

Greater Essex County DSB/University of Windsor Collaborative Inquiry Project

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If a school library were to have a teacher-librarian who taught children and youth the skills necessary to be effective users of information in all its forms, a powerful mechanism would be in place for enabling Canadian children and youth to be literate citizens, lifelong learners and contributing adults in a learning society.

(Asselin, Branch, & Oberg, 2003, p. 5)

Teacher-Librarians (TLs)¹ have triple roles: teaching and learning, professional development, and support (and resource management). This team examined the impact of these different roles on both student learning and teacher learning. Collaboration of the TL with the homeroom teacher and its impact on student learning emerged as a focal point, as well as creating the right conditions for collaboration, such that would encourage teachers to engage in inquiry. Unless TLs are fostering Inquiry-based Learning (IBL) through collaboration, success for classroom is questionable.

The following research question was driving this study: “What impact does the collaboration between the classroom teacher and the teacher-librarian have on the attitudes of the classroom teacher towards inquiry-based learning?” While the team members were open to work with any teacher, of special interest was “to partner” with a teacher who is experiencing anxiety about IBL.

The team’s espoused theories of action are given in Table 1.

Table 1. Theories of action produced by the team.

Theories of Action	If the TLs collaborate and make an inquiry plan...	... then the teachers will be more empowered to follow through with the plan.
	If the teachers are empowered to follow the inquiry plan....	... then they will become more comfortable with the process of inquiry and they will begin taking ownership of the process.

¹ “**Teacher-librarian:** A professional teacher with a minimum of two years of successful classroom experience and additional qualifications in the selection, management and utilization of learning resources, who manages the school library and works with other teachers to design and implement resource-based instructional programs.” (Asselin, Branch, & Oberg, 2003, p. 84)

If the TLs model information literacy and critical thinking lessons for the classroom teacher...	... then the students will begin to use the skills in the classroom settings.
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The TLs started this project by developing a shared understanding of what the inquiry is and what it is not (see Table 2).

Table 2. The team’s view of the inquiry.

Inquiry is....	Inquiry is not...
<ul style="list-style-type: none"> - A way of fostering and encouraging student curiosity - A process - Student ownership of learning - Formulation of ‘good’ questions - Approached through curriculum or community issues - Setting the stage so that students feel emotionally connected to their inquiry - A way for students to learn first-hand how to gather, evaluate, synthesize and communicate information. 	<ul style="list-style-type: none"> - A product - Unstructured - Play time - Without expectations for student learning - A research project - A bird unit - A free-for-all.

Data Collection

The TLs paired up with teachers according to their mutual availability. Four TLs and one Library Consultant worked with 12 teachers who volunteered to participate in this study (one teacher had to leave the study, so there were 11 teachers who completed the study). Each TL worked with one to five teachers and recorded the number of teachers they worked with, methods of selection and context of their partnership with teachers.

Data collection consisted of a pre- and post-surveys, on-going TLs’ reflections based on anecdotal observations and interviews with participating teachers. The surveys were conducted on-line and were not anonymous.

A pre-survey of teachers, titled “Inquiry: What do you think about it?,” was conducted to evaluate teachers’ perceptions of the value of IBL, their knowledge and experience with inquiry process, as well as their perceptions of the student response to IBL. There were five questions on the survey, some with a drop down list of values and some with open responses (see Appendix A).

After each activity or meeting with the teacher, TLs submitted their reflections that contained: (a) Name of inquiry partner; (b) Session date; (c) Information Literacy skills addressed; (d) How do you think the inquiry went?; (e) How do you know?; (f) What did you see/hear?; (g) What are the next steps? Why?; and, (h) Other important observations from today's session.

The post-survey, titled "Inquiry Based Learning Exit Survey," was designed under the assumption that the teacher has worked with the TL through the IBL. The TLs and teachers were also asked to share a success story with specific examples, emphasizing the supports that need to be in place to begin, those supports that the teachers found helpful, and those they would have liked to have had (see Appendix B).

During the interviews with their TLs, teachers were encouraged to reflect on the experience. This additional information helped the team to determine if the feelings of the teachers have changed based on their collaboration with the TLs.

Description of Each Project

Together with teachers, the TLs planned inquiry units, explored ideas, and worked with students on pre-designed cases/scenarios. They engaged in discussions on how to assess inquiry through moderating student research journals, anecdotal notes, and infographics. The sessions were set around the following Information Literacy skills: formulating questions, communicating findings, making connections to prior knowledge, and selecting resources.

School A

School A is a suburban elementary school of about 650 students located in a fairly middle-class area. This project featured a teacher-librarian with flexible collaboration periods in addition to her scheduled duties, the Library Consultant, two grade 4 teachers, and two grade 5 teachers. The initial project involved the TL and Consultant planning an inquiry-based unit that would be jointly-implemented by them and the two grade 4 teachers. Planning took place without the classroom teachers as there was no common planning time for the school TL and the classroom teachers. The consultant was involved to support the TL in the planning phase and to model inquiry-based learning with both the TL and the classroom teachers. The Library consultant and TL worked with each class once a week, and then the classroom teachers continued the work on

the other days of the week. A combination of inquiry-based learning and direct teaching was used for the unit. Inquiry skills addressed asking good questions, using a variety of resources, validating information through triangulation of data, and reflecting on the process of inquiry. The project lasted over 8 weeks (due to a number of school-based interruptions). The Consultant took the lead in the delivery of the program on the days she was present, while the TL documented the delivery and shared in the assessment (including conversations with students, assessing research notebooks, and recording observations.) A second inquiry unit with two grade 5 teachers started when the grade 4's were finished. Again the curricula focused on social studies using inquiry-based learning. In this phase, the TL was already partnering with two other teachers/grades, so time for collaboration was much more limited. Planning was shared evenly with the classroom teachers and TL, and without the Library Consultant. The initial inquiry provocation and the modeling of some inquiry skills were done by the TL, but the rest of the project was done by the classroom teachers. The TL continued to offer resources and guidance, but the actual student-TL work was limited to about 2-3 weeks.

School B

School B is a compensatory elementary school of approximately 300 students, located in an urban area. The grade 3 and 8 students were involved in an inquiry using the health curriculum. Although the two classes did not work together, they worked parallel to each other throughout the inquiry process. This was because the TL and the classroom teacher had no common library periods and the TL had no flexible scheduling periods. In addition, the TL was delivering the health curriculum during her scheduled library period with the grade 3 students, so she was managing two roles. She was never actually scheduled to work with the grade 8 students as TL, so worked collaboratively with that grade 8 teacher on her own time. The inquiry lasted two months.

School C

School C is a very multicultural, middle class elementary school with over 850 students and many multi-generational families per household. The TL, due to her timetable, was scheduled to see each class only once per 10-day cycle. With the exception of one single period, there is also no time in the TL's timetable to work with teachers to plan, collaborate, or co-teach. Any

collaboration was done during the TL's own prep time, nutrition breaks, before school, or through incidental conversations at various points through the day. The TL was never able to be in the classroom with the grade 5 teacher and the students. The classroom teacher already had a firm understanding of inquiry, so support by the TL to get started or carry forward was not needed. The TL supported the teacher through the grade 5 students' library periods, helping to refine research skills, including the use of databases, finding text resources, and the implementation of technology. Rich conversations between the TL and the classroom teacher occurred regarding the next steps of the inquiry, and about assessment.

School D

School D is a vocational secondary school of 350 students that draws from the entire urban area. This project focused on the TL working with five content-area teachers in the subjects of history, media, humanities and math. Two teachers were teaching the same social science course with new curriculum. The TL pre-planned with the two teachers two times after school prior to the inquiry beginning. The TL then took the lead for the first two classes with the students, and followed up sporadically as her schedule and time allowed. Plans were made to begin the new semester with the same inquiry which would drive the course. The two teachers could not benefit from the TL in the classroom during the second semester due to the TLs part-time schedule. Next the TL worked with the third colleague on a joint inquiry, meeting during lunch before the inquiry began to plan. The TL presented the provocation to this group, and the teacher continued on her own. The fourth and fifth colleagues wanted to do more inquiry with their classes, so again the TL planned with the teachers on her own time. They were unfortunately unable to work further collaboratively as the TL was scheduled only one period in the library during that semester.

Findings

Pre-survey Results

Twelve teachers provided responses to the pre-activity survey. Only four teachers reported having 'considerable' experience with the inquiry process. Teachers' attitudes and comfort levels with inquiry process varied, although most of them were interested but uncomfortable with doing it (see Figures 1-2).

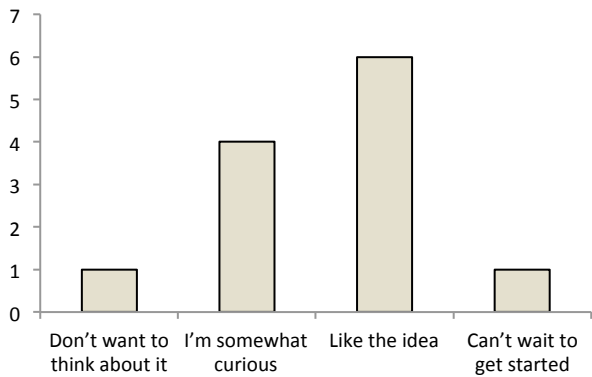


Figure 1. Teachers' attitude towards the inquiry process.

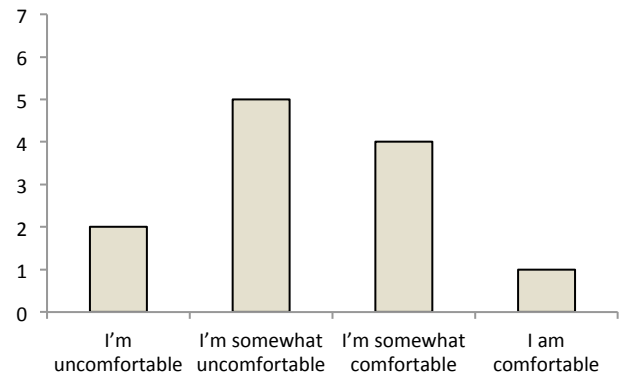


Figure 2. Teachers' comfort with the inquiry process.

All but three teachers already had some experience with IBL; five teachers reported it as a struggle, while four of them felt it worked well (see Figure 3). Only two out of nine teachers who had experience with IBL said they were not sure if they would do it again.



Figure 3. Teachers' overall experience with inquiry.

The teachers were hoping that through the IBL, students would be able to satisfy their interests and find relevant information more efficiently. They would improve their technology skills, become more independent and engaged in self-directed learning; have the opportunity to express the things that motivated them — to be excited, engaged, and curious about what they want to learn. One teacher wrote: “it is my hope that my students will begin to develop their own robust inquiry questions whenever they approach any area of learning.”

Ongoing Reflections through the Inquiry Process

The TLs recorded 19 inquiry reflections between December 3, 2013 and March 24, 2014. During that time they worked with teachers on exploring ideas, formulating questions, communicating findings, making connections and inciting curiosity, and planning and assessing inquiry units. After meeting with a teacher to plan a unit, one TL recorded that they were both frustrated with challenges around students narrowing the focus of the inquiry and synthesizing information. The students were struggling because good questions needed to be developed to focus one's research.

Another teacher thought that, a second time through the inquiry process, the students would go more deeply into the inquiry and develop richer questions. However, questions were still very 'fact' based and students had a difficult time synthesizing all the information to develop deeper inquiries. One particular teacher felt that front-end loading the content does not benefit students; they needed help to refine research skills. However, through this second inquiry, research skills improved and students developed an understanding of how to navigate through information and prune away unneeded material. They were more independent with research, and learning was less teacher-driven, with less explicit instruction by teacher. According to one teacher, a student who was usually slow to produce work became more independent, was more successful with a final product and more engaged with the inquiry when given independence. The teacher felt that the student was more successful because he was given choice; the task was not imposed on him and the student was more comfortable with what he was doing.

TL Reflections on the Delivery of Information Literacy Skills in the Process

Exploring ideas was done through consultations between the teamed teachers and the TLs. They met to develop a hook and to discuss possible provocations to elicit questions from students to set up the inquiry. One TL described her related experience with a class of students, saying, "Students [were] talking animatedly with each other. Students [were] freely giving ideas." The next step was to help students develop good questions. In order to do that, students had to gather a large amount of data to work with so that they have material to make good choices.

Formulating questions. The students were creating inquiry questions, anticipating responses from their participants, and then refining the questions to make them clearer. In one case, they anticipated responses to their questions with assistance from teacher; discussed who to interview to get the best responses, and revised previous ideas to incorporate into a survey. In another instance, the TL noticed that the students struggled with the process of developing interview questions and were initially silent. When split in small groups, most had not started on their own. In the end, students were developing questions but they needed tweaking to be more useful in an interview situation.

Communicating findings. In one entry, the TL described that the students were collecting information from their inquiry to communicate what they learned. They were engaged in the task; however, some did not make deeper connections between the environment and the human activities that occurred in that environment. After receiving feedback on their organizer, the students had to look for more information. The TL and the classroom teacher concluded that students needed to receive direct instruction on this connection. However, the teacher seemed, for the first time, relaxed about what was going on with the inquiry process.

Making connections and inciting curiosity. This inquiry skill was elaborated on by one TL, who noticed that students were animated and gave many suggestions in formulating the overall question; there were interrupting each other with additional information and saying, “and we could...” Students were very interested in the ‘hook’ and discussions about what they had learned in the semester. The TL concluded that articulating prior learning is easier with a real-life reason to remember the details.

In another class, the teacher ‘forgot’ how the hook was going to play out, which made the students confused. The TL discussed with the teacher what was ‘supposed’ to have happened, and concluded that sometimes the provocation needs to be rehearsed with the teacher.

In one final entry, one TL recorded “overall, both teachers were very pleased with the level of student engagement as well as the quality of the work.” They both expressed gratitude for the ‘amazing base for future work.’ The teachers were encouraged to begin the next semester with an

inquiry based on where they finished the semester before, and to let the students ask all the questions that will be the course exploration for the semester.

Post-study Survey

Exit survey was done by 10 teachers. When asked about their attitude towards IBL after they have worked with the TL, there were no extreme values in teachers' responses (i.e., "Can't wait to get started again" or "Don't want to think about it"); there was an equal split between those who answered 'I still want to learn about it', and those who "Like the idea of inquiry learning." When asked about their comfort level with using IBL with students after they have worked with the TL, two teachers reported that they are 'somewhat uncomfortable' or 'uncomfortable' (see Figure 4). The teacher who felt uncomfortable explained that it was because "We were unable to proceed....It was a struggle because we didn't get to do it." The teacher who was "somewhat uncomfortable," added that "it worked well and I want to do it again." Most teachers felt somewhat comfortable with the IBL.

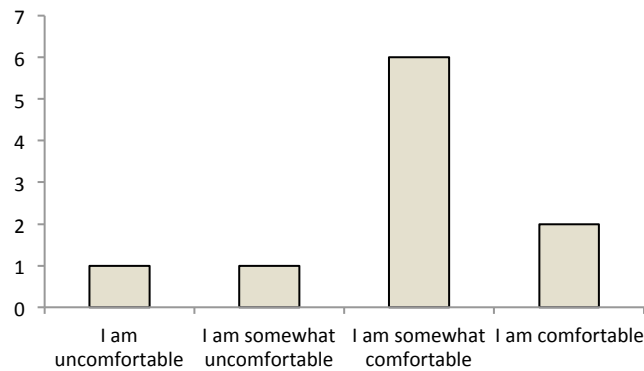


Figure 4. Teachers' answers to question, "What is your comfort level using inquiry based learning with your students now that you have worked with the teacher-librarian through this process?"

Overall, six teachers described their experience working on Inquiry with the support of a Teacher-Librarian as "It was a struggle but I would do it again" and four reported that "It worked well and I want to do it again." Even the teachers who saw the IBL as a struggle found working with TLs beneficial. The teachers appreciated that the TLs "had a lot of great ideas, from pictures of the regions to the research book to what makes a good question. They also provided the checklist/rubric and idea about the visual matrix and learning goal focus."

One teacher described that having the TLs allowed her to focus on those students who do not work independently; she also highlighted benefits of “having iPad minis available for research, bookmarked sites in the library commons, access to many books related to the topic in our room, knowledgeable librarians who understood the inquiry process, maps, [and] research notebooks to monitor student understanding.” Other benefits included TLs providing an outline/booklet to help students with the inquiry process and chunking, using e-library database, and generally, collaborating with a colleague.

When asked about other supports for IBL that would be helpful to have, one teacher wrote: “The biggest barrier is access to information through technology. There just was not enough technology available to access the information in a timely manner. Since students are guiding their own path they need to be able to do their own research immediately. Text books and old library books do not suffice [many of the students do struggle with guiding their own learning]. Many students became frustrated and just wanted a regular assignment.”

Teachers needed more resources such as “information about what makes a good question... also a textbook, as a guide to this process.” They suggested having a workshop from the board, class set of atlases, PowerPoint Presentation of inquiry process to introduce this concept to students and explain the students’ responsibility in their learning, up-to-date wall maps (Canada and the World), timelines (Ancient Civilizations), books, fact sheets, videos, and marked websites for Ancient Civilizations. Teachers needed more time to plan and to become more familiar with the new curriculum. “Being able to use other Professional Learning Communities time in order to work to develop the inquiry project would have been helpful as it is a new process and we are just working through it,” one teacher wrote.

When asked how likely they were to do inquiry learning again without the support of the TL, five out of 10 teachers responded that they would be likely do it, but 4 responded that they were unlikely or very unlikely to do inquiry without the support of the TL.(see Figure 5).

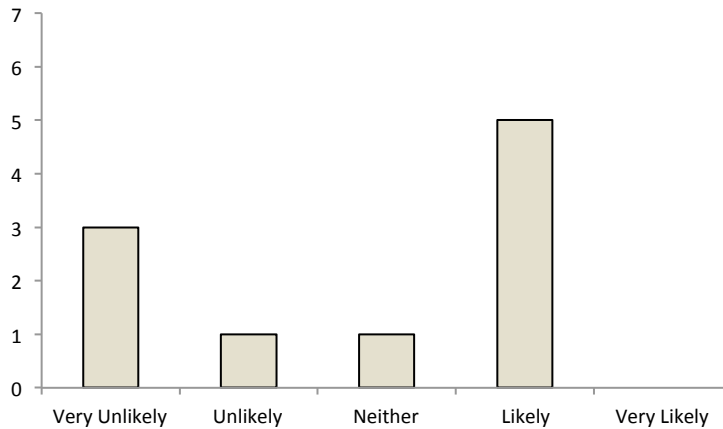


Figure 5. Without the support of the teacher-librarian, how likely are you to do inquiry learning again?

One teacher answered “Very Unlikely”, because “There was a definite need for a second teacher to support this style of learning. Students constantly had questions and there would just not be enough time getting around from student to student or group to group.”

Another teacher responded with “Unlikely,” “because the beginning went so well, under her lead, I’d like to try again with her guidance.”

Teachers shared their stories of successes and challenges with inquiry based learning. Specific examples from these stories are summarized in Table 3.

Table 3. Examples of teacher identified success and challenge with IBL and teachers’ feelings about the experience.

Successes with IBL	Challenges with IBL	Teachers’ Feelings Regarding the Experience
<ul style="list-style-type: none"> – One group of somewhat self-directed students had a vision from the start and followed it all of the way through. They found a way to present their findings in a manner that created change within the school body. – Students were excited to formulate research questions; to use a research notebook; while some 	<ul style="list-style-type: none"> – Students could not formulate questions-they wanted to be told what to do. – Disengaged students were challenged with a self-directed assignment. – Most students just wanted a regular assignment and did not complete the given assignment. – It is difficult to thread inquiry through everything that we are doing given time 	<ul style="list-style-type: none"> – It was worth trying and could be applied in higher level academic classes with greater success. – Glad to have been a part of this new learning which is the focus of all Strand A in Social Sciences and Humanities courses. – It was a good learning experience and the kids

<p>simply recorded everything in there, others thought on a more complex and less knowledge-based level.</p> <ul style="list-style-type: none"> - The students successfully searched websites provided by the TL for information about the six main Aboriginal groups. - The students liked using the iPads to locate information, when given the websites; they enjoyed making the Info Graph and recording what they found in their research book. - The students were more engaged in the project as a result of our use of technology and their ability to have choice in what they would learn about. - Some reluctant students bought into the idea of finding the answers on their own; they used recess to keep searching for answers to questions that they had. - Students shared the information with the students that needed it for their Info Graphs. 	<p>constraints.</p> <ul style="list-style-type: none"> - There is the inconsistency in the resources as to what the regions are called and where they are located. - The Grade 4 students had problem to understand what a region is and to see the connection between human activity and the natural environment in different regions. - It took longer time for students to find key information; to answer the question “What makes a region a region?” - The text books, Government websites, maps, etc., do not give consistent information, which frustrated Grade 4 students when they start with IBL. - Not having enough time with my TL; students going off into all directions with research, which make teachers unsure about the answers or outcomes. - Novelty of IBL; generally it is clear, but needs effort to implement it; more clarity is needed on how to assess the outcomes. 	<p>were more engaged being involved in the research process during, rather than as a cumulating activity.</p> <ul style="list-style-type: none"> - Some of the information students found were vague and not so reliable; the drawback of too many resources, inexperienced researchers, and no textbook. - I could definitely use a further understanding of the model and would benefit from support in the area. - I enjoyed this style of learning. It is my hope that our next unit on Ancient Civilizations goes as well as the Canada Unit. - I have been interested in IBL and now that I have worked on one, feel more comfortable attempting it again, and I have a better idea where to begin.
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Conclusions and Recommendations

Each shareholder in this process found it difficult to accomplish their ideal collaborative inquiry-based learning goals given the Teacher-Librarians’ schedules and time constraints (as outlined above). While the interest and feedback from the classroom teachers was positive, most suggested that more could have been accomplished, and a greater understanding gained by both students and teachers, if more opportunities for collaboration with the TL had been possible.

Based on the data, it is evident that classroom teachers felt more comfortable and more likely to carry forward inquiry-learning again, after having experienced the inquiry learning process with the support of a teacher-librarian. Clearly the scaffolding provided by this collaboration had a positive impact on teacher attitudes towards inquiry-based learning.

Recommendations:

Administrators must be mindful that they have a key role to play in the overall success of inquiry learning in their schools. It is certainly recommended that TLs be scheduled to partner with the homeroom teacher or at least be allotted a portion of their schedule to flexible time. This will foster an environment where opportunities to partner abound.

It was noted by the researchers that the potential impact of the partnership between the homeroom teacher and the TL was limited due to schedules and time-tabling. Unfortunately, the true potential of this partnership was never fully realized due to these limitations.

The classroom teachers reported that working with the TLs was beneficial. As teachers and instructional partners, library media specialists can integrate

“information literacy skills into all subject areas of school curriculum. They serve as the bridge to help teachers make the connections between inquiry-based learning and information-literacy skills throughout the curriculum at all levels.”
(Morris 2004, 2005, in Zmuda 2008, p. 37)

Because Teacher-librarians, by definition, are learning specialists in the areas of technology, information literacy, and the inquiry process, they provide a vital role in the successful implementation of IBL. Inquiry-based Learning is embedded in most of the revised Curricula in Ontario, and as such, a commitment needs to be made to see Teacher-librarians as a necessary support to the classroom teachers in order to effectively deliver the Ontario Curriculum K-12.

References

Asselin, M., Branch, J. L., & Oberg, D. (2003). *Achieving Information Literacy: Standards for School Library Programs in Canada*. Ottawa, ON: Canadian Association for School Libraries.

Zmuda, A., & Harada, V.H. (2008). *Librarians as Learning Specialists: Meeting the Learning Imperative for the 21st Century*. Westport, Connecticut: Libraries Unlimited.

APPENDIX A: Inquiry: What do you think about it?

Q1. What do you know about the inquiry process?

1. Not much
2. Some
3. Considerable
4. Thorough

Q2. What is your attitude towards the inquiry process?

1. Don't want to think about it
2. I'm somewhat curious
3. Like the idea
4. Can't wait to get started

Q3. What is your comfort level using inquiry based learning with your students?

1. Nervous
2. A few/some concerns
3. I'm okay with this
4. No worries

Q4. Have you ever implemented inquiry based learning before? Choose the best statement below that best describes your overall experience.

1. I've never done inquiry before
2. It was like the sinking of the Titanic – out of control
3. It was a struggle – not sure if I'll do it again
4. It was a struggle but I would do it again
5. It worked well and I will do it again

Q5. What is your vision of success for inquiry based learning with your students?

OPEN BOX

APPENDIX B: Inquiry Based Learning Exit Survey

The purpose of this survey is to determine your current attitudes towards inquiry learning. It is not meant to be evaluative towards any position or person. Please answer honestly.

1. Your name:
2. What is your attitude towards inquiry based learning now that you have worked with the teacher-librarian through this process?
 - a) Can't wait to get started again
 - b) Like the idea of inquiry learning
 - c) I still want to learn about it
 - d) Don't want to think about it (please tell us why)
3. What is your comfort level using inquiry based learning with your students now that you have worked with the teacher-librarian through this process?
 - a) I am comfortable
 - b) I am somewhat comfortable
 - c) I am somewhat uncomfortable
 - d) I am uncomfortable (please tell us why)
4. Now that you've worked through the inquiry process with the teacher-librarian, which statement best describes your experience.
 - a) It was a struggle – not sure I'd do it again
 - b) It was a struggle but I would do it again
 - c) It worked well and I want to do it again
5. What are some of the supports that you've found helpful during the inquiry process?
6. What other supports for inquiry based learning would be helpful?
7. Without the support of the teacher-librarian, how likely are you to do inquiry learning again?
 - 1 –Very unlikely; 2 –Unlikely; 3 –Neither; 4 –Likely; 5 –Very likelyPlease tell us why you think so
8. Share a story of success with inquiry based learning. Give a specific example of this success and tell why you think it was successful.
9. Share a challenge with inquiry learning and give a specific example.
10. Please share any additional thoughts and/or feelings regarding this experience.