication, problem solving, and independent research, etc.

Therefore, the gifted children can be taught best using the project-based learning model. Project-based learning provides gifted children a room to do high quality work, structure their own tasks, and allow children to work to their full abilities and, set their own deadlines (Renzulli, Smith & Reis, 1982; Stewart, 1981).

The literature shows gifted children learned more through project-based learning and retain content more accurately (Stanley, 2012). In project-based learning approach children construct knowledge, meaning and skills through the process of inquiry. There is increased benefit in learning when gifted children are taught through project-based learning (Stanley, 2012). When gifted children work in groups, they develop cooperative learning skills and teamwork to solve problems (Peterson, 1997). Even when gifted children are engaged in project-based learning, they perform better in difficult subject such as mathematics than those children taught using traditional instruction (Grant & Branch, 2005). Gifted children reassemble and create more complex products with deeper understanding (Matthews & Foster, 2005). Project-based learning gives a bunch of responsibility for learning and teaches gifted children the valuable skills of responsibility (Stanley, 2012). Responsibility is crucial for gifted children when they enter the real world. Compared to traditional rote learning, project-based learning helps gifted children learn in more naturalistic way, exploring subjects at their own pace, interest and ambitions.

One of the most valuable things that project-based learning has for gifted children is with choice. The choice is very crucial for the learning process. In traditional teaching the passion for learning diminishes because every aspect of teaching becomes obligatory. According to Stanley (2012), the aspects of learning vary within a project-based learning classroom with choices such as:

i. topics children explore
ii. products children make
iii. types of research children conduct
iv. how children are assessed
v. how children manage their time
vi. whether children work in groups or alone.

With gifted children, Rogers (2002), argue in her book titled Reforming Gifted Education: How Parents and Teachers Can Match the Program to their Child that "…. matching a child's preferences for how she learns with how the curriculum is actually delivered almost certainly will enhance the child's motivation to learn so that attitudes toward school remain positive. Positive attitude and motivation are important if the children want to reach higher achievement(p. 278).

According to Stanley (2012), the project-based learning is the best practice for gifted classroom instruction. It provides

i. project authenticity
ii. children shape curriculum and make product
iii. active learning to solve problems
iv. rigorous communication skills in reading, writing, speaking, listening and presentation
v. practical life skills such as decision making, collaboration, critical thinking and problem solving skills etc.

Characteristics of Project-based learning approach

There are a number of characteristics in project-based learning. Some of the characteristics of project-based learning are children choice, a real world problem, an open ended question, lack of teacher prescribed activities, authentic assignment, children-led constructive investigation, children-driven time management, collaborative learning, children-driven learning, children autonomy, challenge for every student, independent work and unique end products (Stanley, 2012). If such characteristics are missing in the lesson, one may not call it a project-based learning. In addition, if teachers have not mastered the subject content and proficiency in conducting investigation, then the project fails to make children proficient in inquiry and

problem solving (Blumenfeld, Soloway, Marx &Krajcik, 1991). The project-based learning is a systematic teaching method that engages children to learn skills and knowledge through an extended inquiry process with authentic questions and carefully designed tasks and products (Moursund 1999).

Types of Project

According to Sidu (2003), there are two types of project:

a. Individual project, carried out by a single individual.
b. Social project,carried out by a group of individuals.

Keys to a successful project-based learning classroom

Finding the right structure is the key to a successful project-based learning in the classroom. The right structure could be structure that works best for children or teachers for learning. After having a formula, we should not assume that project-based learning would work with every gifted classroom. According to Mathews and Foster (2005), a formula for successful project-based learning is that the teacher should develop an appropriate framework such that learning is scaffold and productive, and there is ongoing monitoring and guidance when project-based learning is undertaken. It is an overwhelming task to find the right project-based learning structure for the gifted. It is also important to find the best fit for classroom and schedule strength of teachers, strength and limitation of children in both individual and groups.

In project-based learning, the gifted children should know what is expected from a project and what to expect of them. Depending on what grade, a teacher can incorporate different subjects into projects. If a teacher decides to incorporate interdisciplinary subject in project-based learning in the classroom, all teachers of particular grade need to collaborate among themselves.

Teacher's role in project-based learning

In an ideal project-based learning approach classroom, the goal of teachers is not to teach. Teacher's role is to guide children, put children on track; at the same time,children should determine what to do, figure out how to learn, what resources are required, how much time to spend, and where to look for resources they need. In project-based learning, teachers give responsibility of task prioritization, time management, learning goal, and product choice to children (Stanley, 2012). In a project-based learning classroom, the source of all knowledge is the children. The role of the teacher is more than that of a coach rather than just being an enforcer.

Part 2

The implementation process of project-based learning approach in the classroom

My role as a teacherin project-based learning

I planned project-based learning approach after identifying possible topics that children could explore through projects. The topics were shared with children to finalize their choices and make changes according to their common interest and goal. All the planning was done during the month of June and the projects were carried out in August 2013.

As children were new to the idea of project-based learning, I briefed on important skills such as collaboration, interpersonal relationship, and respect for ideas, time management, and research that are all crucial for completion of the project.

Since project-based learning approach is based on the constructivist theory,the project allows children to construct knowledge based on their experience, observation and their previous knowledge. To facilitate learning by children through exploration, my role as a teacher changed from someone transmitting knowledge to being a facilitator of learning. Children become more engaged and responsible for their own learning.

As children engaged in their project works, my role was more of a facilitator and a consultant who had to listen to the children's experiences, provide additional information, encourage children, and ask questions (Cohen et al. 2010). I tried to stimulate inquiry in children to ensure their project met the content standards and it is shaped to meet their goals.

Role of parents in project-based learning approach

I shared my plan to implement project-based learning approach with parents during the first parent teacher meeting in the school in April. I informed parents on the new approach and how they could help children in their project in terms of providing materials.

In addition, every week I held meetings with parents to share information on the child's progress and their concerns and observations.

After the completion of the project, a joint review was done with participant parents and teachers. During the review,experiences gained from participating in the project were shared.

Inquiry Process

Pappas and Tepe (2002) describes project-based learning as an investigative process that engages children in answering questions, solving real-world problems, confronting issues, or exploring personal interests.

Phase 1: Answering Questions

After the midterm break, the topic theme "businesses" was discussed in class IX A during the economics period. I presented a set of problems and children were given the freedom to choose and work on it.

I wrote all their ideas on the green board. During the discussion and brainstorming, children expressed their knowledge on different kinds of business. In the process, children discovered that they are interested in Small and Medium Enterprise (SME). Project work is not to force upon the learners but rather it is an option exercised by the children (Stanley 2012). We discussed about the Small and Medium Enterprise in Bhutan. I gathered relevant resources, teaching-learning materials; books and did some homework on project-based learning.

After the school sent letters through children informing their parents on the kinds of books and resources needed to carry out the projects. The children started planning their projects, collecting information and resources for their project.

Phase 2: Solving Real-World Problems

Once the children focused on "SME," I developed activities to encourage discussion and sharing of their ideas. The topic 'SME' made children curious to find out more about SME. I found out that children had a broad knowledge base on SME. Children seemed particularly interested in carrying out the project and I found them starting to discuss on SME.

During the discussion, the children became more curious about SME in Bhutan and raised a number of questions. Some of the questions were: why was SME lagging behind in Bhutan? Why is SME important in Bhutan? How could SME in Bhutan be improved? I listed all the questions on the green board. At the end of the discussion, we came up with learning activities for the project on SME in Bhutan. Children outlined the following topics to study the problem:

Question 1

Small and medium enterprises are cornerstone of economy. And it constitutes a larger share of enterprises in most developed and developing countries. They are major sources of income, revenue and employment.

Study the role of small and medium enterprises in growth of the Bhutanese economy. Analyze the trend of its growth in the past ten years. What are the future prospects and challenges for small/medium enterprises in Bhutan? What measures are recommended for the growth and development of small and medium Enterprises in Bhutan?

Question 2

Classify the small, medium and large enterprises in Bhutan based on investment and turnover.

What is 'entrepreneurs'? What are the challenges faced by women Entrepreneurs in Bhutan? As a policy advisor how would you recommend the Royal Government of Bhutan in overcoming the difficulties and challenges faced by Bhutanese women?

Question 3

Do you think SME plays a crucial role on economy? Justify.

Explain the employment trends in Bhutan since 1960.

The National Labour Force Survey (2006) reflects that unemployment rate have increased from 3.2% in 2006 to 4% in 2009. To combat these issues what are some strategies taken by government to promote and support self-employment and entrepreneurship?

Since the ideal project topic is short and less happening in the classroom (Sidu, 2003),I asked children to draw their initial idea/plan on paper, which would guide their effort in carrying out project on SME. Children shared their ideas in groups.

Phase 3: Exploring Personal Interests

From time to time, I stimulated interest, suggested new information and ideas, alternate avenues of approach and exploration (Cohen et al., 2010).

Children then started working in three groups with Group A and Group B consisting of seven members each, and Group C with six members. Group A chose question 1, Group B chose question 2 and Group C chose question 3. During the process, I observed children proposing their ideas as well as accepting ideas of other members.

Similarly, during review, any changes or inadequacies were attended to. I had consultation with each of the groups during which the progress of the project was reviewed. Groups worked to incorporate changes in their project. After completion of the project, group presentations of the findings were made to the whole class. The children have shown good recall and understanding in their presentations. Children also shared their problems, difficulties and experience while working with friends or in groups. I also came to know that the group composition was not fairly mixed, for instance, Group A had children who are generally high performers and also the large group size hindered full participation of all the members.

After the group presentation, children decided to have an exhibition for their parents and other children to show case their project. I found children further making necessary changes on finishing part of project, presentation in booklet form and labels for the display (Cohen et al., 2010)

During the exhibition, I found the participating parents read documentation of the project. They believe children acquired skill of collaboration, shared responsibility and other social skills. The children gained broad knowledge on entrepreneurship development, entrepreneurship skills, and information and skills to set up small scale business.

Finally, I evaluated the project-based on the criteria as decided in the class. The best projects were kept with me for future references [to carry such project in near future] (Yuen, 2009).

Phase 4: Reflection

Katz and Chard (2000) said that the project approach brings opportunities for children to engage in investigation in addition classroom activities. Learning through project approach is more natural resulting in deeper knowledge and competence. During project I used documentation such as observation and feedback from teachers and children. Therefore, the project allows me to reflect on the learning outcomes.

This project helped children to understand the concepts, technical terms and ideas through writing. The project further motivated children to read books and journals to find answer-to-answer questions that popped up in the project. Project-based learning provides a platform and a purpose for representation of information, ideas, observation, issue and solutions.

In the process of projects, children acquired social skills, exchanged ideas and opinions, shared responsibility, offered suggestions, made corrections, and encouragement. The project provided room for children to use tools for investigation, and observation, and to make comparisons. Or in other words, project enables children to identify the key issues involved in the problems, and to evolve an appropriate policy to overcome or resolve problems (Sethi & Andrews,1999).

Since the teacher acts as the facilitator or guide in project-based learning approach, the children enjoy a high degree of freedom and learn through groups. Such freedom will allow children to facilitate the process of intellectual and emotional development. Children were very engaged in the activities and they were very self-motivated in doing this activity.

Children's view on project-based learning approach

All children learned how to work well in team and how to collaborate in groups. Some children remarked, "the project give them insight to work as a team for progressive learning". They have learned how to learn, and enabledus to be more responsible. One child mentioned, "I guess I have overcome difficulties by respecting opinion of friends, timetables and accomplishing group tasks on time".

Majority of the (75%) of children mentioned that, they have learned to communicate knowledge through writing and presentation. Ten children remarked, they had learned how to organize a report, how to present the materials to the group, teachers and other children. Twelve children remarked that the project helped them to solve problems, gain self-confidence, and to find out how to deal issues. It improved their abilities, motivate learning and help them to understand concept/ issues better.

Children faced a number of problems while doing the project work, one of which is time management. Resource and time management were the main difficulties in the Project. 80% of the children referred to limited time as one of the main difficulties in the project. One child remarked, "Honestly speaking, the time given to us to do the project was not enough I think". The MSS is a day school where 30% of students spend nearly one hour walking to and from the school. 60% of students come from the nearby school campus. Once reaching home, students run domestic errands for the family, besides having to complete homework assigned in other subjects. The nature of the project is such that the students will require to visit institutions outside the school, costing them resource and time. Since most of the institutions that they are required to visit function during the weekdays, students must have found it tough to find time as well as the means, in terms of travel cost to visit institutions of their interest.

Three children found difficulty working in groups since they had joined the school this year and were only adapting to the new environment. Entering a new learning environment and at the same time having to engage actively in a self-directed learning activity would have been difficult for these children. Since the grouping was done by the children, it was found out later that the abilities of children were not distributed well and that affected performance by all groups. The large group size also hindered every member's participation with their full potential. In project-based learning approach, learning becomes more effective if the size of group is small. In some case there was presence of group confrontation, group members hardly cooperated among themselves, some group members were dominant while the final marks obtained by the group were shared by all members irrespective of their contribution. This is a very important observation for me to take into account and plan well for the future.

Parents' view on project-based learning approach

Bhutanese curriculum is centralized and the teaching is teacher centered. This project experience is new to the parents. Till now parents have not heard of such project undertaken in schools. 15% of parents found their children doing project at home, which is no less than homework. The difference is only the length of the completion.

The parent-teacher meeting and review meeting are the forum for learning process. Initially, parents were nervous, excited and lacked confidence in children's learning abilities. One participant parent said, "I am worried about my daughter because she is quiet and reserved. At home she never talked what is happening in the class". Likewise, another parent said, "I was afraid that most of the time my child gives wrong message to us. I was also afraid that I might give wrong information, books and learning materials. And he might lose the learning opportunities in the school".

All participant parents agreed that project enhanced the children's learning. In project-based learning,children usually have a sense of ownership. Thus most parents found that their children took it seriously. Parents felt their children are truly contributing information and carrying out project meaningfully in the classroom. "In the past my son was quiet and reserved. I was surprised to see that he was an active member in carrying project on SMEs. My wife and mother in-law found him excited and nervous at the beginning of the project. At the end of the project he is talking about the project all the time. I think children have done awesome job".

During review meeting, one parent's comment recorded says "the project is an opportunity for children to learn and put their ideas, feelings, efforts, thought and time together in order to solve the problems". All participants found their children

have benefited from the project. It has improved the writing skills, knowledge, interpersonal skills, improvements in learning motivation and knowledge in social relations. Children are more confident in sharing and presenting their ideas/information.

One parent mentioned that, the project was valuable for her child. The project taught her to study in-depth real-world issues, and enhanced her investigation, and negotiation skills. Although she found children find it hard to manage appropriate time to do their work, children seem to be excited to meet their team members and work on their project. The project exhibition is a good opportunity to display the hard work of children. It's always good, proud and fun for parents to see what their children are learning in the school. In addition, 70 percent of parents felt that that the project is also a means to enhance daily communication and interaction between children and parents.

Three parents mention that, they enjoyed being with their children and teacher. The parents also could not stop talking about the daily progress of the project and what was happening every day in the classroom. The project made these parents too close and involved with children. In all, this project is trustworthy, valuable and meaningful for parents and children.

Majority of the (90) participants [parents] commented the project has developed a good relationship between teacher and parents. Parents are confident in dealing with children because of the good relationship and meeting between parent-teachers. A parent said "the project developed a closer link with the class teacher, school, and made my daughter happy for participating in the project".Project is a great way to involve community and parents in educational process. Some participants made positive comments on the project "brilliant," and "very informative". One parent remarked, "I think children become more responsible. They learn to work on their own with less assistance from the teacher and parent".

Among all the participants, two parents felt the project is bit stressful. These two parents are overloaded with office work, and get limited time to involve in children's project. Parents reported of not understanding the technical language of the subject matter. One parent remarked, "It's frustrating. I don't know how to support the children. There's not enough time".Overall both parents still enjoyed the project despite limitation.

According to Edwards, Gandini and For man (1995) the interest of parents in children's work help strengthen parent-child discussion and deepen parents' understanding of the nature of learning.

Teachers' view on project-based learning approach

Of the two participant teachers, one participant teacher remarked,"it is challenging to carry out project-based learning approach in classroom. There is not enough time to do such activities in Bhutanese classroom. Moreover, it is really difficult to support the children's thinking and motivations and need frequent negotiations with children. Sometimes I became too flexible for learning and I felt lost in the project. The project demands active participation of the children and teachers".

Other teacher said, "Project provides an opportunity for the learners to acquire knowledge through work and practical experience. This makes learning a memorable and an enriching experience. This idea is highlighted in the saying; "I hear and I forget, I see and I remember. I do and I understand". The participant teacher also highlighted the following as the challenges he faced while using project-based learning approach in the classroom:

i) Time consuming

Most of the children found greater workload, insufficient support from the teachers, and more responsibility with limited time to complete a task. Children are uncertain and are not motivated about project-based learning approach and prefer the traditional learning approach. Project-based learning approach needs more time for planning, implementing and reviewing. Some children are bogged down with more work than other members.

ii) Limited resource

The main aim of project-based learning approach is to help children learn. Due to limited resources and lack of definite answer in the project, most of the children and teacher are unfamiliar with the process.

iii) Ambiguity

As the ideal project-based learning approach is absent in Bhutanese schools, I found most children are not clear about the objective of lesson and the standard of work required in project. In absence of careful planning and assessment, the use of project in Bhutanese classroom will be unsuccessful.

iv) Completion of syllabus

Since Bhutanese curriculum is teacher centered and exam oriented, it is not wise to let children go out of control and allow the children to work on their own in the classroom. The completion of syllabus is hampered if project based learning approach was used.

My reflection on the project-based learning approach

This is the first project I have carried out so far in my nine years of teaching. Personally as a teacher, project-based learning approach is new for me although I have learnt project-based teaching strategy at erstwhile National Institute of Education. The SME Project is a doable approach and the experience has been enriching for my children and me. This study has given me confidence and insights to engage in similar studies in the future. I will be using project-based learning approach henceforth.

I realized it's time for us to focus more on learning based strategy than teaching based strategy. I also felt it is time for us to change the curriculum. I never believed in learning until I tried this approach with children. The project-based learning approach is more demanding but more rewarding too.

In project-based learning, children become more motivated, and take the ownership of learning. The project-based learning approach has provided many challenges and opportunities to use different skills, concept and terminology. Children use different skills such as writing, reading, and problem solving, and interpersonal relationships. Children have learned a lot by working in groups and sharing ideas. I am pleased and confident to carry out project-based learning approach in near future. I hope the children can apply their gained knowledge in different fields in near future.

Literature argues that ideal project stimulates children's intellectual, social, and problem solving skills, to lead a satisfying and complete life in near future. I strongly believe that the collaboration between parent and teacher in the children's learning will enhance learning outcomes.

In the beginning,I was bit doubtful about the parents' involvement and children's abilities. I was not sure how children will construct knowledge and be able to motivate children to learn. The idea of involving parents gave me full support to carry out this project-based learning. The parent–child discussion and interaction enhanced the child's curiosity of searching, and inquiring the project. The collaboration and facilitating between teacher and parents made learning more fruitful than teaching only at school or home. During meeting I shared my feelings, information, observations with participant parents for the better understanding of project-based

learning approach.

I am glad that I have completed the project-based learning approach on SME. Now I have gained a better understanding on the ways and means to support children while carrying it out in the classroom.

Conclusion and Recommendation

Overall,the children, parents and teachers value project-based learning approach to be promoting authentic learning. The use of project in teaching economics has brought real life experiences to children. This approach helped foster collaboration, working for a common goal, team spirit, and resourcefulness in children. Children also learnt to do proper planning, communication, building consensus, remaining focused and meeting deadlines. They learnt use of power points, preparing presentations and doing presentations of their work. On my part the study has helped me understand more about project-based learning approach; it requires a teacher to be adaptable, and it is important for a teacher to remain engaged in the students' work. It helped me understand my children and their potential. I have experienced that comparing to traditional teaching learning methods, project-based learning approach helps children learn in more naturalistic way, exploring subjects at their own pace, interest and ambitions.

I recommend teachers to incorporate at least one project-based teaching in their subject areas in an academic year. Teachers can implement project-based learning approach after children have acquired basic knowledge about the approach. Schools should make it mandatory for teachers of higher classes to assign project works to students. Schools should also institute a forum for students to share their project works.

Limitations and implication of the study

This paper has limitations: it uses small sample size, limited number of children, teachers and parents participated in the study. Therefore, the findings cannot be generalized.

The paper has several implications for school in Bhutan. Schools can now adopt and incorporate project-based learning approach in teaching learning process. Children, parents and teachers can all benefit from the project-based learning approach. It enhances creativity and problem-solving skills of children and foster teacher competency in the 21st century.

References

Bereiter, C., & Scardamalia, M. (1993). *Surpassing ourselves: An inquiry into the nature and implications of expertise. USA,* La Salle: Open Court.

Bereiter, C., & Scardamalia, M. (1993). *Surpassing ourselves: An inquiry into the nature and implications of expertise*. USA, Chicago: Open Court.

Blumenfeld, P., Soloway, E., Marx, R., & Krajcik, J. (1991). Motivating project-based learning: Sustaining the doing, supporting the learning. *Educational Psychologist, 26*(3&4), 369-398.

Buck Institute for Education. (2011). *Does PBL work?* Retrieved from http://www.bie.org/research/does pbl work 10-6-15. pdf

Buck Institute for Education. (2002). *Project-based learning handbook*. Novato: Retrieved from http://www.bie.org/ pbl/pblhandbook/intro.php.

Edwards, C., Gandini, L., & Forman, G. (1995).*The hundred languages of children*. USA, New York: Ablex Publishing Corporation.

Explore Knowledge Academy. (2006). *Explore knowledge academy – A project 11 years in the making*. Retrieved from https://www.ekacademy.org/explore-knowledge-academy-a-project-11-years-in-the-making/

Grant, M. M., & Branch, R. M. (2005). Project-based learning in middle school: Tracing abilities through the artifacts of learning. *Journal of Research on Technology in Education,* 38, 65-98.

Harada, V. H., Kirio, C. H., & Yamamoto, S. H. (2008). Collaborating for project-based learning in grade 9–12. USA, Linworth: Linworth Publishing Company.

Jones, B. F., Rasmussen, C. M., & Moffit, M. C. (1997). Real-life problem solving: A collaborative approach to interdisciplinary learning. Washington, DC: American Psychological Association.

Katz, L. G., & Chard, S. C. (2000).*Engaging children's minds: The project approach*. USA, City of Stamford: Ablex.

Katz, L., & Chard, S. (1989). *Engaging children's minds: The project approach*. Norwood, New Jersey: Ablex.

Karnes, K. F., & Bean, M. S. (2009). *Methods and materials for teaching the gifted*. USA, New York: Prufrock Press.

Cohen, L., Manion, L., Morrison, K., & Wyse, D. (2010). *A guide to teaching practice (5th ed.)*. New York, Madision Avenue: Routledge.

Matthews, D. J., & Foster, J. F. (2005). *Being smart about gifted children: A guide book for parents and educators*. Scottsdale, AZ: Great Potential Press.

Moursund, D. (1999). Project-based learning using information technology. Retrieved from https://www.researchgate.net/profile/David_Moursund/

publication/247276594_Project-based_learning_using_information_technology/links/58c59e9645851538eb8afd94/Project-based-learning-using-information-technology.pdf

Pappas, M. L., & Tepe, A. E. (2002). *Pathways to knowledge and inquiry learning*. USA, Englewood: Libraries Unlimited.

Peterson, M. (1997). Skills to enhance problem-based learning: Medical education online. Retrieved from http://med-ed-online. Net/index. php/meo/article/view/4289

Renzulli, J. S., & Reis, S. M. (1997). *The school wide enrichment model: A how-to guide for educational excellence*. Mansfield Center, CT: Creative Learning Press.

Renzulli, J. S. (1999). What is this thing called giftedness, and how do we develop it? A twenty- five year perspective. *Journal for the education of the gifted, 23,* 3-54.

Renzulli, J. S., Smith, L. H., & Reis, S.M. (1982). Curriculum compacting: An essential strategy for working with gifted children. *Elementary School Journal, 82(3),* 1-27.

Rogers, K. B. (2002). *Reforming gifted educations: How parents and teachers can match the program to their child*. USA, Yew York: Great Potential Press.

Sethi. D. K., & Andrews. U. (2017). *Frank ISC Economics*. New Delhi, Arjun Panda: Frank Bros. & Co.

Stanley, T. (2012). *Project-based learning for gifted children: A handbook for the 21st century classroom*. USA, New York: Prufrock Press.

Sidu, K.S. (2003). *The teaching of mathematics (4th ed.)*.India, New Delhi: Sterling Publisher Private Limited.

Stites, R. (1998). *Evaluation of project-based learning: What does research say about outcomes from project-based learning?* Retrieved from http://pblmm.k12.ca.us/PBLGuide/pblresch.htm.

Stix, A., & Hrbek, F. (2006). *Teachers and classroom coaches: How to motivate children across the content areas*. USA, New York: Association for Supervision & Curriculum Development.

Tomlinson, C. A., & McTighe, J. (2006). *Integrating differentiated instruction and understanding by design: Connecting content and kids*. Alexandria, VA: Association for Supervision and Curriculum Development.

Yuen, L.H.F. (2009). From foot to shoes: Kindergartners', families' and teachers' perceptions of the project approach. *Early Childhood Education Journal*, 37, 23-33.doi: 10.1007/s10643-009-0322-3

About the Author

TSHEWANG DORJI is an Economics teacher at Dechen choling Higher Secondary School, Thimphu. He graduated with Postgraduate Certificate in Education from erstwhile National Institute of Education (now Samtse College of Education, Royal University of Bhutan). He has taught in different levels of schools. Currently, he is teaches Economics in class 10, 11 and 12. His research interest includes pedagogical practices, gender in education, entrepreneurship and policy.