

Fall 2017

A Review of Literature: Project Based Learning in Early Childhood

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Trends in early childhood education are continually changing and evolving as new research and information on young children's development is discovered. One of these trends that has been at the forefront of research and design is based upon the idea of children learning through hands on, meaningful experiences that center around their interests. A teaching strategy that has emerged from this research is called Project Based Learning or Project Approach. This literature review will look at the latest literature available about this learning strategy to help teachers make informed decisions about how this teaching strategy and how it can be implemented and used in pre-school classrooms.

Project work is an in-depth investigation of a topic of interest that is relevant and meaningful to the early childhood age. Young children are naturally curious about their environment and are highly motivated to learn about things that spark their interest. Even at a young age, children can learn how to find answers to their questions and gain the opportunity to experience active engaged learning through projects (Harris-Helm, Katz, 2011, p. 3). A topic is typically investigated within a classroom by a small group of children, or by the entire class. On occasion, an individual student can embark on an investigation of a topic. The key to deep project work is that it is research focused on investigating answers to specific questions about a topic. The students, with insight and clarification from the teacher typically generate these questions. The teacher can also generate questions for the students. This largely depends on the age of the learners and the abilities of each individual classroom of learners.

In general early childhood teachers typically base their curriculum off units or themes, a broad concept or topic that is taught such as fall or fire safety. With this approach to teaching,

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educators use materials and experiences related to the theme to teach broader concepts and meet curriculum standards such as the standards contained in The Iowa Early Learning Standards. The teacher has a clear plan of what she wants students to learn in each unit or theme and what educational concepts will be the focus of each individual lesson within the unit or theme.

While the typical thematic teaching methods have their place, in early childhood programs, they may miss the opportunities presented for children to take initiative in their own learning, develop concepts and understanding based upon their own interests, and learn how to get answers to their own questions (Harris-Helm, Katz, 2011, p. 3). Project work provides opportunities in which a child's curiosity can be expressed meaningfully, and provide them with the chance to embark on self-motivated learning experiences. Educators cannot predict what direction a project will take or what parts of a particular topic will spark the children's interests. A well-developed project is a learning journey that engrosses children's thoughts and excitements and becomes an adventure that children and educators go on together.

Project work provide students with the opportunity to be involved intellectually to a greater degree than learning experiences prepared by the teacher or from pre-prepared units of study. A child's creativity, immersion and comparative control over their own learning and participation in what is accomplished is what sets project work apart from units or themes. Project work typically have a greater length of time devoted to the development of understanding on a particular topic as well as hands on experiences through 'experts' on the topic and field-Sight Visits. Additionally a wider assortment of resources devoted to the topic of interest are provided to students. Research states, students in Project Based Learning classrooms demonstrate improved attitudes towards learning. They display more engagement, are more

behaviors that are self-reliant than students in traditional learning settings. (Buck Institute for Education, 2013)

In today's society, children under the age of six spend a large proportion of time learning and growing outside the home. Most children spend their day's in-group care such as day care centers and preschool programs. The teacher, in teacher directed learning experiences typically develops their experiences. Children often miss opportunities to explore the broader environment and take initiative into their own learning and understanding.

“The relevant research from studies suggests that preschool programs based on child-initiated learning actively contribute to children's short and long term academic and social development, while preschool programs based on teacher-directed lessons obtain a short term advantage in academic development by sacrificing a long-term contribution to their social and emotional development” (Harris-Helm, Katz, 2011, p. 5). “On this basis, research supports the use by preschool programs of a curriculum approach based on child-initiated learning activities rather than one based on teacher directed lessons” (Harris-Helm, Katz, 2011, p. 5). Further studies show students learning through project-based work recall content longer and have a deeper understanding of what they are learning. (Buck Institute for Education, 2013).

Project work is typically undertaken in three phases: Phase I: Launching the Project, Phase II: Investigation and Phase III: Culminating the project. In Phase I: or launching the project. 1, the topic of interest is selected through discussions with the children. The teacher also needs to take into consideration how feasible the topic is, or the availability of resources and opportunities for hands on experiences related to the topic of interest. Once a topic is identified,

the teacher then creates a topic web, a graphic organizer that guides the students as they determine what they know about the topic and helps them to generate questions on what they want to learn about a topic. The teacher guides the children as they build their questions list that will guide them in the investigation, the questions drive the learning as the students take ownership of the project. While finding a topic of interest may seem straightforward, a number of issues could arise that the teacher needs to take in consideration. In comparison to older students, preschool age children have a smaller set of experiences to pull from when selecting a project. Preschool age students are less likely to have common experiences when compared to older age students. At this level, it is very common for a teacher to have to help build students experiences through field trips, community outings and outdoor experiences with the natural world to provoke curiosity and interest. When students are new to project work it is important for them to have common experiences so that all members of the group are able to contribute to the investigation and learning that will take place. With this being said teachers need to be cautious and let, the children take initiative, make decisions and drive the experiences of the project. Teachers need to be careful not to over structure the project or it will not provide them with an authentic child-initiated learning experience.

With project work, it is important for teachers to observe and identify what the students are currently interested in and what future things may spark their interest. A few children may be interested in cars and roads or events such as the book fair or places such as a restaurant or park. Children demonstrate their interest by asking questions or asking for information about the interest area. Since young children may have limited vocabulary or verbal skills, it is important for teachers to observe students in their play. Young children often show excitement about their

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interests through facial expressions or body language. They also demonstrate interest by spending unusual amounts of time interacting with areas of interest.

A topic is typically initiated by a catalytic event, something that causes a chain reaction among the students. For example, construction of a new building near the school, seeing a fire truck during a walk or crossing paths with a squirrel or rabbit on the playground. Projects that emerge from a catalytic event often become deep, rich projects because the children all have a common experience.

Once a topic has been selected, the next step is for the teacher to create a teacher-planning web. Within this web the topic is at the center and you move outward with what questions need to be answered. For example if your topic is squirrels, that would be the center of the web. Outlying circles could include, where do they live? What do they eat? Kinds of squirrels. How they move? Then the teacher brainstorms ideas on resources and materials that could be used to answer each of those questions and places them into the map. The last step of the map is to look at curriculum areas that need to be addressed during the project and input these areas into each outlining question. For example, when looking at different kinds of Squirrels the teacher and the students could create a graph and graph the types of squirrels that live in their area, fulfilling a math component. A second example could be for literacy, the teacher will find non-fiction and fiction books that are read to the students about squirrels, there could then be a comparison and lesson on the difference between fiction and non-fiction books.

In phase two of project work, the children are ready to dig into the learning. A list of children's questions about the topic is posted in the classroom as well as the concept map that the students created. Materials are gathered and on display for children to explore related to the

topic of study. Centers within the classroom house a wide variety of materials related to the topic for children to explore through play. This could include nest-building materials in the block area, acorns and walnuts with magnifying glasses available for study in the water table. Brown paper, fake fur, wiggle eyes and other related materials are available in the art area. Non-fiction books on the topic are available in the library area for exploration.

Once the classroom environment has set the stage for learning it's now time for the teacher to find 'experts' on the topic. A 'expert' is a person that has knowledge about the subject. In the case of a squirrel project, your expert could be your local naturalist or perhaps the teacher knows someone in the area that has knowledge about the topic that is willing to come in and speak to students. It could be as simple as a janitor that is an ice fisherman with related equipment bringing in his 'tools' and explaining how they are used to catch fish through the ice, if your topic is fish, water or ice. An 'expert' is a vital component to the project because it creates hands on learning experiences for the children and helps create a high level of interest. It provides them with new experiences that will in turn fuel their desire to learn more about the topic, and move them into deep project work.

Parents can also be great resources at this stage of project work. 'This is a good time to send a letter to parents announcing the project topic and describing the plans, including the list of questions that the young investigators are going to answer.' (Harris-Helm, Katz, 2011, p. 33). Perhaps a parent would be willing to come in and show students materials or items that relate to the project. Possibly be the speaker or they could help gather materials for exploration or aid students in building something related to the topic. Not only does this help the teacher during the process it also helps foster a home school connection that is so very important for students of all

ages. It helps parents feel connected and involved in the learning process of their students. At the preschool age, teachers are setting the stage for later parental involvement by creating positive experiences.

Also in Phase II, the teacher begins the planning process and evaluation of possible Field-Site Visits. Field-site Visits differ from typical field trips, as they are designed with the specific purpose to conduct fieldwork. It gives children the opportunity to investigate the project topic in a hands on in-depth manner. On a Field-Site Visit children are tasked with finding answers to their questions, examining equipment or materials and have the opportunity to talk with 'experts' on the topic. The children may also take pictures, video recordings or sketches to re-examine later. They could also borrow or collect items from the site for continued investigation.

Teacher preparation on determining the Field-Site Visit is essential to the success of the visit. The teacher may need to visit the site without the children and determine what areas are to be visited, possible areas that could be a safety concerns or ways that they can enhance the visit. If a preliminary visit is not possible, the teacher could have a conversation with site visit personnel over the phone to prepare for the above-mentioned things. Teachers also need to prepare the students for the visit; a teacher could do this by assigning specific tasks to children. Such as a few children are in charge of asking questions that have been predetermined. Who will be in charge of taking sketches of artifacts or collecting artifacts to take back to the classroom?

Once the class returns from the Field-Site Visit it is important to discuss what was seen and heard. What items they found interesting. What things did they discover? The group could pass around and discuss artifacts that were found while at the site. This discussion helps students recall the information they received at the visit and help them discover new ways in which to

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represent the topic in their play or build something they seen that was interesting at the site, such as a nest or tree in the case of a squirrel project.

As Phase II continues, the teacher and teaching staff continue to provide learning opportunities about the chosen topic. They continue to help foster understanding through drawings, models, representations, play and learning experiences. As the students interest in the topic states to diminish, it's time to start planning for the final phase.

In the final phase: Phase III students interest in the topic begins to fade and there curiosity and questions have been answered. When a project reaches this point, it's time to begin the planning process of Culminating or closing the project. Teachers should have a discussion with the class about what they have learned. With young children, it's important to provide documentation or their work as you have this discussion so that they are able to recall the information. It's important for the children to share what they have learned during the project with others. This could be initiated by posing the question, Who would you like to share your learning with? Parents are the likely choice when posing this question, but the work could also be shared with fellow classrooms in the building, building administrators, community members or school board members. The main idea of this phase of project work is to engage students in sharing their learning with others. Many projects have been shared during a project sharing night for parents, where artifacts, drawings, artwork, and items they have constructed are displayed. The students, being the experts take their family members around the projects and share with them what they have learned and what they have created.

Once the culminating event has been carried out. It's now time for the teacher to take some time to reflect on the successes of the project. 'One way to look at the success of a project

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is to consider whether the experience it provided were engaging and absorbing, and from which much was learned'(Harris-Helm, Katz, 2011, p. 75). Did the project provide the level of desired engagement? What improvements could have been made to contribute to the success of the project? What were the success of the project? As educators being a reflective practitioner is key to the success of any learning experience.

Now that the project is complete and reflections have been made its time to provide the students with new opportunities to spark new interests that may insight new topics for projects. Its general recommended that students complete two full projects in a school year. With mini projects along the way.

Not only does project work support young students learning, it also helps revitalize educators as they become partners with their students in learning. 'Many do not just become co-learners with the children but often embark on their own journey. Observing, listening and document they become investigators not only of project topics but of how children learn.' (Harris-Helm, Katz, 2011, p. 112). Additionally a study conducted in ten different schools by the Academy for Educational Development (AED) concluded that, project based learning effected school climate and student motivation, it also concluded that teacher's motivations and beliefs in their teaching ability to reach students at varying ability levels increased. Further, it showed increased participation from parents and outside community members in schools and the overall confidence in teachers teaching abilities was amplified. (J.W. Thomas, 2000, p. 11)

The literature is clear on the remarkable benefits of children learning through inquiry, investigation and research. Project work teaches young children how to take charge of their own learning, how to inquire and get answers to their own questions. In short, it teachers children

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how to learn and helps them become lovers of learning. It's the hope of teachers implementing project based learning into their classrooms that the experiences and skills children learn through project work will help carry them throughout their entire lives.

Annotated Bibliography

Alfonso, S. (2017). Implementing the project approach in an inclusive classroom: A teachers first attempt with project-based learning. *Young Children*, 72(1). Retrieved September 17, 2017, from <http://www.naeyc.org/publications/vop/implementing-inclusive-classroom>

This article focuses on implementation of Project Approach in an inclusive classroom. It looks at how a pre-school teacher carries out the three phases of project approach in an inclusive classroom. Alfonso's main purpose in this article is to inform teachers on how Project Approach can be implemented in an inclusive environment, her successes and her struggles.

Beneke, S., & Ostrosky, M. (2009). Teachers' views of the efficacy of incorporating the project approach into classroom practice with diverse learners. *Early Childhood Research & Practice*, 11(1).

This article focuses on a statewide implementation of Project Approach in their early childhood programs. As well as professional developments to aid teachers in the implementation of the approach. The study strives to answer the following questions, To what extent do teachers perceive project approach as an effective way to teach a group of diverse learners and what factors facilitate teachers implementation of project approach?

Harris-Helm, J., & Katz, L. (2015). *Becoming young thinkers deep project work in the classroom*. New York, NY: Teachers Collage Press.

In this book, the authors describe how to implement deep project work in pre-school through the primary grades. The authors describe in-depth strategies on how to deepen project work through, topic selection, integration of standards or the Common Core and supporting children through the process of project work. It's designed to extend a teachers knowledge so that educators can implement more engaging and meaningful projects in their classrooms.

Harris-Helm, J., & Katz, L. (2011). *Young investigators the project approach in the early years* (2nd ed.). New York, NY: Teachers College Press.

This book is an in-depth study of how Project Approach is implemented and carried out in an Early Childhood setting. The authors provides detailed instructions on each phase of project work and provide teachers with the tools to implement this learning strategy with students. The text also provides examples of children's work with projects. As well as featuring planning tools to provide teachers with a guide in carrying out the process.

Mitchell, S., Foulger, T. S., Wetzel, K., & Rathkey, C. (2009). The negotiated project approach: Project-based learning without leaving the standards behind. *Early Childhood Education Journal*, 36, 339-346. DOI:10.1007/s10643-008-0295-7

This article is a study that explores how a first grade teacher implemented Project Approach with students. It also addresses how the teacher applied the Common Core standards into project work. The study concluded that project work is beneficial to young learners as it teaches them how to take ownership over their own learning. It finds that in order for teachers to implement Project work with validity, they must have support through, professional development, ongoing collaboration and mentoring.

Research Summary: PBL and twenty-first century competencies. (2017). Retrieved November 10, 2017, from http://www.bie.org/object/document/research_summary_on_the_benefits_of_pbl

This PDF provides information about the latest research in Project Based Learning practices. It is a collection of quotes from authors at the forefront of research into the topic.