An Investigation of Inquiry-Based Learning
in the Inclusive Classroom
by Alison Wells
University of Manitoba

Introduction

Traditional practices of teaching based on a 20th century “factory” model that encouraged students to “sit in straight rows, listen to lectures, … fill out worksheets, [and] read from texts under the watchful eye of the teacher” (Peterson & Hittie, 2003, p. 155) no longer meet the diverse needs of today’s students. Some educators like John Dewey contested this model back in the early 1900’s. He believed that “rote study promoted shallow thinking and a dislike for learning” (Peterson & Hittie, 2003, p. 155) and argued that students were actually learning all the time. Dewey also believed that “learning [was] inherently social” (Powell & Kalina, 2009, p. 244).

Ralph Tyler also discredited the information-transmission approach in the mid 1900’s. As a result of his “rigorous” research “in the areas of cognition, education and literacy [he suggested] the inquiry process [as] a powerful alternative” (Wilhelm, 2007, p. 9). “Everything taught in an inquiry unit, including attitudes, strategies and concepts, is in the service of investigating the question, and understanding and doing things related to the question. … [This requires] students [to be] active participants in disciplinary conversations” and in their learning (Wilhelm, 2007, p. 9). Like Dewey he believed that learning was socially constructed. “By viewing learning as an active process, taking students prior knowledge into consideration, building on preconceptions, and eliciting cognitive conflict, teachers can design instruction that
Inquiry-based learning goes beyond rote learning to meaningful learning that is more likely to lead to deeper, longer lasting understandings” (Jones & Brader-Araje, 2002, p. 4). These are the tenets of constructivism.

Lev Vygotsky the “founding father” of social constructivism based his theory on the idea that social interaction was essential to the learning process along with critical thinking. Social interaction or cooperative learning had a big impact on how students internalized what they learned. “Vygotsky stated that language enhances learning and that it precedes knowledge or thinking. [In order] to embrace diversity, students must interact socially [by using language]” (Powell & Kalina, 2009, p. 245).

Vygotsky also introduced the concept of a zone of proximal development (ZPD) which he defined as “the intellectual potential of an individual when provided with assistance from a knowledgeable adult or more advanced peer” (Jones & Brader-Araje, 2002, p. 6). By scaffolding or assisting a student, that student continued to move to the next level of understanding. Learners made sense of new information based on pre-existing understandings. Making sense of this new information was an active process (Jones & Brader-Araje, 2002, p.3). According to Vygotsky, the most important active process in a social constructivist classroom was the use of language. He stated that “language enhances learning and that it precedes knowledge or thinking” (Powell & Kalina, 2009, p. 245). Inquiry-based learning or co-operative learning as Vygotsky called it “is an integral part of creating … a social constructivist classroom” (Powell & Kalina, 2009, p. 244).

This qualitative research project investigated how inclusive educators in two urban elementary schools defined and practiced inquiry-based learning through the lens of social constructivism.
A Review of Related Literature

A brief review of current literature related to Inquiry-Based Learning (IBL) was conducted and quickly showed there is no standard definition for IBL or agreement about what it should be called. Here is an overview of the various definitions, descriptions and terms that were found in the literature reviewed.

In the early 1900’s John Dewey “argued that education must be experience based, centering on ideals such as open-mindedness and discipline in aim-based activity” (Glassman & Whaley, 2000, p. 2). He believed these aim-based activities could be done using long-term projects, or project-based learning that grew out of a child’s interest. He also saw learning as a continuous fluid process so as one aim was achieved it set the groundwork for the next aim. Dewey, a constructivist, contended “that we must teach children how to engage with the world on a practical level and trust them to construct their own knowledge through (successful) engagement in activities of a lifetime” (Glassman et al, 2000, p. 2).

In Turkmen’s 2009 study entitled “An Effect of Technology Based Inquiry Approach on the Learning of ‘Earth, Sun, & Moon’ Subject,” he pointed out, that “inquiry-based teaching has been closely associated with other teaching methods such as problem-solving, laboratory instruction, project-based learning, cooperative learning and discovery instruction” (p. 3). His definition of inquiry was: “the intentional process of diagnosing problems, critiquing experiments, and distinguishing alternatives, planning investigations, researching conjectures, searching for information, constructing models, debating with peers and forming coherent arguments (p. 3). Turkmen’s definition is similar to Dewey’s and Vygotsky’s in identifying the importance of social interaction and active engagement on the part of the participants.
Project-based learning (PBL), the term used by Guven & Duman (2007), was the alternative term used most often. Guven & Duman (2007) describe PBL as “a deep investigation of selected topics that are relevant for both learner and teacher. … The main aim of a project is to gather knowledge through focusing related questions on a topic” (p. 77). Additionally they stated that PBL is “one of the most effective learning strategies for constructing knowledge and thinking creatively … [and provides] supports and reinforces many of the principles emphasized in brain-based learning” (p. 77).

Other iterations of the term IBL were also found in the literature. For example, authors like Whitney Rapp (2005) linked inquiry-learning directly to Vygotsky’s theory of social constructivism and chose to define it using his definition; knowledge is constructed through social interaction. Chu, Tang, Chow, Tse, Loh, Fung and Rex (2007) chose not to define IBL in their work at all. They just made reference to IBL “projects” or an IBL “approach.”

This interchange of terms and definitions might leave the consumer of related literature confused about the meaning of IBL. This confusion is what led to the initial research question: How do inclusive educators define inquiry-based learning? Do educators in the 21st century have similar or differing definitions of the term inquiry-based learning and how do they compare with those found in current literature?

A review of the literature also revealed confusion about the role of the teacher in an inquiry based classroom. There were references to the teacher as: 1) the guide (Chu, Tang, Chow, & Tse, 2007, p. 2) the one who sets a “rich environment in which students take on more responsibility in organizing and managing material for their own learning, and to develop a supportive social environment in which students can work collaboratively in small and large groups and learn to respect each other’s ideas” (Turkmen, 2009, p. 3), 3) a facilitator of projects
(Guven & Duman, 2007), 4) including “students in educational decision making … [and] as partners in the teaching and learning process (McCombs, Daniels, & Perry, 2008, p. 17), and 5) “working together to develop substantive aims in the educative process… as both mentor and cooperative partner” and “guide” (Glassman & Whaley, 2000, p. 4). There did seem to be a consensus that the teacher was no longer the center of the classroom giving “information about what has to be known and students … [acting as] receivers of information” (Turkmen, 2009, p. 2, Guven & Dunman, 2007, Chu, Tang, Chow & Tse, 2007, Glassman & Whaley, 2000).

Another point of interest that became apparent in the literature review was that IBL is a world wide phenomenon. In the seven articles used for this review there was evidence of IBL being investigated in Hong Kong (Chu, Tang, Chow, & Tse, 2007) (Chu, Tse, Loh, Chow, Fung & Rex, 2008), Italy (Glassmen & Whaley, 2000), Istanbul (Guven & Duman, 2007), the United States (McCombs, Daniels, & Perry, 2008), and Turkey (Turkmann, 2009).

One gap discovered in the literature was the lack of research about how children with special needs are included in inquiry-based projects and or classrooms. Of the original fifteen articles identified in the literature review matrix only three referred to children with special needs, two were selected for the final review process (Guven & Dunman, 2007; Rapp, 2005).

Guven & Duman (2007) designed a study “to determine the effectiveness of a project-based program delivered for students with mild mental disabilities (aged 6 -7 years) over a six day period. The total duration of the project was 2 ½ weeks” (p. 78). This short study had positive results with the data indicating “that project-based learning was effective for children with mild mental disabilities as all stages. However, this was a very small study using seven subjects who attended a special class for students with disabilities, conducted over a short period
of time. How transferable this information would be to children in a regular classroom setting with various special needs is unknown.

Whitney Rapp (2005) based her research on the experiences of children in a children’s museum setting and even though she observed all the children attaining success in that setting she identified “minimal” generalization of what was learned in the classroom. So even though this study was interesting it did not give any indication of how effective a child-centered, social constructivist setting was for all children in a classroom setting.

This gap in the literature led to the second key question, how do inclusive educators practice inquiry-based learning?

Challenges to implementing IBL were identified in the literature review. Jeffrey Wilhelm (2007) confirmed that the differing definitions of inquiry created confusion for educators. “Inquiry … carries associations of unwieldy, time-consuming, student-centered projects that collapse despite good intentions. … Student centered projects are not inquiry. Nor is inquiry synonymous with a student-generated curriculum, wherein students are completely in the driver’s seat (p. 12-13). Wilhelm (2007) agreed with Dewey that inquiry required discipline and direction. A second challenge or obstacle identified by Wilhelm (2007) was creating good guiding questions for inquiry. He said that “many questions are directly related to concepts – but if a question overemphasizes information at the expense of conceptual tools, it can keep us from deeper waters of true understanding (p. 56).

A further challenge identified by Diane Parker (2007) was how to fit an inquiry approach with a prescribed, mandated curriculum. This topic of discussion also emerged during the interviews and is definitely a challenge on educator’s minds today. Interviewee Lee said that her approach to the curriculum was to “make it fit” into her inquiry. Bob said “we started with an
exploration … there were all kinds of curricular connections to our inquiry” but he too made them fit the inquiry. Mary on the other hand reported that initially she “probably used the curriculum documents and tried to turn them into the inquiry.” Now she “takes something and break[s] it apart and make[s] it fit … even more parts of the curriculum than [she] ever thought it would.

An additional challenge or perhaps misunderstanding around inquiry is the misconception that no planning is required in order to implement it. Diane Parker (2007) argued in her book, *Planning for Inquiry It’s Not an Oxymoron*, that planning is required and necessary for students to be successful at inquiry.

Several of the studies reviewed had very positive results pointing to IBL as a feasible choice for the classroom teacher in the 21st century. Chu, Tse, Loh, Chow, Fung and Rex (2008) investigated the use of a collaborative teaching model involving classroom teachers, information technology teachers, and librarians during an inquiry project. They were interested in how this approach would impact students reading abilities. Their results were very positive with students reading abilities improving as well as their attitudes towards reading. Their attitudes were more positive and their interest levels in reading increased (p. 14).

Guven & Duman (2007) investigated the effectiveness of project-based learning for children “with mild mental disabilities” (p. 80). They believed that their data “indicate[d] that project-based learning was effective for children with mild mental disabilities at all stages. … As a real life experience was selected as the topic of study, it shows that children can gain benefits though out their life” (p. 81).

Turkman (2009) investigated how a technology based inquiry approach (TBIA) would impact fifth grade students of the earth, sun and moon. “This study found that there were
statistically significant differences between the two groups (p<.05), and that the achievement level of the experimental groups with TBIA was significantly higher that that of the control group” (p. 13). They also found that using an inquiry approach had a positive impact on their attitudes towards science (p. 13).

McCombs, Daniels & Perry (2008) found similar results as far as student’s attitudes towards school. They researched the impact of perceptions of teacher practices from both the teacher and students (K – Grade 3) point of view. They wondered if the amount of student centered practice actually had an impact on students learning or if the perception of a teacher using student centered practices had just as a great an impact. Their results showed that “when children’s experience with their teacher is more learner centered, they felt more positive about their own abilities - whether it is their general aptitude for schoolwork, reading or math skill, or ability to create artwork” (p. 30). They also discovered that “on average, third-grade students perceived the lowest levels of learner centered practices” (p. 31). This had a negative impact on their abilities.

The research in the literature reviewed seems to point towards IBL as a positive practice for educators of today. There are some challenges in using such an approach and some gaps in the research, but overall this particular set of literature points towards using IBL in the classroom.

**Purpose**

The purpose of this study was to investigate how educators define and practice inquiry-based learning in inclusive classroom settings in elementary schools in urban Winnipeg. The research was guided by two key questions: 1) how do inclusive educators define inquiry-based learning, and 2) how do inclusive educators practice inquiry-based learning.
Methodology

As a learning support teacher completing a Master’s in Inclusive Special Education my current area of interest is inquiry-based learning. I have spent many hours reading, discussing, visiting classrooms using IBL, and making presentations on an inquiry approach which is what sparked my initial interest in this project. I wanted to hear the voices of the participants and their perspectives, so knew it was important to set aside my existing bias in order to begin this study (Bogdan & Biklen, 2007, p. 25).

Keeping in mind the purpose of the project a multi-site phenomenological methodology was utilized. According to McMillan (2008) a phenomenological methodology is used in order to gather and interpret lived experiences of various participants within the same phenomenon. Each participant may have a different experience but each is within the realm of reality for that participant. A phenomenological study fits within the qualitative research paradigm.

McMillan (2008) indicated that participants in a phenomenological study are chosen because of their experience with the particular phenomenon being researched. Since the phenomenon in this study was inquiry-based learning two schools were chosen from the same division with varying degrees of experience with the phenomenon. Both schools are known in the division and to the student-researcher for their work in the area of inquiry-based learning.

Participants

Prior to contacting participants permission was obtained from the School Division superintendent and from the Principals of both schools to conduct research for this mini project. Once informed consent was signed and returned, a recruitment letter was sent to all staff at both schools.
Nine people in total participated in these studies, three who were interviewed and six who completed the online survey. All participants were asked to complete the recruitment letter and sign an informed consent letter. There were four males and five females. Among the respondents were teachers, a learning support teacher and a semi-retired teacher who substitutes. Five of the participants had been educators for more than 10 years, two had been educators for six to ten years, one had been an educator for three to five years and another one had been an educator for less than two years. The number of years the participants used an inquiry-based approach ranged from three to twenty-four. The level of familiarity with IBL was varied; one participant indicated they were not familiar with it at all, one was somewhat familiar, one was very familiar but was not currently using it, and three were very familiar with the approach and are presently using it in their classrooms.

**Data Collection**

Data collection for a phenomenological study is typically gathered through semi-structured or unstructured interviews that are tape-recorded for later analysis (McMillan, 2008). Therefore three, forty-five minute interviews were conducted in person, audio-recorded, and transcribed. Interview questions were prepared in advance by the researcher who conducted the interviews over a period of two weeks. Each participant was asked the same initial ten questions and other questions emerged from the discussions. All the participants who were interviewed used a pseudonym.

Additionally the interview was conducted in the form of an online survey and was completed by six people from the two target schools. The survey was made available via the online link for three weeks. Some of the questions on the online survey differed from the questions asked in the interviews.
Data Analysis and Standards of Validity

In a qualitative research project “data are gathered first and then synthesized inductively to generate generalizations, models or frameworks. Conclusions are developed from ‘the ground up’ or ‘bottom up’ from the detailed particulars rather than from the ‘top down’” (McMillan, 2008, p. 274). The goal for the qualitative researcher is to “understand participants from their point of view” which could result in multiple ‘realities’ as each participant expresses his or her own experience. This is why it is important for the researcher using a phenomenological methodology to bracket his or her own perceptions of reality regarding the phenomenon being researched. This is important so that as the data is being collected and subsequently analyzed the true voices of the participants are heard. Bracketing or setting aside of personal bias and prejudice from the onset is one of the validation strategies outlined by Creswell (2007) in the tenth chapter of his book, Qualitative Inquiry and Research Design: Choosing Among Five Approaches.

Other validation strategies incorporated in this project outlined by Eisenhart & Borko, (1993) were: 1) the project is built on existing educational theory, 2) the research question drove the data gathering and analysis, 3) criteria were established for involving the specific participants, 4) a competent data collection technique was applied, the use of interviews which provided rich, thick, descriptions for analysis.

A further validation strategy used was peer debriefing. Several times throughout the project I met with a peer as a means of questioning each others “methods, meanings, and interpretations” of findings (Creswell, p. 208).

In order to increase the degree of reliability all interviews were audio-taped then transcribed. All online survey responses were also printed. All nine of these copies were read
over several times in order to identify themes. Blind coding was the first approach taken with the data. As themes began to emerge a data matrix was developed to collate the themes within each question. A constant comparison method was utilized to further break down the themes, key ideas and phrases in each question. For each question three or four major themes were coded and identified, then placed on a second matrix created for each question. As a final method of linking the data findings together a graphic map was created from the second matrices which then outlined the data into five major themes.

**Results**

Five major themes emerged from the data 1) the teacher, 2) the student, 3) definition of inquiry-based learning which was linked to, 4) differentiated instruction and, 5) parents. Some of these themes were more prevalent than others and all the major themes had sub-themes. The sub-themes were as follows:

1) The teacher – experience, training, influences, beliefs and values, implementation of IBL, role in and IBL environment, curricular connections, and challenges.

2) The student – role in and IBL environment, student centered or focused experiences, and challenges. Note: all student experiences are reflected through the eye of the educators, or through the literature, no students were interviewed for this project. In a bigger research project this would be worthwhile following up on.

3) Definition of IBL – Definition, inclusion.

4) Differentiated Instruction – definition and connection to IBL.

5) Parents – experiences, challenges and thoughts. Note: these themes were also gathered from the information given by educators no parents were interviewed for this mini project. Again this would be worthwhile pursuing in a bigger project.
Presentation of Findings and Discussion

Many of the themes that emerged from the interviews and online survey were similar to ones found in the literature. All nine of the participants defined inquiry-based learning differently which was consistent with the varied definitions found in the literature reviewed. Some of the key phrases used in defining IBL were: student led, teacher led, based on student interest and questions, an opportunity to explore, structured, not so structured, driven by curricular outcomes, made to fit the curriculum, part of the weekly schedule, a stance, project-based, them-based or not, a way for students to come to their own understanding and take ownership of their learning, and implemented in various ways.

One idea that was expressed numerous times in the data collected was the idea of IBL being based on the “interests of the students.” This was interesting because it was the most frequently mentioned element of IBL, yet under the challenges for students the point was made “that students can’t always express their interests.” This clearly could be a stumbling block to getting IBL going. If the teacher is waiting to hear the students express their interests and the students can’t express them how does inquiry get started?

Not all the participants were waiting for the students to express an interest, they started with a plan and “steered the inquiry” and helped students move forward. Within a given topic students had the freedom to follow their interests but the inquiry didn’t start from that perspective. This lined up more with the literature reviewed that the inquiry is started and directed by the teacher.

The idea of IBL being a process of collaboration and investigation, and a natural discovery was expressed. Collaboration or working with others is a key tenet of the social constructivist theory and a vital part of the learning that occurs. Even though collaboration was
part of defining inquiry, two teachers, Bob and Mary talked about inquiry as individual projects. Mary used inquiry as an “enrichment program for an advanced student.” Here is an excerpt from her description of this event:

His knowledge base in some areas was far greater than mine. He came up with a topic for his research project. He came up with the idea of the underworld, I guess mythology kind of. I got him working on the computer and we generated some questions he wanted to know more about and he came up with ways to find the answers. He used the internet and many books he already had. He completed a written component to the project and he created models of the characters in mythology and he created a diorama or display made out of plastecine showing all the underworld and our world. … He got all the other students excited about the topic. He was able to take it to his own level and really took off with the project.

Bob referenced a class wide inquiry he is leading his class through and also mentioned that his students “will be investigating something they were interested in or discovered in the bush.” He went on to say that the students could work alone on research or in a small group it was up to them. From a social constructivist viewpoint working alone would not be defined as an inquiry-based approach.

Some participants saw inquiry as being driven by curricular outcomes while others “fit the curriculum to the inquiry-project.” None of the literature reviewed referred to fitting curriculum to inquiry. All of the research in the literature seemed specific about curricular outcomes being investigated. Turkmen investigated the comprehension of earth, sun and moon, Guven & Duman (2007) chose the Patisserie as their theme because it was something that was authentic to the students, Chu, Tang, Chow and Tse (2007) studied the partnership of the

None of the participants defined IBL as inclusive yet all agreed it was an inclusive practice when asked. When asked to talk about their beliefs and values about being an educator none of the participants talked about inclusion, collaboration, social construction of knowledge, or any of the social constructivist tenets. When asked if IBL should be a mainstream or alternative practice all agreed it should be mainstream, yet all were implementing it as a “slot” in the day. Participants were asked if they thought by using an inquiry approach they were also differentiating instruction, if it was a natural part of the inquiry approach. Eight of the nine participants responded yes.

The concept of inclusion and peoples’ responses to it was puzzling. It seemed that what people articulated as their beliefs and values, how they defined IBL, and what they actually practiced in their classrooms on a daily basis did not line up.

The participants overall lacked training in IBL as only two of the nine had encountered a course at University that was related to IBL. Bob referenced a course he had taken on project-based learning “that really appealed to [him] and it really struck home with [him] and made sense that it was a natural way to learn.” When asked if he defined project-based learning differently than IBL he said “I see them pretty much as the same I don’t see them as hugely different. Probably other people would define them differently …” Mary, who graduated three years ago said she had heard about IBL in University but was told it worked best with science and social studies. She said “the curriculum courses we took were much prescribed, pre-made projects that we did and it wasn’t anything, there were some students who had some background in IBL so gave us a little glimpse of what it looked like.” All the other participants said they got
their experience from “on the job experience, personal reading study, PD days, had attended a conference or had no training at all.” Perhaps more opportunities for training are needed so educators feel more confident in using an inquiry approach.

Bob and Mary expressed feelings of uncertainty and fear about “using it all the time” or using “full blown inquiry.” When probed about these feelings several issues emerged: how much structure to include, teaching students how to ask open ended questions, how much pre-teaching is required and in what areas, how to include reading and writing in inquiry, how to best document the learning, how to explain and justify inquiry to the parents, fear of the inquiry being a flop and a big waste of the students time, letting parents and students down, not feeling fully supported by administration in the school, fear of taking risks, how to connect the present forms of assessment like the report card with inquiry, making curricular connections, it is hard to envision it working well and personal issues.

The survey respondents expressed some further challenges they faced with inquiry: finding resources, time, space to store big projects, how to know when and inquiry project should end, finding additional support and guidance, implementing IBL and troubleshooting, keeping students motivated and on track and not completing all curricular outcomes.

Some of these challenges are similar to ones expressed in the literature review. The idea of a clear definition of inquiry as outlined by Wihlem, the issue of fitting inquiry into curriculum discussed by Parker, and how much planning is necessary also addressed by Parker.

No clear cut definition of the teacher or student’s role in inquiry classrooms was presented. It was fascinating to hear how participants identified their role as educator and the role of the student in an inquiry classroom (See Appendix A). As I read over the roles and
expectations of the teacher and student I wondered if this contributed to Mary’s comment, “it is hard to envision what inquiry should look like.”

The teacher is described as a leader, facilitator, partner, assistant, provocker, equipper, supporter and developer of activities. Knowing when to be what could present challenges even to the most experienced teacher. The need to know students skill levels, learning styles, pre-existing knowledge and interests was expressed. This would be a requirement of all educators but essential in an inquiry-based classroom. No one explained how they would go about doing this and if it was necessary prior to beginning an inquiry.

Some of the statements made were a little nebulous, like extend thinking and understanding and help students look deeper and move forward. A clear understanding of how this would happen was not expressed in the interviews. This was one area where further questioning may have netted different results and an area worth exploring further.

According to the responses, teachers need to know how to: scaffold learning, provide educational supports, differentiate instruction, teach research methods, teach investigation, teach how to ask open-ended questions, be able to collaborate, develop questions, make curricular connections, redirect students, start with a plan, chose simple topics, develop activities that will engage and interest students, document learning, and show the learning to parents in a way they understand it. An overwhelming list for anyone to try to accomplish and one that any educator might look at and not know where to begin. It may be helpful for teachers like Mary to spend time in dialogue with someone who has many years of experience in IBL in order to break things down. This would allow Mary to construct her own knowledge from her existing knowledge and understanding of IBL. Breaking the process down into smaller chunks, might make it seem more manageable.
There were several other themes that emerged from the data such as the multi-age classroom and inquiry-based learning and some of the challenges for parents around comprehending an inquiry approach. I chose to focus on the data that responded to my initial research questions about the definition and implementation of IBL and/or was connected to the literature review.

**Conclusions and Implications**

Inquiry-based learning is a term used by people around the world but it conjures up as many different meanings, visions, ideas and ideals as the number of people studying it. This has created confusion for educators who are seeking a different way of helping their students learn. Educators today need to be reflecting on their practice as they face the ever increasing responsibility of the diversity they see in their classroom. In the classrooms represented in this project teachers have students who speak English as an additional language, new immigrant families, children with specific physical and emotional needs, and experience varying degrees of acceptance of an inquiry approach amongst their colleagues.

Perhaps the inquiry process is unique each and every time it is used in a classroom so it cannot be defined one way. Still if educators grounded their beliefs in a particular paradigm like social constructivism it may help them ground their practice in a set of tenets associated with the paradigm. There did seem to be some disconnect between what the participants of this study articulated as their beliefs and their daily practice.

Having a clear understanding of the roles of both teacher and student within the chosen paradigm could help clarify the inquiry process for educators. If you believed that a socially constructed classroom was the best environment for students you would do everything you could to create that environment and look for an approach that fit the paradigm. Vygotsky believed that
an inquiry-based approach or cooperative learning was the only way students learn. Being able to clearly articulate the framework of the two roles might help educators determine how to operate within the roles within the classroom setting. Further research in this area in order to gather data from a broader spectrum would be worthwhile in helping to build such a framework. If educators had a clear vision of roles it would impact how they implement inquiry. The data and literature point to many different ways of implementing inquiry. This in itself is not a problem but when it is being implemented without clear understanding of the why and how, it will not be effective.

Loris Malaguzzi said that children “are autonomously capable of making meaning from their daily life experiences through mental acts involving planning, coordination of ideas and abstractions. Remember, meanings are never static, univocal, or final; they are always generative of other meanings. The central act of the adults, therefore, is to activate, especially indirectly, the meaning-making competencies of children as a basis of learning. They must try to capture the right moments, and then find the right approaches, for bringing together into a fruitful dialogue, their meanings and interpretations with those of the children” (Edwards, Gandini & Forman, 1998, p. 81). This is what IBL is all about, the bringing together of a fruitful dialogue. Not an easy task but achievable with the right vision, attitude and support resulting in a classroom where all students learn.
References


## Appendix A

<table>
<thead>
<tr>
<th>Role of the teacher in an IBL classroom</th>
<th>Role of the student in an IBL Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>• To be a leader</td>
<td>• Articulate their interests</td>
</tr>
<tr>
<td>• Not a transferor of knowledge</td>
<td>• Lead/guide the inquiry with their</td>
</tr>
<tr>
<td>• Equip students with skills</td>
<td>questions</td>
</tr>
<tr>
<td>• Provide tools and resources</td>
<td>• Get themselves excited</td>
</tr>
<tr>
<td>• Facilitator of learning</td>
<td>• Formulate questions</td>
</tr>
<tr>
<td>• Be in partnership with students</td>
<td>• Move through the discovery process</td>
</tr>
<tr>
<td>• Assistant to the process</td>
<td>• Make meaning of the world around</td>
</tr>
<tr>
<td>• Scaffold and support learning, Provide</td>
<td>them</td>
</tr>
<tr>
<td>educational supports</td>
<td>• Make meaning of themselves in</td>
</tr>
<tr>
<td>• Extend thinking and understanding</td>
<td>relation to others and the world</td>
</tr>
<tr>
<td>• Maximize use of school hours</td>
<td>• Be inquisitive and curious</td>
</tr>
<tr>
<td>• Teach research methods</td>
<td>• Come to their own understandings</td>
</tr>
<tr>
<td>• Teach how to investigate</td>
<td>• Interact with other learners</td>
</tr>
<tr>
<td>• Help students look deeper and move</td>
<td>• Consider others perspectives</td>
</tr>
<tr>
<td>forward</td>
<td>• Interact with the world</td>
</tr>
<tr>
<td>• Know what pre-existing knowledge they</td>
<td>• Reflect</td>
</tr>
<tr>
<td>have</td>
<td>• Take risks</td>
</tr>
<tr>
<td>• Know students skill levels</td>
<td>• Be open to seeing a new way</td>
</tr>
<tr>
<td>• Differentiate instruction</td>
<td>• Be able to ask big questions</td>
</tr>
<tr>
<td>• Know how to ask open-ended questions</td>
<td>• Wrestle with big ideas</td>
</tr>
<tr>
<td>• Teach students how to ask open ended</td>
<td>• Own their learning</td>
</tr>
<tr>
<td>questions</td>
<td>• Use collaboration skills</td>
</tr>
<tr>
<td>• Know when an inquiry should end</td>
<td>• Be able to conduct research</td>
</tr>
<tr>
<td>• Be able to collaborate</td>
<td>• Share what they have come up with</td>
</tr>
<tr>
<td>• Develop questions with students</td>
<td>• Inquiry works from their interests</td>
</tr>
<tr>
<td>• Make curricular connections</td>
<td>• Based on students interest the plan</td>
</tr>
<tr>
<td>• Provoke students learning</td>
<td>changes and grows</td>
</tr>
<tr>
<td>• Know the students learning styles</td>
<td>• Investigate something that interested</td>
</tr>
<tr>
<td>• Redirect students</td>
<td>them</td>
</tr>
<tr>
<td>• Steer inquiry</td>
<td>• Stay motivated</td>
</tr>
<tr>
<td>• Start with a plan</td>
<td>• Let go of needing help all the time</td>
</tr>
<tr>
<td>• Chose simple topics</td>
<td>• Stop asking “am I doing it right?”</td>
</tr>
<tr>
<td>• Develop activities that will engage</td>
<td>• Maintain interest and drive throughout</td>
</tr>
<tr>
<td>and interest students</td>
<td>the inquiry process</td>
</tr>
<tr>
<td>• Pre-teach concepts and skills</td>
<td></td>
</tr>
<tr>
<td>• Document learning</td>
<td></td>
</tr>
<tr>
<td>• Show learning to parents in a way they</td>
<td></td>
</tr>
<tr>
<td>will understand</td>
<td></td>
</tr>
<tr>
<td>• Know your students needs and interests</td>
<td></td>
</tr>
</tbody>
</table>