

Tecumseh Vista Academy

Collaborative Inquiry Team: Christine Muscedere, Secondary Teacher Librarian, Lynne Comartin, English Teacher; Craig Guthrie, Grade 8 Teacher; Colette Seguin, Grade 8 Teacher; Graciella Stokes, Elementary Teacher Librarian.

Inquiry Question: What is the impact of introducing the four-stage research process to students to answer inquiry-based question?

Abstract

A collaborative grade 8 / grade 9 team at Tecumseh Vista Academy tackled the four-stage research process with both English and French-Immersion grade 8 students. Giving their students the tools to conduct a higher-level inquiry-based research question over seven months resulted in presentations that indicated students had learned research skills that they could carry forward into secondary school.

Introduction

The unique circumstance of having the Grade 9's share the elementary wing of the newly-constructed Tecumseh Vista Academy (from September to December 2011), gave impetus to the creation of this library action research project. The collaboration of the elementary and secondary Teacher-Librarians (Stokes and Muscedere) along with the two grade 8 teachers (Guthrie and Seguin) and a grade 9 teacher (Comartin) provided an opportunity to introduce the Ontario Library Association's four-stage research process to the grade 8 students (both English and French-Immersion tracks).

“ A Learning Commons is a vibrant, whole-school approach, presenting exciting opportunities for collaboration among teachers, teacher-librarians and students. Within a Learning Commons, new relationships are formed between learners, new technologies are realized and utilized, and both students and educators prepare for the future as they learn new ways to learn.” (Together for Learning, 3)

Vision--Preferred Future

Our collaborative team realized that effective research skills were not only “beneficial” but crucial for grade 8 students to carry forward into secondary school. We wanted to provide students with the tools they would need to complete research-based projects that reflect true inquiry-based learning.

“When they're given tools to solve problems and encouraged to think creatively, they're ultimately better equipped to make useful connections with the real world.” (Together for Learning, 4)

Some of the tools the collaborative team wanted to include the ability to:

- sift through websites and identify credible sources; conduct a Boolean search;
- use a resource database;
- use Google Docs;

- use a slide presentation tool such as PowerPoint;
- create a proper bibliography
- create a “deeper” question to guide their research. These guiding, critical questions would narrow the focus of their research and allow them to make connections and solve possible problems around their topics.

Theory of Action

Why teach the research process?

“Students will need to become critical consumers of information, effective problem solvers, capable decisionmakers and innovative communicators as well. They will require the skills and ability to flow with change. And most of all, students will need to understand that these transferable skills give them the capacity to make a difference in this world... personally”. (Together for Learning, 5)

Furthermore, all subjects in the Ontario curriculum have a research component.

Justification for the study

It is important to note that the students of Tecumseh Vista Academy came from different schools. Their responses reflect the learned procedures and practices to which they have been accustomed.

The collaborative team designed a research project using the grade 8 Geography curriculum to teach the four-stage research process. As a first step, the elementary Teacher-Librarian, along with the Library Instructional Coach, Shannon Hazel, asked the grade 8 students the following question:

"If your teacher assigned a research project, list from beginning to the final product, all the steps you would follow to complete the assignment".

Based on the oral and written material presented by each group of students, their procedures followed a similar pattern.

Step 1 Search on Google, Wikipedia or various popular search engines (students were working on the assumption that they would be provided with a topic or question for their research)

Step 2 They would take the top “hits” without any verification of the information.

Step 3 Copy and paste the gathered information

Step 4 Create a presentation on Bristol board paying a great deal of attention to the aesthetics of their presentation.

Step 5 Present the project to the class.

When students were asked if they would visit a library, local or school, the majority responded that they did not even consider this option.

Context of the Study

What are the four steps in the process of research?

Stage One: Wonder and Explore is the step of the research process that is the most crucial in terms of providing a direction for the research. It involves creating the focus of the research or in other words, what question is being answered.

Because this was an inquiry-based research assignment, the student needed to design a higher-level question. We wanted to go beyond the simple or surface question to the digging or deeper question. (Koechlin, 8) Our collaborative team came up with ten possible geography questions as examples (see Appendix A). The grade 8 teachers presented a slideshow to the grade 8 students on how to build an effective question.

To assist the students with brainstorming possible questions for their research, the grade 8 teachers used the idea of a "New Highway" (DRIC is a major construction project involving expanded highways and the winning of the bridge between Windsor, Ontario and Detroit, Michigan). It started with asking what the new highway is all about. The students generated great questions like What will it look like?, How will the habitat in the area be affected?, How will this help the economy?, Why is there opposition to this highway?, etc.

Using this brainstorming activity as an example, the students came up with their own possible questions for their geography project.

"Learning within the curriculum becomes personalized, individualized, motivating and enlightening." (Together for Learning, 9).

At this time, the secondary librarian went over a handout Model A: The Process of Inquiry and Research which diagrammed the four stages of research (Research Success @ Your Library, 4) as well as Rate Yourself as a Researcher (pg 7) Each student was given an OSLA research portfolio (which identifies the research process on its cover) to collect and organize their materials.

The students were given time to choose a country to study by browsing the database "Culture Grams", a ProQuest product. Once a country had been chosen, the students would further refine their research question.

Using the resource Imagine the Learning! @ Your Library, students were given the following Stage 1 handouts to assist them to develop their research focus:

Preparing for Research Student Checklist (pg 18)

Understanding the Assignment (pg 20)

My Work Log/Tracking Sheet (pg 21)

Start Your thinking (pg. 24) KWLook (pg 25)

To help students formulate a deeper question, the following Stage 1 handouts were used:

Think Deep: Different Types of Questions (pg 34)

Thinking with Question Prompts (pg 35)

Thinking Deeper: Developing Research and Inquiry Questions (pg 36)

To help them with a self-reflection, the following Stage 1 handouts were used:

Student Scoring Chart (pg 38)

Preparing for Research Rubric (pg 39)

Stage 2: Search and Select is the step where resources are selected to carry out the research. At this point, the secondary librarian came in to teach the students about Boolean searching in order to locate the most specific or appropriate information. The purpose of using AND, OR, NOT was seen to be crucial for “finetuning” the number of results that may be received.

The difference between databases, search engines, and directories was taught by the secondary librarian using KWL charts and a slide show. Students explored a topic of their choice using search engines other than Google and using Meta search engines. The “research page” on the GECDSB Student Portal was the access point for these search engines and directories. The “hits” that were received were reviewed and compared.

Stage 3: Think and Connect is the step where the information is organized, edited and reviewed.

Various strategies for collecting data were observed. Some students were printing material, making notes from the sites, or copying and pasting resources into their word documents. Students made use of the Stage 3 Scoring Chart to ensure that they were including all the required criteria (Imagine, 94). Students were then given time to practise their presentations and verify spelling, content and accuracy with classmates who would make recommendations accordingly.

Stage 4: Create and Share brings all the learning to a point where a presentation to their classmates is possible. The collaboration team decided that another learning goal was to be able to use a slide show effectively. This included the use of the notes section, the ability to embed a photo or video, the inclusion of links to a website, and the use of pictures, graphs, charts, etc. Also, the use of appropriate fonts, background colour, font size, and effective transitions that are not distracting was deemed important.

So, did this process make a difference? Did it result in “higher learning”? Did the quality of the presentation reflect a better process?

Findings

Vista students came to this research opportunity with varied experience. Some were confident in their ability to research using a few sources and others came to Vista with only limited experience.

However, no students had any real experience with databases, Boolean searches, or producing a proper bibliography. They felt confident with the idea of completing a research project, yet were challenged when they were expected to complete the more in-depth research components. Typically, students are required to complete knowledge-based projects that require them to only answer lower-level questions, whereas these projects were based on higher levels of questioning. Students had some difficulty developing a focus for their research with a higher-level question. In order to answer their initial question, they had to ask other questions that would support their original question. It was at this point that students really struggled.

“Good questions are the driving force of critical and creative thinking and therefore one of the best indicators of significant learning...And so the best questions send students on rich and meaningful lifelong quests, question after question after question.” (Together for Learning, 24)

Teachers taught mini-lessons to show students how to expand their ideas, using mind-maps, in order to find the information that would support their topic.

Technology played a key piece in this project. Availability to computers needed to be ensured in order to allow for the continuity of the project. Ensuring student engagement is of the utmost importance so that students stay interested and focused on the project.

After some struggle students were able to conceptualize how to take all this information and turn it into a slide presentation. Students had a limited knowledge of how to complete such a presentation and were hesitant to take on a new format.

“Students appear to have natural abilities to use emerging technology. But the reality is...they need to be taught how these tools can be used in learning and critical thought.” (Together for Learning, 9)

With several lessons and exposure to the new program, they became more comfortable with the process. A large amount of time had to be allotted to allow the students to complete the projects using class time. This became an onerous task to ensure availability to technology so students did not become frustrated and lose interest in the project.

Differences noted: It was noted that the majority of academically inclined students were more open to the challenge of a more structured approach to research. Overall the higher-level students were more detail-oriented (how many slides, how many words) and more focused on the end product and not the new process. This is what caused much of their stress. The open-ended, inquiry-based learning with a focus on the process, heightened their anxiety. This was addressed with the use of a rubric that reinforced the concept that the project is open to any length as long as the information was accurate and met the needs of the research component (See Appendix B).

At the end of the research cycle, the grade 8 teachers noted a marked improvement in the quality of the presentations. There was an increased awareness of sources that were available (books, databases and websites). The development of a higher-level research question, which was difficult to formulate, led to a more purposeful search. The presentations, which required speaker's notes rather than reading from the screen, captivated the audience. The correct format of a bibliography was also learned.

Recommendations

In order to enhance the research skills of our students, it is crucial that collaboration between the elementary Teacher-Librarian and intermediate teachers exists. Timetabling needs to be considered to ensure time for true collaboration and to allow for the dovetailing of information literacy skills and the curriculum.

Overall this project was extremely time-consuming because of the time required to be on computers. It seemed to dictate the planning of the daily classroom schedule and became a driving force in our planning. The depth of research required for this project was also somewhat over-ambitious and left many participants feeling overwhelmed. In the future this project and its various components could be "chunked" and taught in different curriculum areas. This can now occur as a result of the classroom teachers being more aware of the research process and the steps it entails.

Class time would be better utilized if the preparation of the slide show could be completed at home.

Due to the demographics of this school, most students have access to computers with a slide presentation program at home. Then class time would be available for more supervised research time as well as word processing.

Bibliography

Koechlin, Zwaan, and Sandi Carol. Building Info Smarts: How to work with all kinds of information and make it your own. Markham: Pembroke Publishers, 2008.

Ontario School Library Association, First. Together for Learning: School Libraries and the Emergence of the Learning Commons. Toronto: 2010.

Toronto District School Board. Imagine the Learning! A Guide for Elementary Teacher-Librarians and Teachers to Use with Students. Toronto: 2006.

Toronto District School Board. Research Success @ Your Library: a Guide for Secondary Students. Toronto: 2005.

Appendix A Possible Research Questions

- How might the life of a teenager in the country of your choice be similar/different from your life in Canada/ Compare and contrast the topic including: population, economy, culture and lifestyle (food, clothing, music), education, health, or other factors.
- Where in your country of choice might you establish an extreme-sport tourist activity?
- What is the impact of a natural disaster and/or man-made disaster on the people, animal life, and the environment in your country of choice?
- How has Nepal benefited from Mount Everest?
- What is the importance of a World Heritage Site to your country?
- How can weather affect the design/architecture of buildings in your country?
- What is the relationship between the literacy rate and per capita income for your country?
- How has membership in the European Union affected your country?
- How does the physical environment of your chosen country define the activities of local people. For example, in Canada, how does the winter weather change what you can do and how you can do it?
- How have land use conflicts (e.g. agriculture vs. housing) affected population patterns in your country?

Appendix B: Geography Critical Inquiry Project

Name: _____

Expectation	Level 1	Level 2	Level 3	Level 4
Knowledge/Understanding	- demonstrates little editing (eg. grammar and spelling mistakes are numerous)	-demonstrates some editing (eg. several grammar and spelling mistakes are evident)	-demonstrates effective editing (eg. grammar and spelling mistakes are minimal)	-demonstrates highly effective editing (eg. no grammar and spelling mistakes are evident)
Editing work				

Documenting sources	-no bibliography is present	-a bibliography is present but not correctly formatted (ALA format)	-a bibliography is present and correctly formatted in alphabetical order (ALA format)	-a bibliography is present and correctly formatted in alphabetical order (ALA)
Thinking Forming a global connection	-can provide few connections to global citizenship	-can provide some connections to global citizenship	-can provide several connections to global citizenship	-can provide numerous connections to global citizenship
Quality of research question	-research question allowed for limited research on the issue of your choice	research question allowed for moderate research on the issue of your choice	-research question allowed for considerable research on the issue of your choice	-research question allowed for in-depth research on the issue of your choice
Communication Oral	-communicates (eg. eye contact, clarity) with little effectiveness while relying heavily on the slide/notes	-communicates (eg. eye contact, clarity) with some effectiveness but reads from the slide/notes	-communicates (eg. eye contact, clarity) with considerable effectiveness without relying on the slide/notes	-communicates (eg. eye contact, clarity) with a high degree of effectiveness without relying on the slide/notes
Application Technology	-slides and visuals are minimal and have little relevance	-slides and visuals are present but have limited impact	-slides and visuals support the topic	-slides and visuals enhance the topic
Research skills	-evidence of minimal books, web sites, and online databases in the bibliography	-evidence of limited books, web sites, and online databases in the bibliography	evidence of considerable books, web sites, and online databases in the bibliography	-evidence of multiple books, websites, and online databases in the bibliography

Comments: _____

_____ Final Level: _____