Students as Researchers 2012

Collaborative Inquiry Action-Research Toolkit

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Ontario
MINISTRY OF EDUCATION

Access Alliance
Multicultural Health and Community Services

This publication is an abridged and modified version of *Community-Based Research Toolkit: Resources and Tools for Doing Research with Community for Social Change,* October 2011, developed by the Community-Based Research Team at Access Alliance Multicultural Health and Community Services.

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The *Students as Researchers* Initiative

Student engagement is essential to a student's success in school and in life. Schools are the hearts of communities and pivotal in shaping the citizens and leaders of tomorrow. The Ontario Ministry of Education wants to hear from students and invites you to help make our education system even better. In 2008, the Ministry launched the Student Voice initiative. Since then, it has invited students to apply for positions on the Minister's Student Advisory Council (MSAC), grants to lead *SpeakUp* projects, and participation in Regional Student Forums. Students told us that they want to learn skills and attend training sessions, just as their teachers attend professional learning seminars.

The *Students as Researchers* Toolkit is a resource that was piloted and further refined to help students to become researchers and conduct collaborative inquiry (CI), on topics that matter to them. Through research projects, students can contribute meaningfully to discussions about making the school community a more engaging and accepting environment. And there is no better time than now.

> *"Decades of calls for educational reform have not succeeded in making schools places where all young people want to and are able to learn. It is time to invite pupils to join the conversations about how we might accomplish that"* (Ben Levin, 2000).

Participation in the research process draws upon young-people's know how, enables them to exercise their rights as citizens, and contributes to making student voices more influential. Work that demonstrates the benefits of the *Students as Researchers* movement is taking place in the United Kingdom, South America, Australia, and the United States. The volume of work in this area can be linked to the acknowledgement of the *Rights of the Child,* in the UN Charter, signed in 1989[1]. Research supports the benefits of having youth voices inform youth issues. It must be noted that efforts to involve students in research are meant to include adults as well, in order to create a collaborative environment, in which both adults and students benefit. In this way, young people organize themselves around issues of their choice while also partnering with their teachers.

As a student who approaches challenges through research, you have the power to turn those challenges into positive changes. Research empowers you with information to support the change that you want to see, and even to lead that change. We hope that this *Students as Researchers* toolkit inspires you to use your voice, talents, and research skills to make a difference and to change your world.

[1] United Nations Treaty Collection. *Convention on the Rights of the Child (1989)*

How to Use This Toolkit

This toolkit was developed by Access Alliance and adapted by the Ministry of Education for the *Students as Researchers* initiative. The toolkit is a resource for student-teacher teams to consult in designing and conducting research projects. It introduces you to the different phases and components of research. These include how to:

- develop your research topic/question
- design your research method (how to answer your research question)
- conduct research in an ethical way
- collect data
- analyze your data
- share your research results to make positive change.

The resource provides step-by-step instructions for each phase, with background information. The final chapter includes details on how to plan your project (budget, timelines, responsibilities) and how to work as a team. Also included in the toolkit are worksheets for designing and conducting your research (e.g. consent form, research ethics review application form, project planning framework), and a list of resources for students and teachers.

Chapter 1

Introduction to Research

"Never stop asking questions" (Student, Student Engagement Forum, May 12, 2008).

"Learn from yesterday, live for today, hope for tomorrow. The important thing is to not stop questioning" (Albert Einstein).

What is Research?

In simple terms, research is a **systematic and organized way** of answering questions, solving puzzles, and understanding more about the world around you. It is also a tool for creating solutions to make the world a better place. Research involves asking questions, identifying problems, and playing an active role in finding the answers and solutions. Being a researcher means helping to build knowledge. When you use research to make the world a better place, it is called **action research.** Since you will be doing your research project to improve student engagement, **your research is an action research project**. When you conduct research in collaboration with your peers and community (other students, teachers, parents), particularly people whose voices are not always heard (e.g. quieter students), it is **collaborative inquiry**.

This type of research recognizes that we (students and teachers) are all experts about issues that affect us.

"Engagement should not be viewed simply as a precursor to academic achievement… students would likely benefit from school policies and practices that increase their sense of belonging and participation" (Willms, 2003).

Research is an
Organiz**E**d and
Systematic way to
g**E**t
Answers to questions
fo**R**
so**C**ial
c**H**ange

(modified from Brigham Young University Department of Linguistics)

Can Students Conduct Quality Research?

Yes, there are many examples of successful student-led research projects. In the Refugee Youth Health Project, (http://accessalliance.ca/research/activities/refugeeyouthhealth) coordinated by Access Alliance, 14 students, who were refugees to Canada, designed and conducted research on the systemic barriers and discrimination that refugee youth face while pursuing education in Canada. They conducted 10 focus groups and 13 interviews, and implemented a digital storytelling component (with 8 other refugee youth) to collect data to support their issue. They presented their research findings at conferences, wrote several reports, organized a policy roundtable with government officials, and co-wrote an academic journal paper.

In the Voices of Youth in Chicago Education (VOYCE) project, over 100 students from 8 public high schools conducted participatory action research about why the graduation rate was only 50%. The results and recommendations from this study have already helped to improve graduation rates in many of the schools.

> *"My enthusiasm and motivation came from knowing that the research that we were carrying out was going to make a difference – to benefit younger students. I like to think that we were the voice of all the students who took part in our investigation"* (Student researcher, Harris Student Commission, UK, http://www.harrisfederation.org.uk/).

> *"The students' input was refreshing, inspiring and compelling…I left with a very different understanding of student voice and an excitement about the part students can play in their own learning experiences and their contribution to the broader life of the school*" (Secondary school teacher, Student Learning Commission, UK).

Some people might question why we need students and young people to conduct research about student issues. Why not just let the professors, scientists, government officials, and experts do the research? Students take the lead in research about student issues because professors, scientists, and government officials are not the real experts in student issues. **Students are the experts in student experiences.**

Researchers who have experienced specific life issues create better quality research. Students already have lived experience about issues they face, so their research on the topic has greater credibility.

Professors and scientists who have been doing research for a long time do not necessarily conduct better research or create more useful solutions on the issues that students face. However, professional researchers have developed methodological expertise, which can be used to support your work. We encourage you to determine whether your school board or school has a researcher to support your work in co-producing results with your teachers. Researchers at the Ministry of Education who are involved with *the Students as Researchers* initiative will also be providing support to your team.

"The problems we have created cannot be solved by the same level of thinking that created them" (Albert Einstein).

We need to enable more people to become researchers and **agents of change**, to think outside the box, and to participate in finding real answers and solutions to real life questions and challenges.

For example, there is the issue for students and young people of cyber bullying. Many adults, including experts in various fields, may not have used social media (e.g. Facebook and Twitter) and may not know how cyber bullying affects young people or how to talk to them about it. They may miss the real issues. Young people, who use social media all the time, may have very detailed knowledge about cyber bullying, and, if given the opportunity, could design and implement a more thorough research project.

Students carry out meaningful research on student issues because they already have expert knowledge on the subject, can help to document this knowledge, and can become agents for positive change in this area.

"I expect you all to be independent, innovative, critical thinkers who will do exactly as I say!"

Students also conduct research because it is more engaging, empowering, than learning from a textbook or other people's research on issues that matter to you. In the process, you might discover facts that others have not found, using a method that others have not utilized. By conducting research with other students/friends/peers and teachers whom you trust, you may collect more information, make more sense of the information, and learn more from each other. Doing research in a team, i.e. through peer engaged collaborative inquiry, has been shown to be the most effective method.

*"Research is formalized curiosity. It is poking and prying with a purpose" (*Zora Neale Hurston).

How Do I Conduct Research?

Research is not rocket science but **process science**. It is a thoughtfully planned step-by-step process of seeking answers to questions that you have designed. You may have completed school projects where you asked students at random, in the hallway, for information. Research is different. You must plan all the steps you are going to take to find answers, including:

- ✓ what you want to find out
- ✓ why you want to find this out
- ✓ who you are going to ask
- ✓ how you are going to reach them
- ✓ how you are going to make sense of the information you collect
- ✓ how you are going to share that information with other people to meet your goal

Planning these specific steps is called designing your **research methods**. As a researcher, you need to design your research method before you can start your research. Also, you need to keep detailed notes about what happened in each step of your research method. Were you able to do what you planned? If not, what prevented you from doing it? Do not worry if things do not proceed as planned. It is very common to have roadblocks in research. The key response is to plan your next step and to keep good notes about any changes. Most importantly, think about how these changes will affect the answers/information you obtain.

Example:

Original research protocol:
-interview 20 people (10 girls, 10 boys)
-mix of participants between ages 12 and 18

What you ended up doing: Scenario #1:	**What you ended up doing: Scenario #2:**
-interviewed 10 boys and 2 girls *Solution:* Make note in final report/presentation about this change in data collection. Discuss how these changes affected your research outcomes. Explain why it was difficult to find more girls to interview, e.g. lack of time, topic too sensitive, girls more reluctant to talk, all of the interviewers were boys.	-interviewed 10 girls and 10 boys -all over age 16 *Solution:* Make note in final report/presentation that research results did not capture younger participants and the reasons why.

This is why research is called a process science. You must carefully plan each step in the process to help you answer your question. Every step makes a difference to the answers you obtain. Suppose you are doing your research about impacts of bullying in school. Students may give very different answers about impacts of being bullied depending on whether a teacher is asking them versus when another student is asking them. Similarly, you may receive very different answers depending on whether a student from an older grade/age is asking versus student from the same grade/age. Also, you will likely get different answers depending on whether you are asking students out in the open hallway or in a closed private room or through an anonymous online survey. Thus, as researchers, you need to think about how every step will impact the type of information you get, and then try to make sense of that information based on the steps you took.

When you read published reports on your topic, you are conducting a **literature review.** To ensure that you are not doing research that someone else has already done or that has been over-researched.

The information/answers you collect are called **research data** or just **data.** The process of getting research data or the answers to your question is called **data collection.** The tools that you use to collect research data are called **research instruments** (e.g. survey, interview, focus group).

The specific number and composition of people you plan to interview to obtain the answers is referred to as the **research study sample** (e.g. 16 students from grades 7 to 12, who have single parents) and the people who participate are called **research participants** or **study participants.**

Once you have finished collecting your research data as planned, you carefully review all the data to determine patterns and trends as well as any unique cases. This process is called **data analysis.** The overall patterns, unique cases, and answers that you obtain from data analysis are called **research findings** or **research results.** The summary report written about these findings is called a **research report.**

As a researcher, you need to carry out your research in an ethical way. The Government of Canada has put in place **research ethics**, protocols to ensure that researchers: do not force people to participate, give people choice in what they talk about, ensure that interviewees feel safe and comfortable, protect the confidentiality of interviewees to the best extent, ensure that the research does not negatively harm people, and do not misreport or misuse the research results. Before you begin, think about how you are going to do your research in an ethical way and obtain **research ethics approval** from a Research Ethics Board or committee.

What are the Components of a Research Project?

There are seven components in research which are described briefly below and in more detail in the chapters that follow. The first 3 components focus on planning and the final 4 components focus on implementation.

Component 1: Create Research Team

Build your research team with people who can contribute different strengths and skills. Lead some team building exercises for members to discuss how they will work together. Encourage members to talk about their interests and strengths.

Component 2: Design Research Question and Methods

As a team, discuss what topic you want to explore, i.e. a very specific research question that you can answer within the time frame and using the resources you have. When you decide on the topic you want to explore, you need to decide on (a) what type(s) of data will allow you to answer your research question; and (b) what types of data you are able to collect. There are two types of data: (a) Qualitative; and (b) Quantitative. Generally, data are considered quantitative if they are numbers and qualitative if they are words. Qualitative data may also include photos, videos, and audio recordings. Then make a detailed plan for: how you will obtain the answers to your question(s), whom you will interview, how you will reach and encourage participants to participate in the study.

Component 3: Prepare for and Obtain Research Ethics Approval

Discuss with your team how you are going to do your research in an ethical way, ensuring: voluntary participation in your research, protection of interviewees' confidentiality, no direct or indirect harm. Obtain ethics approval from a Research Ethics Board (if needed) before you start your data collection. This board will require completion of a form asking how you are going to do your research in an ethical way.

Component 4: Collect Research Data

Once you have your research ethics approval, you can start collecting data to answer your research question. This is meaningful work, as you talk to people and receive answers to your question. Record what they say (e.g. using a digital voice recorder or a camera) and take detailed notes. It may be difficult, to convince people to take part in your research. Interviewing takes time and effort. Try your best to follow your research method/protocol, e.g. how many people you are going to interview (study sample), how you are going to reach them, for how long you are going to interview them. If you determined that you would survey 20 students, ages 16 and older, do not survey students aged 14 just because they want to participate. Before you make any major changes to your research method/protocol, your team needs to carefully think about why you are making that change and how it will affect your research, and also what are new ethical issues in doing the research.

Component 5: Organise Research Data

Before you start the analysis, organize your research data in one place, properly labelled, and easy to read and use. The way you organise your data depends on whether your data is qualitative or quantitative. For quantitative data you can use Excel to organise the information you are gathering. For qualitative research, you can enter the participants' responses into a Word document. In both cases, you will need to protect the confidentiality of interviewees by removing all personal names and information. Make sure your research data is stored in a safe place that only your team members have access to.

Component 6: Analyse Research Data

Once you have finished organising the data you have collected, you can begin to analyse the data for patterns and trends. The way you analyse your data depends on the types of data you have. The resources at the end of the handbook provide you with links on how to analyse your data depending on whether it is quantitative or qualitative or both.

Component 7: Share Research Results

Once you have analysed your data and determined the overall picture, trends and unique cases, share your research findings with the appropriate people. These may include your teachers, school principal, school board, other students, parents, and government staff at the Ministry of Education. In an action research project, use your research results to make a positive change in your school or community (e.g. to help prevent bullying). As the team makes a list of people with whom you want to share your research results, discuss why you want them to have it, and how you are going to encourage them to listen/read and make a change. Document your results in relevant formats (e.g. video). You may need different formats and media for different audiences. Government staff prefer short 1 or 2 page 'executive summary' or 'policy briefs' while students may prefer creative formats.

Research Methods

Research methods are the types of research data that you want to collect and the steps for collecting and analysing it. As you recall, research data is the information or answers you need for your research question. The three types of research methods that are presented are: (a) Quantitative research; (b) Qualitative research; and (c) Arts-based research.

1. Quantitative Research

This research method focuses on collecting and analysing information/data that can be measured in numbers (or quantity).

Type of data: Information about the world around you that already exists in numbers, for example: peoples' age, student graduation rate, and number of hours people watch TV every day.

You can also convert information/answers into quantifiable categories by providing a fixed number of categories that research participants can choose from. For example:

- To determine how students react when bullied, your question could be: "What do you usually do when you are bullied?" and your pre-set answer categories could be:
  - ❑ A. I talk to my teacher about it
  - ❑ B. I talk to my parents/guardians about it
  - ❑ C. I talk to my friends about it
  - ❑ D. I don't do anything

Results/Goal: By focusing on numbers or converting information/answers into quantifiable categories, the goal of the quantitative research method is to obtain a quick snapshot or find general trends and patterns about your research question. In the example above, your research may find that 45% of students chose "I don't do anything" and 31% selected "I talk to my friends about it". This means that based on your research, only a small percentage of students actually talk to a teacher or parent/guardian about being bullied.

Government agencies, schools, hospitals, other organizations, and companies all collect and analyse quantitative data to learn about overall trends and patterns about their clients in order to improve services.

Research tools:

- A **survey** is the most common research instrument used in quantitative research. In a survey questionnaire, you either ask for number-based information or ask close-ended questions with pre-set answer categories from which participants choose, as in the example above.
- A **scientific experiment** (e.g. testing whether a medical drug works) is another example of a quantitative research instrument.

Sampling techniques: Since the goal of the quantitative research method is to understand trends and patterns, this method is usually large-scale, with a large number of people invited to participate. **Research participants** (or study sample) are selected to represent the larger population you want to study.

If the total population of the community of interest is small enough, and you can convince everyone or most of them to participate in your research, then you can survey the entire group. For example, if the community you want to interview is your class, and there are 35 students, you may do the survey with all 35 (provided they are willing to participate).

Census Canada: Every five years, Statistics Canada conducts the mandatory census survey with all Canadian households. Using the data collected, Statistics Canada produces information such as total population of Canada, total population of youth between ages 13 and 18, birth rate, and unemployment rate and so forth.

If the population of the community you want to study is very large, it may not be possible for you to include everyone. For example, if you are interested in the whole school of 450 students, it may be difficult to include all 450 to participate. In this case, you can survey a sample of the total population. In a **random sampled survey,** research participants are randomly selected from the total population (e.g. put everyone's name in a hat and pick randomly). The participant sample proportionally represents the larger population (e.g. gender, age, school). Usually a sample of 12% to 15% is enough. You must know the total number of, and other details about, the larger population. If you do not have this information and cannot do random sampling, you can simply find people to participate who roughly represent the composition of the total population.

Strengths:

- Useful for capturing general patterns and trends or obtaining a quick snapshot.
- Conducive to quick analysis because the data is in numbers or quantified numerical categories.
- Useful for government officials and others who manage large organizations and rely on quantitative data.

Weaknesses:

- May not provide reasons for and other details about the general pattern or trend.
- Does not capture diversity and complexities of human experiences and opinions, reduces people and experiences to numbers.
- Does not capture unique cases that do not fit the general pattern or trend.
- May exclude voices of minority groups (in random sampling).

2. Qualitative Research

This research method focuses on collecting and analysing data that capture people's rich, complex and diverse views, narratives and experiences. With this method, the goal is to understand everyday complexities of peoples' perspectives, feelings, and experiences rather than trying to translate them into numbers.

Type of data: Information about people and the world around us, generated by asking open-ended questions, where people answer in their own words. Data can include:

- Narratives from and discussions with people about their views, feelings and experiences
- Detailed observations about everyday lives of the people and the world around us

In a quantitative survey, a student may have answered that they usually 'don't do anything' when bullied. However, instead of pre-set answer categories to choose from, if the same student is invited to talk freely, a 15-minute long answer may result, including observations on how the response to being bullied varies based on what type of bullying, who is doing the bullying, where it is taking place, etc. The answers from both the quantitative survey and qualitative interview are correct and useful but are very different levels of information.

Results/Goals: While quantitative methods provide a quick snapshot, general pattern or trend, qualitative methods help us understand the reasons behind these patterns and trends and the complex ways in which people view and respond to them. The goal of qualitative research is to give a human face and voice to general trends and patterns. Qualitative methods are also used to determine more about unique cases that do not fit the general patterns or to capture the voices of people who are excluded from quantitative research.

Research tools:

- An in-depth **interview** is a common qualitative research instrument. Researchers use open-ended questions to ask participants about their views, feelings, experiences, and responses to issues related to the research. Interviews may be one-on-one or in a group (e.g. classroom or grade level).
- **Focus groups** are becoming a popular qualitative research instrument, where a group of people are asked open-ended questions to generate discussion about issues related to the research. Group dynamics in a focus group can affect what people say and do not say. One person's response might trigger another person's memory, unlike in a one-on-one setting. You can also observe how different people in the group respond to other people's views or about shared experiences. On the other hand, people may not feel comfortable talking about sensitive issues in a group setting.
- **Case story/Life history method** involves documenting in detail a particular story about an event or person. Life history method is used by anthropologists to research a person/family, in order to understand as much as possible about his/her/their life.

Sampling techniques: Compared to quantitative research projects, qualitative research projects tend to be smaller in scale. This is partly because it takes a lot of time to process and analyse qualitative data (e.g. people's narratives). More importantly, since the goal of qualitative research method/project is not necessarily to capture overall patterns, it does not need to be of a large scale. The goal of qualitative research is to put a personal voice and face to overall patterns and trends. You may choose to interview a relatively small number of people but make sure that this group has enough time to tell their stories in detail.

Qualitative research methods do not need to use random sampling techniques. Instead, qualitative researchers may target specific people (e.g. experts in a certain topic; marginalized people whose voices have not been heard) or use non-random sampling techniques such as **sampling for diversity** (to make sure that a diverse group of people are included) or **snowball sampling** (where participants in the target group help to recruit others in the target group).

Strengths:

- Supports understanding the causes of/reasons for trends/issues.
- Supports understanding the motivations and behaviours of individuals or groups.
- Facilitates documentation of experiences/voices of minority/excluded groups (who may be excluded in random sample surveys).
- Captures unique cases and diverse opinions.
- Identifies key issues/indicators in areas where there has been no research previously.
- Allows researchers to capture and/or follow up on new issues.

Weaknesses:

- Smaller sample size (usually non-random) are not necessarily representative of the population.
- Data may take a longer time to process and analyse than that needed for quantitative data.
- Research process/results cannot be replicated easily (i.e. analysing opinions/feeling is more subjective than analysing numbers).
- Government and other data users might view qualitative results as an insubstantial basis for policy making.

3. Arts-based Research

"Arts-based methods seem to speak to the heart as well as the mind, opening up possibilities for deeper dialogue and potentially more holistic understanding of the subject" (Cox and Belliveau, 2009).

During the last decade, arts-based research methods, which include one or more art form(s), have become increasingly popular. When using photography, the method is called **photovoice.** When film or other moving digital media is used, it is **digital storytelling.** Researchers have also used drawings, theatre and other art forms to capture human emotions, expressions and experiences that may not be captured by text.

Type of data: One or more arts-based forms of expression (e.g. photography, film, drawing, theatre). The art is often combined with narrative. For example, in a photovoice project, participants may present photos with accompanying text to explain why they took the photograph and what it means to them. In film-based research, the narratives may be embedded in the film. Arts-based methods, such as photovoice and digital storytelling, include people's faces and voices, so there are additional ethical issues to consider.

Results/Goals: A picture says a thousand words. That is why more researchers are using arts-based methods such as photography and drawing to capture human emotions and social conditions more effectively than verbal or written communication. This method is also a more engaging way than written reports to share information.

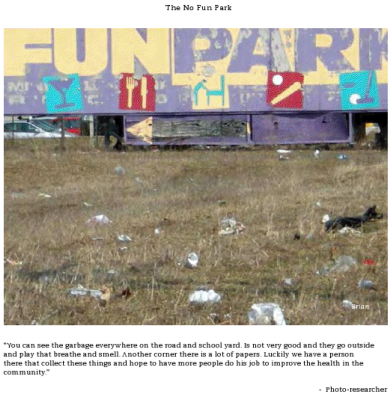
Research tools:

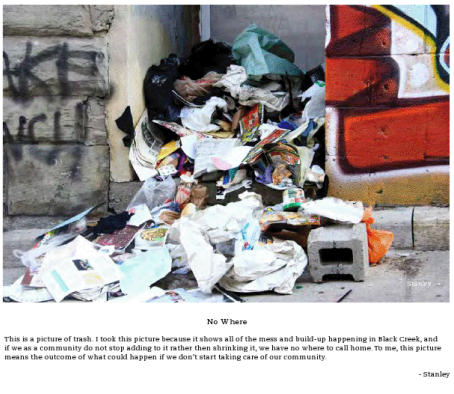
- **Photovoice** uses photography (plus narratives) as research data. Photos are taken by the research team. Research participants may also serve a double role, as photovoice trainees and photo-researchers, in the project. Photo-researchers take photos and write narratives related to the photos to help answer the

research question. The core research team then analyses the photos and narratives from all photo-researchers to understand the broader implications of the research topic.

An organization called **Streethealth** in Toronto did a photovoice project with homeless people in 2007. The photographic portraits captured the emotions with such intensity that it was not necessary to use text.

Another photovoice project, **eXposed** was implemented by Access Alliance in 2008. Fourteen photo-researchers in Black Creek used photography to capture the everyday impacts of poverty and racism in a low-income Toronto neighbourhood. The images below show the extent of the poor maintenance of parks, playgrounds and public spaces in the community.





For more information on the project please visit:
http://accessalliance.ca/research/activities/exposedphotovoice

- **Digital storytelling** uses video/film or some form of moving digital media to conduct research. Just as in photovoice, the film can be created by the research team or the research participants. Digital storytelling is used to record interviews with people who want to tell their stories with their own voices, facial expressions, and body language.

In 2009, Access Alliance trained eight refugee youth in filming and asked each of them to make a five-minute film about the barriers and challenges in pursuing their education in Canada. The films captured the challenges of refugee youth and their high aspirations despite disruptions in their education. The films have been compiled into a DVD called *Youth Find Strength*.

Strengths:

- Visually captures emotions and real life contexts more effectively than written reports.
- Engages researchers.
- Allows research participants to become co-researchers.
- Provides more engaging documentation than written reports.

Weaknesses:

- Can be challenging to analyse.
- May not be taken seriously.

In summary, each research method presented involves different types of data and uses different research steps, sampling techniques, data collection instruments, and data analysis tools. Each method has unique ethical considerations. Each research method has its own strengths and limitations. Researchers choose the method that is best for their research project/question, are fully aware of the strengths and limitations of that method, and analyse the collected data, based on those strengths and limitations. Many researchers are starting to use a **combination of approaches** answer one research question in order to benefit from the strengths that each method brings.

When doing your research study, you have options regarding how to collect data and information that relates to your study:

- **Primary research/Data or primary data collection** involves collecting and analysing original information and answers directly from research participants. **Primary research** is when your team asks people for information/answers and is known as **primary research data.** Doing primary research means that your team has control over: the data collection process, whom to talk to and what to ask them, what worked and what did not, and the analysis of the data. Primary research includes three types of research methods: quantitative, qualitative, and arts-based.

- **Secondary research/Data or secondary data collection** involves examining documents and/or analysing data that have already been created or collected by other researchers or organizations. For example, researchers at Statistics Canada collect Census data from Canadian households every five years. Similarly, your school regularly collects data about students (e.g. about your marks or graduation rates). If your research team requests and obtains access to Census data or your school data and analyses that data, you are doing **secondary research,** since you are working with **secondary research data.** Having access to and working with secondary data can save you time, since you do not have to collect it. However, your team has no control over the quality of the data or may have little knowledge about how the data was collected or what happened during the process. Also, it can be difficult to obtain permission to use primary data collected by schools or other researchers/organizations.

SPEAKUP
YOU ARE THE STUDENT VOICE

Chapter 2

Designing your Research Question and Research Methods

Steps in Designing a Research Project

There are four steps in designing a research project:

- ☑ Step 1: Identify the topic/issue you want to research.
- ☑ Step 2: Develop a specific **research question** that relates to the topic and is feasible to do within the time and with the resources available.
- ☑ Step 3: Design the appropriate **data collection methods** to generate the answers to your research question. Step 3 involves five sub-components.
  - ☑ Step 3.1: Decide which overall **method** you are going to use for your research (quantitative, qualitative, arts-based or mixed method).
  - ☑ Step 3.2: Determine your research study sample and **sampling technique**.
  - ☑ Step 3.3: Decide on your **recruitment strategy**.
  - ☑ Step 3.4: Determine the **research instruments** (focus groups, interview, surveys, etc.).
  - ☑ Step 3.5: Determine the **logistics** involved in your research.
- ☑ Step 4: Ensure that you carry out your research in an **ethical way**.

This chapter covers Steps 1 to 3 (developing your topic, research question, and data collection method). The next chapter will focus on Step 4 (how to do your research in an ethical way).

Step 1: Identify Your Issue/Topic

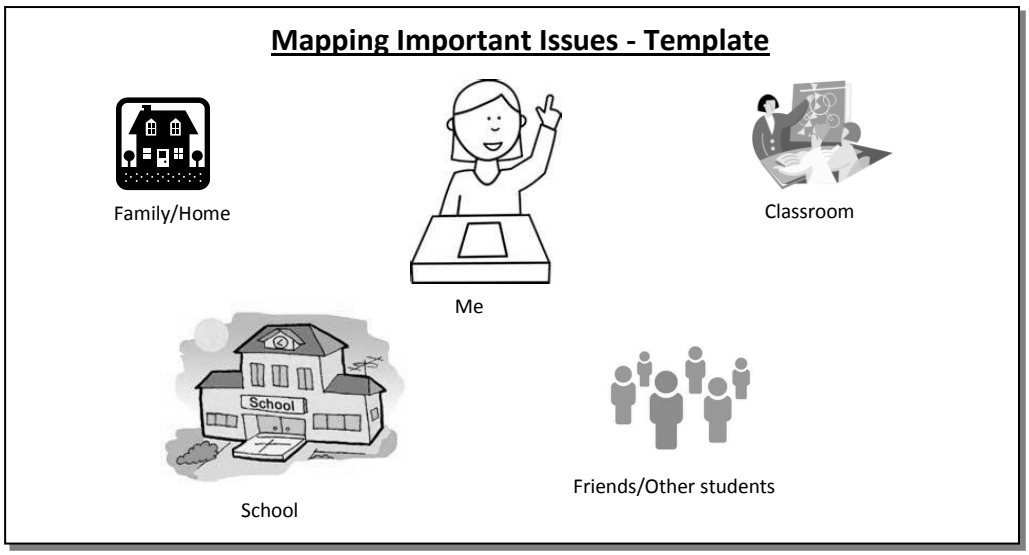
The topic to be researched may be one that your team: is concerned about (e.g. bullying, discrimination, student government, student-teacher relationships); wants to research more (e.g. how students feel about a new program); or wants to affect change or generate more support (e.g. arts club, mentoring program, LGBTQ student group).

Discuss with your team members the different issues/topics that they are proposing to research. Openly sharing as a team allows you to learn a lot. That is the benefit of working collaboratively. While many ideas flow, the team can select the best one.

In order to generate the best idea, listen carefully to the ideas and issues presented, which may help you remember other important issues. Explore how your idea/issue connects with those proposed by your

teammates. Build on each other's ideas and thoughts identifying issues and solutions, in a **generative process**. Your goal is not to push your own idea but as a team to develop the best idea. As a result, team members will feel a sense of co-ownership and commitment to the topic, regardless of who first proposed it.

How to do step 1: Ask each member of the team to think about and write down all the issues in which they are interested. Each member can use the Tool: 'Mapping Important Issues - Template' (see the Worksheets Section, page 67) to visually map the issues that are important and to help generate ideas. You can also simply use a blank sheet to record (draw/write) important issues in your own style. Think about why those issues/topics are important.



Then, as a team, share your issues/topics; discuss why the issues/topics are important, and which ones you want to find out more about. Remember not to focus solely on your own issues/topics but add/build on the issues/topics that other team members have identified. Then, as a team, you can use the Tool: 'List of Research Issues' (see the Worksheets Section, page 69) to make a list of all the ideas in a table, with four columns. In the far left hand column, record the issues/topics; in the second column, for each issue, record why it is important; and in the third column, record what you want to find out about the issue/topic. In the fourth column, record any additional notes about each topic (e.g. there is an overlap of two topics; a team member feels passionate about the topic) or any decisions that you and your team make about an issue/topic.

List of Research Issues			
Issues/Topics	**Importance**	**What more do we need to know about this issue/topic?**	**Notes**
e.g. Bullying	*We have noticed that there has been an increase in bullying in school in the last year.*	*Why has there been an increase in bullying and how is it impacting students?*	*John feels really passionate about this topic.*
e.g. Software programming club	*A growing number of students are interested in learning how to develop software.*	*Why is there this growing interest and how can this be supported in school?*	*There is very little information about this topic, so it will be very useful to conduct this research and share the results.*
e.g. Effective student government	*We have noticed that many student voices are not represented by the Student Council.*	*How can the Student Council include the voices of all students?*	*Each Student Council has a constitution that it may or may not follow.*
e.g. Environmental awareness	*Schools teach environmental awareness but don't necessarily practice it or teach students how to practice it.*	*How can we practise what we learn in school about environmental issues?*	*Very practical.*

Once you have this list of good ideas, as a team, choose one topic/issue to focus on for your research project. This process can be challenging, so you can follow this two-step process:

- ☑ Determine where there are overlaps in issues/topics and combine them. For example, three of you might have listed bullying. You might connect the issue with anti-discrimination and create one issue: 'how to make schools more inclusive'. This process of removing overlaps or combining related issues may cut your list of issues/topics in half.

- ☑ Discuss and prioritize the topics/issues, based on a number of criteria that are important to your group. Your team may prioritize topics based on which ones: need urgent attention, can make the most impact, represent issues that many students want to see improved, represent topics about which many students know little and should know more represent topics that a school principal or

Ministry of Education contact identified as needing student input. Always keep in mind the scope and feasibility of the project. You have a limited time to do your research. Your team may decide on an engaging research topic that cannot be done in the allocated time. You must postpone it for now and choose one that can be done in the time frame.

Your goal as a team is to discuss and decide on the one important topic for this specific *Students as Researchers* project, given its scope and resources. When discussing topics as a team, disregard the originator of the idea and focus instead on developing each topic further, assessing why it is important, and then identify the one topic that is the most fitting. The process of open and constructive discussion and selection is **consensus-based decision-making**. If this process does not work for you, try the **voting system**, reaching a decision based on which topic gets the most votes. All team members need to respect the team's decision and to take ownership of the topic even if it was not your first choice. It is a good idea to have a second topic as a back-up.

Guiding questions for step 1:

- ✓ What are the issues or concerns that you are interested in finding out more about?
- ✓ Why is it important to find out more about this issue or concern?
- ✓ What do we need to find out more about on this issue or concern? Why will finding out this information be helpful?
- ✓ Out of all the topics, which one do we want to research for this particular *Students as Researchers* project? Why? (Assess each topic based on urgency, impact, meeting a need, filling an information/knowledge gap, and feasibility.)

Step 2: Develop Your Research Question

Once you have selected your topic/issue, the next step is to convert the topic/issue into a question format which is referred to as a **research question.** Developing a specific research question related to your topic/issue will help you figure out what exactly you want to find out about on the topic/issue. Changing your topic/issue into a question format also gives it an investigative framing, to focus your project on finding answers rather than discussing random facts about the topic/issue.

For example, the topic of bullying is very broad. As a team, you must convert this topic into a specific research question, depending on what exactly you want to find out about. If the overall impact of bullying on school performance is your focus, your research question could be: 'How does being bullied impact on student participation in classes and in extracurricular activities?' You can also focus your research question on impact on grades specifically: 'How does being bullied impact student grades?' You may want to narrow the focus further for younger students: 'How does being bullied impact grades for students who are in

grades 7 and 8?' If you are interested in cyber bullying in particular: 'How does cyber bullying impact student performance in school?'

What about hypothesis testing?

In your science class, you may have learned about hypothesis testing. This is another way of doing research. Instead of developing a research question, you propose a hypothesis or assumption about the topic and then try and prove or disprove it. For the topic of bullying, you may propose this hypothesis: 'Students who are bullied receive poor grades'. Then, you collect information to either prove or disprove it. Hypothesis testing is more commonly used in scientific experiments in labs. For research about humans and society, most researchers now prefer to use the 'research question' framework.

How to do step 2: Figure out as a team, what exactly you want to find out about your topic/issue. Then frame that into a research question using the guide called 'What Makes a Good Research Question' (see below). Your goal is to develop a question that helps you clearly define your research goals and the subject matter of your research, in a way that generates curiosity and leads to rich answers, but is specific enough and feasible to do within the time frame and with the resources you have.

What Makes a Good Research Question?

Your research question is the overall question that you want to answer in your research project**.** It is the framework that shapes the other steps in your research project, including who you are going to ask, how you are going to ask them, and which specific follow-up questions you will ask.

- **Focus**
  - Ensure that the issues that you want to find out more about are mentioned in your research question (e.g. bullying and the role of teachers in stopping bullying; bullying and impact on emotional health).
  - Ensure that the key parameters of your research are mentioned in the question, such as study population, location of study, and time frame, if relevant (female students, from grades 7 and 8, in the Durham district).

- **Clarity**
  - Ensure that your research question is written in plain and simple language.
  - Ensure that your research question does not include words or terms that people may not understand.

- **Richness**
  - Frame your research question in an interesting way to make people curious enough to participate in your research.
  - Ensure that your research question is not too general or narrow.

- Use questions that start with 'why', 'how' and 'what' to ensure a rich research process and answers, i.e. not only 'yes/no' or 'either/or' questions.
- Ensure that your research question does not contain unproven, negative or stereotypical assumptions, such as: 'why are immigrant students always causing trouble in school?' There is no proof of that and it is discriminatory.
- Ensure that your research question is not 'leading', i.e. generating only one type of answer. As a researcher, you need to determine all points of view. If your research question is 'What are the negative impacts of video games on studies?', you may gather information on only the negative impacts and not the benefits. It is better to ask 'What are the impacts of video games on studies?', to elicit both negative and positive responses.

- **Relevance and impact:**
  - Ensure that your research question is about issues that are important to you and the people involved in your project.
  - Frame your research question in a way to elicit useful answers and information that can make the world a better place.

- **Feasibility**
  - Determine that it is possible to find answers to your research question within the time frame and with the resources available.
  - Determine that you can find the people you want to interview and elicit the answers/information you want.

Note: Your research question can consist of two or three related questions, as long as the connections are clear and the research is feasible.

Examples of good research questions

Your topic: Cyber bullying

Your research question: How are youth (from grades 7 and 8) in our school impacted by cyber bullying? How do they respond to cyber bullying?

Your topic: Environmental awareness and practice among students

Your research question: How do school events about climate change influence students in the lifestyle choices they make about environmental issues?

Step 3: Develop Your Data Collection Method

Once you have developed your research question, determine the steps required to find the answer to your question. This is the **data collection method** or research method/protocol. There are five sub-components of developing your research method or data collection method.

Step 3.1: Overall method. As a team, decide what type of data you want to use and the overall method/framework of collecting data. Determine which method to use:

- **Quantitative method** (uses numbers and captures overall trends);
- **Qualitative method** (captures people's feelings, experiences, and views, in more detail);
- **Arts-Based method** (makes research fun and creative and captures photographs and photovoices);
- **A combination of the methods** (uses strengths from each of the methods).

Each method leads to different types of data and has different strengths and limitations. See Chapter 1 to refresh your knowledge on research methods.

Also, consider the following when selecting the overall method for your research:

- ✓ Which method is feasible and achievable, within the time frame for this project?
- ✓ Which method suits your team members' skills?

Step 3.2: Research study sample. Decide whom you are going to interview, why these people specifically, and how many. This is identifying your **research study sample,** using a specified sampling technique. Depending on which method (quantitative or qualitative), your sampling technique and sample size will vary (see below).

- ✓ Who are we going to interview? Why them specifically?
- ✓ How many people are we going to interview? Why this number of people?

Sampling is a strategy to identify who you are going to interview from among the target community/population. The first step is to define your population of interest. The people whom you choose to interview in your research are the target population or community of interest. Since it may not be possible to talk to everyone in your target population, your team must select a smaller number from your target population. This smaller number of people is your research study sample.

There are two different sampling techniques:

i. Probability (random) sampling: Select people at random from the group, giving everyone an equal chance to be selected for participation in your research.

ii. Non-Probability (non-random) sampling: Select your sample population for specific reasons to answer your research question. There are three different types of Non-Probability (Non-random) Sampling:

- **Convenience sampling:** The process of interviewing anyone who expresses interest in the issue or topic. When you post a flyer to determine interest in a topic, it is a response-driven sampling technique. Analyzing the people who express interest in talking about the issue, based on your flyer, may be useful also, e.g. perhaps only male students responded to the flyer.

- **Purposive sampling:** Researchers have a clear purpose in reaching out to a specific group, e.g. teachers or education ministry staff who have experience in and opinions about teaching. Purposive sampling can also take into account the diversity and heterogeneity (age, gender, race, class, sexual orientation, religion, marital status) of the research study participants. Ensuring that excluded groups are included in your research is referred to as **Sampling for diversity or heterogeneity**.

- **Snowball sampling:** Reaching out to potential research interviewees who then refer you to other candidates (friends). With this type of sampling, you do not have as much control over who you interview but it can work well, when you want to reach a very specific sub-group (who know each other well) or a hard-to-reach group and can win their trust, e.g. LGBTQ students.

Step 3.3: Recruitment strategy. Once your team has identified the sampling technique and sample size, identify how you are going to reach the interviewees, enlist them, and screen them to ensure that they fit the inclusion criteria for the study. This is the **recruitment strategy** and it can be the most difficult and time-consuming part of your research, so it is important to plan this step well.

In order to develop your recruitment strategy, identify the **inclusion criteria** for your research project. This lists all the requirements that participants must meet to qualify for participating in your research. Inclusion criteria are based on the goals of your research and the study sample and can help focus your research. At the same time, if your inclusion criteria are too specific, it may be challenging to recruit interviewees. For example, inclusion criteria for your research may include the following:

- ✓ 16 years and older
- ✓ has been studying in your school for at least 2 years
- ✓ is involved in at least one arts club

Your team will need to develop effective recruitment tools and steps, such as:

- ✓ Posting a recruitment flyer/poster (TIP: Consider using a QR code that links to your on-line survey)
- ✓ Holding an information session about your research
- ✓ Sending email or mail invitations
- ✓ Obtaining referrals for potential participants from teachers or friends
- ✓ Posting your recruitment information on internet and social media sites (i.e. Facebook or Twitter)
- ✓ Sharing with school through morning announcements
- ✓ sharing by word of mouth.

All tools are equally impactful and you will probably want to use most of those listed above, in order to recruit as many study participants as possible for your research. Your recruitment materials should include a brief summary about the focus and goals of your research, the participants you are seeking, and contact information for more information.

Remember to think of your **safety** when doing recruitment:

- ✓ Do not post recruitment flyers or provide presentations on your own.
- ✓ Do not include your home or cell number in the recruitment flyer/information. Create a separate email account for this research, for all team members to access, and include only that contact information in the recruitment material.

Conduct several mid-point check-ins with your team to see how recruitment is progressing. If you are having a hard time recruiting, then try new strategies.

The more trust you build with potential interviewees; the more likely they will participate in your research. If you explain the goals of your research in person, people may be more willing to take part in your research. If you are using snow-ball sampling, build trust first with a few participants and then ask them to help recruit additional participants.

Example of a Recruitment Flyer

Research project: Stop bullying

We are looking for students to talk with us about how bullying in school has impacted you and how it can be stopped. The results from this research will be used to create recommendations to teachers, the school principal, the school board and the Ministry of Education, on how to prevent bullying in school. We want to hear from you because your voice is important!

You can participate in this research study if you are:

- In grades 7 to 12, have been attending this school for more than 3 months, and have experienced bullying.

If you would like to participate in this research, please contact _____ by email at: _____

This research has received ethics approval from the school district ethics review board and from the Principal.

Step 3.4: Research instruments. Develop your research instruments or data collection instruments specific to your research method. If you are using quantitative methods, develop a survey questionnaire. If you are using qualitative methods such as interviews and focus groups, develop your focus group guide or interview guide.

Developing your research instruments involves creating specific follow up questions to include in your survey questionnaire or interview guide to help you answer the broader research question and meet your research goals.

For a **survey** there are two ways of asking respondents questions. The first, close-ended questions include a list of pre-set response categories from which participants can choose. Surveys generally use close-ended questions. In contrast, open-ended questions allow respondents to express their opinions, attitudes, ideas, thoughts, and feelings in more detail. Open-ended questions are generally used when you are interviewing people or having a focus group with a group of people. You can always add a few open-ended questions to your survey. You can also ask your interviewees to complete a short survey with a few closed questions about their background and other facts you want to capture for a quick snapshot.

An advantage to including open-ended questions in a survey is that respondents can remain anonymous, so they might be more comfortable expressing their thoughts freely. Because open-ended questions are not coded as numbers they can be coded and analysed as qualitative research. Below are two examples of close-ended and open-ended questions.

Close-ended questions (most commonly used in surveys)

How often do you face bullying? (Select one)

- ❑ Every day
- ❑ Once or twice a week
- ❑ Once or twice a month
- ❑ Occasionally

What do you usually do when bullied? (Select one)

- ❑ I talk to my teacher about it
- ❑ I talk to my parents/guardian about it
- ❑ I talk to my friends about it
- ❑ I don't do anything
- ❑ I don't know

What is your opinion about this statement: Current anti-bullying programs in my school are working (Select one)

- ❑ Strongly Agree
- ❑ Agree
- ❑ Neither Agree or Disagree
- ❑ Disagree
- ❑ Strongly Disagree

Open-ended questions (most commonly used in interviews/focus groups)

How often do you face bullying? (probe for where, when, and other details)

What do you do when bullied? (probe for outcome; probe if the way they respond has changed over time)

What are your views about the current anti-bullying programs at our school?

When designing the survey questionnaire or interview/focus group guide, remember that the sequence and flow of questions can affect the responses that people provide. Do not begin with sensitive questions. Design the questionnaire or guide using one of these three structures:

- **Structured:** The flow of questions is very important and should not be changed.
- **Semi-Structured:** The interviewers can adjust the flow and sequence of questions, based on the responses from participants, as long as all the key questions are asked.
- **Unstructured:** There is no set flow or structure to the questions.

Step 3.5: Research logistics. Determine the **logistical issues**, such as the type of interaction you want to have with research study participants (e.g. face-to-face, telephone, or online). If using face-to-face interaction, then determine where to interview them (e.g. hallway vs closed room), which team member will interview them (e.g. only female team members might interview female participants). Determine the time of day for the interviews (e.g. morning or after school). Remember that every step can have an impact on the type of answers/information you collect. As a team, use the guiding questions below to consider and make thoughtful decisions about each step.

- ✓ What type of interaction will we have with the participants (e.g. face-to-face, by telephone, online)?
- ✓ Where will we interview the participants (e.g. hallway, playground, closed room, library)?
- ✓ Which team member will interview which participants (e.g. match by gender, age, experience)?
- ✓ What recording device will we use (e.g. paper/pencil, computer, digital recorder)?
- ✓ Who is going to buy the supplies/equipment? Where will we store them?
- ✓ When we finish collection (surveys, interviews), where will we store the data? How will we ensure its safety and that only our team members access it?
- ✓ How often will we meet as a team to determine how the data collection is proceeding?

Now that you have determined the research methods, let us examine in the next chapter how research is conducted in an ethical way.

Chapter 3

Ethics: How to Conduct Research in an Ethical Way

What are Research Ethics?

Research ethics are guiding principles to help ensure that research is carried out in a manner that "respects the dignity, safety and rights of research participants and that recognizes the responsibilities of researchers" (World Health Organization 2012). Ethical research entails the voluntary participation of interviewees, without pressure or being misled. It also involves protection of the participants' confidential information and ensuring that they are not negatively affected by participating in your research.

In Canada, the Tri-Council sets research ethics guidelines. This council is comprised of representatives from the three main government agencies that provide funding for research projects in Canada: Canadian Institutes of Health Research (CIHR), the National Sciences and Engineering Research Council of Canada (NSERC), and the Social Sciences and Humanities Research Council of Canada (SSHRC). The council developed the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans* (http://pre.ethics.gc.ca/eng/policy-politique/tcps-eptc/readtcps-lireeptc/).

Ethical guidelines in the Tri-Council policy include:

I. **Respect for human dignity**

Your research must respect all persons, regardless of gender, race, class, sexual orientation, or other background. Ensure that interviewees are not discriminated against during or as a result of your research project.

II. **Free and informed consent**

People must feel free to participate in your research voluntarily, without being pressured or coerced in any way. To ensure that your research participants provide free and informed consent, make them aware of the goals of the study, any potential harm in participation, and how you will use the information they provide. Stress to them that they have the right to withdraw from the research project at any time, without any negative consequences.

III. **Respect for privacy and confidentiality**

As a researcher, you are responsible for keeping personal information confidential. In your analysis and research reports, there should be no connection between participants' identity and the information they provided. Delete any personal information (particularly names) from the data. Assign either a pseudonym (fake name) or a code number (e.g. P1, P2, P3) to each participant. As a team, you must securely store any data collected and ensure that only the team members access it.

IV. **Respect for vulnerable persons**

You need to take extra steps to ensure that all participants are treated fairly, with respect, and with dignity. This includes vulnerable groups, who are socially, economically or politically disadvantaged, such as the elderly, children, those with disabilities or mental health issues, or low-income groups. Give special attention to ensure that vulnerable people are not negatively impacted by the research.

V. **Minimizing harm and maximizing benefits to the community**

Ensure that there is no harm done to any participant as a result of the research project. Your goal is to use research to make positive change.

What is a Research Ethics Board and what is an ethics review?
Universities, hospitals, and school boards have **Research Ethics Boards (REB)** or research advisory committees, who are responsible for ensuring that all research projects conducted on their grounds follow research ethics guidelines set by the Tri-Council. Before starting your research, you must fill in an ethics review application and submit it for review to a designated REB or a research advisory committee. If you do not have a REB, you must document your proposed steps to do research in an ethical way and have your principal or other trusted adult review the list for advice. Once you have received ethics approval from the REB or research advisory committee and/or school principal, you can officially begin your research.

How to Follow an Ethical Process

Discuss with your team the proposed steps in your research to ensure that you meet the ethical guidelines. Include that information when completing the relevant sections of the Research Ethics Review Application form then submit the form for review.

<u>Steps to obtain informed consent:</u>

- ☑ Make sure that people participate voluntarily in your research and that you do not directly or indirectly force or pressure them to participate. Explain in simple clear language the goals of your research, what participants are being asked to do, what potential harm and benefits there are from participating, and what will be done with the research data. This will ensure that people make informed decisions about whether to participate or not.
- ☑ Stress to participants that they can withdraw from your research at any time and that there will be no negative impact from not participating or withdrawing from the research project.
- ☑ Stress that participants have the right to limit the information that they share.
- ☑ Explain that youth under 18 years old, must obtain consent from their parents/guardians to participate.

- ☑ Explain that in photo-voice or digital storytelling based projects, faces and voices of participants may be identifiable unless participants specifically request to be anonymous. Stress that when photos and videos are uploaded onto the internet, researchers have no control over how they are shared.

<u>Steps to protect participants' identity:</u>

- ☑ Remove any personal information from the research data that can identify participants.
- ☑ Store all research data in a safe/secure place and ensure that only your research team members have access to it.
- ☑ Stress that in a focus group setting, you cannot fully guarantee that other participants will keep the conversation confidential, so they should be mindful when speaking.
- ☑ Use editing tools to blur/mask faces and voices in a photo-voice or digital storytelling based project, if participants request to remain anonymous.
- ☑ Keep research data for only two years, once the project is finished. This is an added security measure to ensure the confidentiality of the data.

<u>Steps to ensure participants' well-being, minimize harm, and maximize benefits:</u>

- ☑ Ensure the well-being of all research participants. If, during an interview or focus group, a participant becomes emotional, acknowledge and respond by asking if a health professional might help. Do not provide therapy if you are not a trained therapist.
- ☑ Ensure that research results are presented in a way that is supportive of vulnerable participants in particular.
- ☑ Share your research findings with school and education ministry representatives, who may affect positive changes in your school environment.

How to Obtain Ethics Approval

In order to obtain ethics approval from the Research Ethics Board (REB) or a research committee, fill out the Ethics Review Application and submit it to the relevant REB, research committee or school principal. In the application, your team will be asked to document the following:

- ☑ research goals
- ☑ proposed methods
- ☑ research study sample
- ☑ recruitment strategy
- ☑ process for obtaining informed consent from participants
- ☑ proposed steps to ensure confidentiality
- ☑ process for securely storing data
- ☑ proposed next steps for research findings

You may be required to attach the following documents with your application:

- ☑ Informed Consent Form
- ☑ Recruitment Flyer
- ☑ Draft of research instrument (survey questionnaire, interview or focus group guide)

The research ethics review process can take 2 weeks to 3 months to complete, depending on the size and complexity of the research project or the schedules of the REB members. Submit your research ethics application as soon as possible. The REB/research committee will review your application and provide feedback on any additional steps required to ensure that your research process is ethical. You may need to send a written response to the REB/research committee on the proposed additional steps. The committee will then review that information, and if satisfied, will provide a letter approving your research.

Note: For the *Students as Researchers* project, a special Research Ethics Review Application Form has been developed. See Worksheet section (page 75). Complete all the relevant sections of the form and submit it to your school principal, who will then forward it to the appropriate REB or research committee in your school district.

Consent Form Process

All researchers are required to obtain **signed written consent** from each research participant, before beginning the research. Develop a consent form specifically for your research project. The form should be one to two pages, written in plain language, including the goals and focus of the project. Other information will detail the participants, their expected tasks (e.g. complete a 20-minute survey or one-hour one-on-one interview), the types of questions to be asked, and any potentially negative impacts on participants from the research process.

The consent form includes the rights and responsibilities to which the participants agree, by signing. A standard Consent Form for Research Participants has been developed for the *Students as Researches* project. This form is in the Worksheet section (page 77). Insert the relevant information about your research project to the consent form. Once you receive research ethics approval, begin collecting the consent forms from participants. Familiarize yourself with the rights and responsibilities of participants, as listed below.

By signing this consent form to participate in this research, you understand that:

1. You/your student's participation is completely voluntary and you/your student may withdraw at any time without consequence.
2. You/your student have/has the right to not respond to any questions.
3. You/your student's decision to participate or not to participate will not have any negative impact at school.
4. All research data will be safely stored and used only by our research team. For extra security all research data will be destroyed by the school principal two years after project completion.
5. As far as possible, the research team and the school will protect your/your student's identity. The extent of confidentiality, however, varies by the type of research:
    a. If the research involves surveys and one-on-one interviews, your/your student's name will be kept completely confidential and no one will be able to identify what you/your student said in any of the research reports or communication materials. All research findings will be presented using an alias or participant code number.
    b. If the research involves focus group discussions, all steps in 5a will be followed. The research team will ask all participants in the focus group discussion to keep the conversation confidential. However, the research team cannot fully guarantee what participants will keep confidential. If you/your student are/is participating in a focus group discussion, please remember to share only information with which you are comfortable.
    c. If the research uses photography or other visual/digital media (e.g. photovoice, film), your/your student's face and voice may be captured. If you so wish, you may request that your/your student's face and/or voice be digitally edited, and still participate in the study.
6. You/your student will receive a copy of this consent form.
7. You/your student can request a copy of the final research report or research communication material.

Include contact information of a designated team member, whom participants may contact about the project. If the research project includes photography or video, add specific statements about consent for photographs and videotapes. See below.

If participation in this research involves being photographed or filmed, **I consent to** *(check those that apply):*

- ❑ Being photographed
- ❑ Being filmed
- ❑ Being filmed without exposing my face or voice

Steps for obtaining consent from research participants:

- ☑ Give the consent form to participants (or their parents/guardians) and allow them to take it home to review and complete, if they so choose.
- ☑ Reconfirm their rights to voluntary participation, withdrawal, and confidentiality.
- ☑ Ask them to identify any questions or information that is not clear.
- ☑ Once participants are comfortable with the information on the form, including their rights, ask them to sign and date the form and keep a copy for their own records.
- ☑ Safely store all signed consent forms in a secure and locked cabinet/location that only your research team can access.

Chapter 4

How to Collect Research Data

Data Collection

Once you have research ethics approval for your project, you can begin data collection. This is the most engaging aspect of research, where you interview participants and begin to collect answers to your research question. It can also be the most challenging and time-consuming aspect of research, with participants' varying willingness to provide information. Regardless, it is a good learning experience. Keep detailed notes about the data collection process, i.e. what worked, what did not, what changes you had to make to your research plan. Data collection process can take at least 3 weeks or longer. Meet as a team to get all the materials ready for data collection and decide who is going to do what, when, and how.

What do I Need for Data Collection?

As a team, prepare these materials before you begin data collection:

- ☑ **Recruitment flyer/information:** This is the flyer or the information that you will use to inform people about your research and to convince them to participate.

- ☑ **Email account for your project:** Set up a different email account for the research project that only your team members can access. Do not give out your personal emails or home/cell numbers to potential participants. You may want to create an online file-sharing account (e.g. Dropbox) to securely store and share data online.

- ☑ **Screening list:** Create an Excel document titled "Screening List". This is the document you will use to record the names and notes about people who express interest in participating in your research, to determine whether they meet the inclusion criteria. Remember that the screening list is one of the most sensitive documents as it contains the identities of potential participants. Ensure that this document is password-protected and accessed by only your team members. If you are using printed copies of this document, make sure that only your team members view the content.

- ☑ **Copies of consent form for research participants**: Make at least two copies of the consent form per participant. Keep one signed copy and give the other to the participant to retain.

- ☑ **Your research instruments:** Final versions of your survey questionnaire, interview guide, focus group guide etc. If you ask people to complete the survey on paper, make enough copies of the survey. If your team is doing a survey online, set it up using software such as Survey Monkey and test it. Document the link to the online survey for potential participants.

- ☑ **Recording equipment:** Digital recorders (for interviews and focus groups), digital cameras (for photovoice), and video cameras (for digital storytelling).
- ☑ **Location to securely store research data and equipment:** Secure a cabinet or storage box that can be locked to store hard copies of research data, signed consent forms, and recording equipment (digital

recorders, digital cameras, etc.). For electronic copies of your research data (e.g. screening list, data files, digital recordings of interviews or focus groups), create password protected files and folders in your computer or school computer to ensure that only the research team has access to the files.

☑ **Memory key**: to store and/or transport data. Remember to password protect all files and encrypt the memory key for extra security.

Steps for Data Collection

Follow the data collection steps listed below and adjust the steps based on the type of method or research instrument you are using.

Step 1: Recruitment. Post your recruitment flyers and distribute your recruitment information widely (by email, online). Remember that talking to people face-to-face is often the most effective form of recruitment, since you can provide detailed information about the research and encourage people to participate. Share your excitement about the research and explain its importance.

Ensure your safety when posting and distributing flyers or sending information by email/online. Do not visit unsafe locations and do not give out your personal email or other contact information.

Step 2: Screening and selection of participants. Once your research project is underway and people express an interest in participating, ensure that they meet your inclusion criteria. Use the screening list to record the details that are specific to your research. For example, if you choose to interview only students who are 16 years old and older, and those who have single parents, remember to ask their age and parents' marital status.

Step 3: Explain ethical issues and obtain consent. Before people agree to participate in your research, make sure you explain to them clearly what is involved, their rights, confidentiality protocols, and the consent process. Give them (or their parents/guardians) a copy of the Consent Form to read and encourage them to ask any questions about the research or the consent process. If they need consent from parents/guardians, give them a copy of the form to take home for review and signature. Students who are of age and can sign their own form may decide to review and sign on the spot. Keep one signed copy of the form and give one copy to the participant. See Chapter 3 for more information about ethical issues and informed consent.

Step 4: Arrange logistics for data collection. If it is a face-to-face interview, determine the date, time and location. For focus groups, you will need to coordinate a date, time and location that are convenient for all participants. For surveys, the logistics vary based on the venue, e.g. online, self-administered written, or survey interview. If it is an online survey, provide the online link. If it is self-administered, arrange to provide a printed copy to be completed on the spot or later. If it is a survey interview, determine the date, time, and location. Remember to do the data collection (interview or focus group) in a location where participants feel safe and comfortable.

If your team is doing photovoice or digital storytelling based research, where research participants take their own photos or make their own films, arrange to provide digital or video cameras and clear instructions. Remind them to obtain written consent from anyone featured in the photos or film.

Step 5: The interaction. When people agree to an interview, focus group or survey interview, follow the steps below, depending on your research method.

- ☑ Thank them for their time and participation in your research.

- ☑ If they have not signed the consent form, ask them to do so. Keep one copy of the form and give one copy to the participant.

- ☑ Explain the process, steps involved, duration, and other details. Ask them to seek clarification about the process. Remind them that they do not have to answer all questions. If it is a focus group, remind participants that although you ask for complete confidentiality, you cannot guarantee it. Participants should be cautious about what they share with the group.

- ☑ When all participants are ready, begin the interview, focus group, or survey interview, using the guide and process that your team designed. If you are digitally recording, turn on the recorder and announce that you are now recording. Ensure that the machine is recording. If you are conducting the interview or focus group in pairs, clarify who is posing the questions, who is taking notes, and whether they are sharing these tasks. This is one of the most engaging steps in research. See next section on how to ask probing questions for stimulating discussion on the topic. Give participants breaks, when needed and provide drinking water.

  If using an on-line or self-administered survey, follow the relevant Step 4 instructions above.

- ☑ Once the data has been collected, thank the participants again for their time and contributions. Turn off the digital recorders and announce that you are doing so. Remind participants what you plan to do with the research results.

- ☑ When participants have left, debrief quickly with your co-interviewer/co-facilitator on key points, what went well, and what could be improved. Record these reflections in your notes.

- ☑ Collect all the signed consent forms in an envelope, seal and label it, and store it immediately in a locked cabinet. Do the same with handwritten surveys. Upload digital recordings to your computer, password protect the file, and delete the recording from the digital recorder. For photovoice projects and film, upload photos and film to computer, password-protect, and delete from the camera. Store the material securely, for future analysis.

The Art of Asking Questions

The quality of the data/answers you collect depends on how you ask questions and how you probe further, particularly in interviews and focus groups. Sometimes in an interview, we do not receive the type of information we are seeking. **Probing** is a technique using follow-up questions to enhance the clarity, depth and richness of the responses.

Types of probing

☑ **Nudging probes:** These questions encourage interviewees to keep talking, but do not suggest a particular direction.
Examples:
Yes, tell us more about that…
Yes, go on…
Yes, I would like to hear more about that…

☑ **Clearinghouse probes:** These probes can be used to close an interview topic, while ensuring that you have elicited all the information an interviewee wants to provide.
Examples:
Is there anything else you would like to add?
Are there any questions I should have asked, but did not?
Was there anything more you wanted to cover?

☑ **Probes to increase depth of content:** These probes encourage interviewees to provide more information about a particular topic.
Examples:
Can you tell me, in detail, all the steps you had to take to work with your principal?
Please elaborate on how you juggle so many school and extra-curricular responsibilities.

☑ **Probes to increase clarity:** These questions focus on clarifying particular words or phrases used by interviewees.
Examples:
I'm not sure I understand what you mean by "incompetent". Could you explain?

☑ **Probes to capture feelings, perspectives and opinions:** These questions are designed to ask the interviewee to explore the feelings or thoughts underlying a particular statement.
Examples:
How did that experience of discrimination make you feel?

☑ **Probes to determine reasons, causes, and links:** These questions prompt interviewees to make connections between their experiences and larger issues. They follow a statement made by an interviewee.
Examples:
What holds you back from being engaged in your learning?
In your opinion, what actions can students take to improve how education looks and feels?

☑ **Probes to find more information on impacts.** These questions ask participants to elaborate on a statement that is directly linked to the research question.
Examples:
How did that negative experience impact you?
What are the impacts on the health of you and your family as a result of unemployment?

☑ **Hypothetical probes:** These questions pose a hypothetical situation and ask interviewees to respond.
Examples:
If the government introduced an affordable childcare program, how would that impact you?
Imagine that you could relive the past. Name one action that you would do differently.
If you were the Principal, what steps would you take to overcome the challenges that you have identified?

☑ **Probes to get the interviewee back on track:** Use these questions when the interviewee veers off topic or does not answer the question.
Examples:
Let's return to your first year of high school. Please tell us…
We were talking about how not having good grades impacts your sense of participation. Can you tell us more about that?

☑ **Case scenario or vignette-based probes**: These probes pose a scenario and conclude with follow-up questions. This method is useful for generating discussion on sensitive topics, such as mental health.

Case scenario: Mohammad and his family are from Afghanistan and came to Canada last year, after living in refugee camps in Pakistan for many years. Mohammad is starting Grade 9 at a new school and does not know any other students. He has been bullied because of his accent and has challenges relating to his peers. Mohammad has recurring nightmares and does not want to attend school. How do Mohammad's experiences reflect those of other students? What kinds of services and supports would be helpful for Mohammad?

Tips on Note Taking

Effective note taking is an important task in data collection that involves documenting observational data from focus groups and enhancing consistency, detail and comprehensiveness of the data. This task can be done by either the facilitator or another team member. The note taker can also assist the facilitator by noting: any missed questions, side discussions, or non-verbal signs of discomfort/tension among participants. Below are some tips on effective note taking for focus groups:

I. **Observational notes:** As well as documenting *what* participants are saying, note takers also keep track of *how* participants are saying it. Note takers also document observations, e.g. how participants are reacting, the nature of the discussion. Note takers may also document:
   i. Non-verbal signs, cues and body language when participants are speaking
   ii. Tone, voice level, emotions displayed about the discussion
   iii. Responses from other participants (non-verbal or verbal)
   iv. Nature and levels of participation from each participant

II. **Capturing soft voices and crowded discussions:** Note takers have the responsibility to capture soft voices, and crowded discussion, where many people are speaking at the same time. They may also document side discussions, not captured by voice recorders.

III. **Taking notes on content**: Note takers document the content of discussion in detail either verbatim (including every word), by summarizing key points, or a combination of the two. If combining, note-takers must enclose verbatim notes in quotation marks.

IV. **Identifying important/relevant discussion:** While documenting the conversation, note takers identify discussion that is relevant to the study. Develop symbols to identify important discussion points, which can help researchers later during the transcription/translation and analysis process.

V. **Keeping track of flows and connections:** Note takers help keep track of flow and connections during the focus group discussion, by linking participants to their comments.

How to Ensure Data Confidentiality

☑ **Processing of raw data.**
First level security processing – remove all names and personal identifiers.
Second level of security processing – review data again to remove any information that can identify an individual, agency or group of participants.

☑ **Secure storage, access, and utilization of data.**
Store all consent forms, recruitment/screening forms in a sealed envelope, in a locked cabinet (accessible only to principle investigators and project coordinator).

Store all raw data in a secure, locked cabinet; Password-protect all electronic raw data and store in protected folders.

Ensure that research team members have access to different levels of security-processed data, according to their roles and responsibilities.

Track data requests, utilization, and transfer; share data in password-protected, secure media (e.g. password-encrypted memory key).

Remind all data users to practice confidentiality when storing password-protected raw data in their personal computers.

Destroy securely raw data following project completion.

☑ **Secure audit of results and reports.**
Ensure that people reviewing the reports check for data confidentiality/sensitivity.
Be prepared for potential distortion of results by stakeholders (e.g. media).

Chapter 5

How to Analyse Research Data

Myths of Data Analysis

There are many myths and misconceptions about research and data analysis. Before we get into the details of how to analyse your data we would like to help you confront some of those myths[1]:

Myth # 1: Complex analysis and big words impress people.

Response to Myth # 1: Actually most people appreciate practical and understandable analyses.

Myth # 2: Analysis comes at the end after all the data are collected.

Response to Myth # 2: We should think about analysis very early on in the research process so that we HAVE the data we WANT to analyze.

Myth # 3: Quantitative analysis is the most accurate type of data analysis.

Response to Myth # 3: Some people think numbers are more accurate than words but in reality it is the quality of the data analysis process that matters.

Myth # 4: Data collected on its own does not have meaning.

Response to Myth # 4: Data must be interpreted. Numbers do not speak for themselves.

Myth # 5: Declaring the limitations of the analysis weakens the research study.

Response to Myth # 5: All analyses have weaknesses; it is more honest and responsible to acknowledge them.

Myth # 6: Computer analysis is always easier and better.

Response to Myth # 6: The method you use to analyze the data you collected depends on the size of the data set and how comfortable and competent you are with various data analysis techniques. For small sets of information, hand tabulation may be the most efficient method.

[1] The list of myths have been adapted from the following resource: Analyzing Data - Evaluating 4-H Youth Development Programs developed by The University of Wisconsin-Extension and available through: http://4h.uwex.edu/evaluation/data.cfm

Data Analysis

After you have collected your data, you must organize, process and analyze it. **Data analysis** involves reviewing the data to answer the research question and understanding its significance. It means studying connections, patterns and trends (as well as exceptions and unique cases) in the data. To get a sense of the overall picture, it is good practice to review all your data at least once and not consider only those items that seem the most interesting. Later, you can focus on a few issues/themes. After the analysis is done, the data is referred to as research results, evidence, facts, or knowledge.

The way you analysis your data determines the quality of your findings. The following steps will help you get organized:

Step 1: Organize and prepare your data for analysis.
Organize and prepare all your data for analysis. Follow these steps:

- ☑ Enter your data (by hand or using a computer e.g. Excel for survey data);
- ☑ If you have interview recordings, you will have to transcribe them as soon as possible after each interview (e.g. type them up);
- ☑ Keep all forms/questionnaires in one safe place;
- ☑ Check for completeness and accuracy of data;
- ☑ Assign a unique identifier to each form/questionnaire (e.g. Student #1 in grade 8);
- ☑ Name your files so they are easily tracked and read;
- ☑ Save all your files in the same format;
- ☑ Save your data files in labeled folders.

Step 2: Ensure data confidentiality.
Quickly review all your data and delete all names. Replace them with code numbers or aliases. Delete any information that could identify a participant (e.g. descriptions of where they live or what they look like).

Step 3: Making Sense of your Data

Interpretation is the process of attaching meaning to the data. Interpreting your data requires careful decisions. Often the same data can be interpreted in different ways. So, it is helpful to involve others or take time to hear how other members of your team interpret the same information.

Analysis is a process that evolves with each step. The more familiar you become with your data, the more observations you will make. Review all the data that you have collected to understand the full scope of the information and process. Focus on a few issues that are important to your team, as you may not have time to analyse everything.

You will need to use different strategies to analyse your qualitative and quantitative data (e.g. from open-ended vs close-ended questions).

Making Sense of Qualitative Data

In qualitative research the main analysis activities are reading, memo-ing, and coding:

Reading is the process of extracting meaning from the hand-written or printed word.

Memo-ing is the process of recording observations and thoughts about the data. This can be done in the margins of transcripts, in a notebook, or in emails to team members. Memo-ing includes first impressions, personal reflections, and questions and is a valuable stage of data analysis. These initial observations can form the basis for subsequent analysis, by naming and accounting for subjective reactions to the data.

Coding is the process of classification, to identify the data you are analyzing. If you are using interviews or focus groups, generate a list of codes, to note in your transcripts the different categories of issues that arise within and across transcripts. These codes become the basis for your analysis or thematic/coding framework. See example (page 53).

There are three levels of analysis: **descriptive, interpretive and critical** which exist on a continuum. The more meaning and significance you assign to your analysis the more you move from descriptive to interpretive to a critical level of analysis. Researchers move along the continuum, depending on the type of data and research goals.

- **Descriptive analysis** involves creating a list and description of themes or issues, based on the data, without examining the significance, meaning or relationship between them. For example, do more boys than girls participate in high school sports?
- **Interpretive analysis** involves assigning significance, hierarchical order, and meaning to the themes/issues you have generated. This process helps you select the appropriate strategies for further analysis. For example,
- **Critical analysis** extends interpretive analysis and assigns significance to the themes and issues. In this process, you examine participants' actions and experience within a wider context, answering the question "so what?" This reinforces the goals of the research project. For example,

Data Analysis Checklist

☑ **Be an active reader.** While you are reading, highlight the text. Underline or circle key words and phrases that intrigue or confuse you. Continually ask the questions: Who? What? Where? Why? So what?

☑ **Identify themes and sub-themes.** What patterns are emerging? Make comparisons with other transcripts. How is this one different from others and why?

☑ **Select key quotes or words.** Identify and reflect on quotes (words or phrases) that impress you and are repeated throughout one or several transcripts.

- ☑ **Continually ask questions**. What images come to mind? What are your reactions? What surprised you? What did you anticipate would be discussed that was not?

- ☑ **Discuss your initial reactions with your team**. Active reading and memo-ing is a useful process for recording and sharing your ideas, when engaging in collaborative data analysis. Talking about your ideas can generate new insights. Make sure you keep notes while discussing your transcript.

Guidelines for Qualitative Analysis

You can use the questions below as a guide to make sense of your transcripts. It is a good idea to compare your analysis with other members of your team to verify your findings.

Simple quantitative significance: Identify the most frequent and infrequent responses. This includes answers about quantity, duration, and frequency. For example:

- What is the most frequent response?
- What is the second most frequent response?
- What is the least frequent response?

Qualitative significance: Identify subjective meaning behind the participants' comments, reflecting personal experiences, emotions, and understanding. This refers to the content of the comments, as well as the manner in which the comments were made (e.g. participant laughed). For example:

- What perspectives and opinions are represented in the data?
- What experiences are described? How did the respondents react to those experiences?
- How did those experiences affect the participant or community?
- What are some explanations for why something happened?

It is also important to identify common groupings or themes within/across data sets. For example:

- What types of responses can be grouped together?
- What heading/theme can be given to each group or sub-group?
- What are the differences and/or similarities in responses between groups of participants?
- How do these differences or similarities correspond to race, class, gender, age, sexual orientation, immigration status, ability, or unique experience?
- Which responses do you find puzzling or complex?
- Which interviews or quotes stand out as particularly meaningful?

While you will find that certain responses are very familiar and keep coming back, it is also important to pay attention to responses that are unique as they might provide you with some new insights. For example:

- Which responses do not seem to fit with your analysis?
- Which responses confuse you? And why?

EXAMPLE: IDENTIFYING CODES & MEMOS

Below is an excerpt from an interview that will show you how to identify themes and how you can record your questions in the margins as you are reading.

Expectations of Canada:

Education Expectations:
Continue studies at home

Barriers to Learning English:
No time, need to work (pay bills)

R10B: For me, I also told myself that I was going to learn English and then from there go back to study something that I had previously studied. But, I come here and I face a completely different reality. My challenge was my English. Even though I was there, but as a Latino…the ones who are able to come in are the ones with very little money…because they come here to work. But they have to give more time to work because we have to pay for things. So, in my case, the time passed, almost more than seven years, one as a *caribe* is not able to study English because they have to dedicate themselves…so I fell behind…the longer I was here, the longer this process unfolded…I told myself 'I'm going to bring my degree' and so I went to the west and converted everything but, the barrier was always my English. One has to know the language to write the TOEFL examination, and in my case, study…or for being a teaching assistant, in order to be a teacher…As we get older, we have our own families and it becomes more difficult. So…your dreams no longer…seem to become a reality. So, you try to take up different types of jobs. In my case, something that I was able to do was work with kids and in childcare.

"caribe" check meaning

Why was childcare selected as the profession to pursue in Canada

Although they did not explicitly say that their expectation to learn English was not met, this is definitely implied.

Making Sense of Quantitative Data

Quantitative data must be interpreted because numbers do not speak for themselves. Data analysis is a very important step in the research process. Quantitative data analysis is the process of summarizing, interpreting, and presenting numerical data.If you are not using an online survey tool that provides you with a summary of your research you need to enter your data into a software program (e.g. Excel), and analyze your data. Before you begin entering your data, develop a system to organize the data you collected. In order to analyze data, responses need to be coded as numerical values. This is done so that the computer can read and analyze the data. You will have to take notes and record what the value of each of the responses is. Your notes, also known as a codebook, list each variable/question, all the response options for each question, and the numerical code you have assigned to each response option.

Example 1: Male or Female

- There is no order associated with male nor female
- Each category is assigned an arbitrary value (male = 1, female = 2)
- You can then count the 1s and 2s in your study

Example 2: Items measured on a Likert scale – rank your satisfaction on scale of 1-5. How satisfied are you with the changes to the cafeteria food?

- 1 = Very Dissatisfied
- 2 = Dissatisfied
- 3 = Satisfied
- 4 = Very satisfied

The code book is your data key/legend, so it is important to keep it in a safe place where you can access it easily when you want to gather data or organize it.

After you develop your codebook, it is important that you enter the data in a logical format that can be easily understood and analyzed. You will need to assign a unique participant ID to each participant. Next, you need to create and organize a spreadsheet so that each question in the survey has a column assigned to it. For example, if you surveyed teachers and students, you will need to create one spreadsheet for the teacher responses and a different spreadsheet for the student responses.

Analyzing Qualitative Data

The following section will help you analyze quantitative data.[2] At the end of any research study it is always important for you and your team to reflect on the study and ask the following questions:

- ✓ What did we learn from the study that we did not know before we started?
- ✓ Were there any 'ah-ha' moments?
- ✓ Were there findings that surprised you?
- ✓ Are there things you still do not understand very well and that you would like to explore further?
- ✓ What did you learn about the research participants?
- ✓ What would you do differently next time around given the time and resources available to you and your team?
- ✓ Are there any questions that you would have formulated differently to give you better information?

It is important to include recommendations or an action plan when the study is over. The action plan might make it more likely that the findings of your study are acted upon and that your recommendations are used. This will be discussed in more detail in the next chapter.

[2] The resource Analyzing Quantitative Data was prepared by Ellen Taylor-Powell at the University of Wisconsin-Extension and is available through http://learningstore.uwex.edu/assets/pdfs/G3658-6.pdf

Chapter 6

How to Share Research Results for Positive Change

Sharing Your Data

Now that you have finished analysing your data and summarized your findings what story do they tell? What key messages do you want to share? The story may change depending on the audience. Use the tool below to brainstorm options for sharing your findings.

Now what? So what?

new knowledge → positive change

WHO do you want to reach?

- ✓ Your classmates, to raise awareness about the opinions of your peers, i.e. the student voice.
- ✓ Your principal/vice-principal/administration, to affect change in school and school policies.
- ✓ Your parents, classmates' families, and other community members, to affect change in the community.

WHAT findings do you want to share? What are the goals of your research project? If your goal is to influence practices within social service agencies, you may want to share findings about best practices with social service workers.

- ✓ What were your project successes? Did your Community-Based Research project follow an innovative model? Did you resolve particular challenges that would be useful to share?

HOW do you want to share your findings?

- ✓ How can you disseminate your findings to suit your audience? What community leaders can help connect you with others to ensure that your message is shared?
- ✓ What major events can you connect to your research, once it has been completed? (e.g. conferences, one-day events focusing on a particular issue)
- ✓ What resources do you have (human and material) to maximize distribution of your findings?

WHEN do you want to share your findings?

- ✓ What are the timelines for sharing your results?
- ✓ Are there other related community or school events with which you can partner?
- ✓ Does a local newspaper or magazine have a special focus or issue that can relate to your research?
- ✓ Are there any time-sensitive activities for dissemination of the information?

WHERE do you want to share your findings?

- ✓ What are the available venues to share your findings? Do you need a space where you can display photos, show a presentation or is big enough for your whole school to attend?

Dissemination Planning Tool

Sample research question: What spaces in schools are safe/unsafe?
Tool: Photovoice

Who	What do they want to hear?	What do you want them to hear?	How? (tools, strategies)	When?	Where?
Students, Classmates, Peers	*What other students are saying about safe and unsafe spaces.*	*That the students have spoken up and identified the safe and unsafe spaces in school.*	*Host an event to display the photos and stories.*	*May 14*	*Gym*
Principals, Teachers and School Board Representatives					
Ministry/ Government Representatives					
Parents/ Guardians and Community Representatives					

What Is Our Message? Who Is Our Audience?

SAMPLE

Refugee Youth Health Project

Research question: What are the educational gaps and challenges that refugee youth face before and after immigrating to Canada?

Snapshot:

Title that describes your research question

Aspirations for Higher Education among Newcomer Refugee Youth in Toronto: Expectations, Challenges, and Strategies

A high percentage of refugees have low levels of education and English/French fluency when they immigrate to Canada. This project discusses the educational goals of newcomer refugee youth and explores how they are linked to conditions experienced before and after arrival in Canada. Guided by community-based research principles, we partnered with 8 refugee youth researchers and conducted 10 focus groups and 13 interviews with refugee youth. Results show that newcomer refugee youth have ambitions for higher education in Canada, to overcome forced migration and interruptions in education before arriving in Canada. However, they face many barriers in pursuing their education, including: information gaps, language barriers, financial barriers, lack of parental guidance, and discrimination. There is an urgent need for new policies and programs to help remove these barriers for refugee students to meet their educational goals.

General public:

Refugee Youth face unique barriers when they immigrate to Canada, linked to their previous school and life experiences.

They have ambitions to pursue higher education. They face and deal with many barriers at the system level.

Education policy makers*:*

English as a Second Language programs need to accommodate the needs of refugee youth.

School programs need to address the challenges faced by refugee youth as a key component in supporting student success.

School boards*:*

Equity training for Educators and Administrators should be mandatory. It should also be incorporated into the curriculum as a lens for all subjects.

What message do you want your different audiences to hear?

Chapter 7

How to Develop a Project Plan

Planning

Planning for a research project involves many elements:

Design → Method → Ethics → Data Collection→ Analysis → Sharing

This chapter discusses the elements and steps in planning your research project and presents some useful tools for the process.

Project Planning Framework

The chart below describes the different components of the project framework. A blank tool is also provided to help you plan your collaborative inquiry action research project.

Objectives and scope
What is your subject of interest? Decide on a research question and methodology to answer your research question, and then plan the objective and scope.
Example: Subject: safer school, research to contribute to making the school a safer place. Resources: based on budget, time, and resources, buy one camera and ask six students to use photovoice to capture their experiences in after-school programs.

Guiding principles
As a team, decide on the roles and responsibilities of each member, the due date of each project deliverable, and the communication and work plan, to address any conflicts.
Example: Communication plan: email is the most efficient way to reach everyone

Team members and partners

List the team members and their roles/responsibilities, which may include:
- organize meetings
- manage the budget
- purchase the materials needed
- collect data (e.g. conduct interviews, run a focus group) – likely all team members
- analyze the data - likely all team members
- organize a community/school event: meet with principal, advertise event, organize food and decorations.

List all other external partners and their roles, which should include:
- principal
- classmates
- peers

And may include:
- vice principals
- other teachers
- community members
- family members

Timeline

Determine the key project activities and timelines.
Given the 3-month timeline, below are the lengths of time to spend on each research step.

Activity	Average Time
✓ Ethics approval	2 weeks
✓ Recruiting participants *This depends on the data collection method and number of participants.	2 weeks 1 week notice for potential participants to begin their involvement
✓ Data Collection *This depends on method and number of participants.	3-4 weeks
✓ Data Analysis	1-2 weeks
✓ Event to share research	2-3 weeks' notice for attendees, e.g. community members and partners

Budget	
Estimate all project costs and plan what your team can afford. This is a key component to determine project feasibility and secure project approval.	
Project Materials	**Cost**
Disposable camera	$8-$15
Digital camera	$100-$150 (basic)
Voice recorder	$30-$60
Black and White photocopies (50 copies)	$2.50-$5.00
Colour photocopies (50 copies)	$15-$25
Memory key/USB key (2GB)	$10-$15
Try to purchase material that your school or other project teams can re-use.	

Working in a team

Conventional research is often conducted by a small group of researchers. In collaborative inquiry action research, team members and external partners bring different strengths and perspectives to the work. Partnering with others who have an interest in the research project can result in sharing greater roles and responsibilities, a more engaging process, and richer end results.

It is important that all members of your project team agree to the guidelines that will frame your research project. Consider the following:

1. What is each person's role on the team? Is there one team member who will be in charge of setting up meetings? Another team member who will lead recruitment for your data collection?

Ask each team member to document and share the strengths that they bring to the team. Based on the strengths identified and each member's availability/capacity to perform different tasks, determine the roles and responsibilities.

2. Discuss your communication plan and decision-making process. Use different strategies for making decisions, depending on situation and need:

a) **Consensus** maintains an open dialogue for team members to agree on the terms. Where there are two different approaches, develop a third to respond to the views of all team members.

b) **Compromise** adopts components of two or more different opinions to create a combined strategy.

c) **Voting** (majority wins) is used where neither consensus nor compromise will produce the desired results.

WORKSHEETS

Mapping Important Issues - Template

This exercise will help you document issues that are important to you and other students. Write/draw near the image that best represents the issue. You can write/draw multiple issues. If issues are connected, then draw a line to connect them. You can also use the blank page on the next page to document the issues in your own style.

Family/Home

Me

Classroom

School

Friends/Other students

Mapping Important Issues - In your own style

List of Research Issues - Template

List of Research Issues			
Issues/Topics	**Importance**	**What more do we need to know about this issue/topic?**	**Notes**

Research Design Tool

Use these guiding questions to help the team identify the research question, the specific steps to obtain answers to the question, and how to use the information once collected.

Issues/Topic: What issues/concerns do we have? What do we want to see changed/improved?

Research question: What do we want to know about this issue? What do we need to know?

Research goals: Why do we want to know this? What will we do with this information? How will it help us make a positive change in our school community?

Participant sample and recruitment: Where do we find participants? Who do we ask? How are we going to reach them?

Research ethics: How are we going to convince them to talk to us? How are we going to ensure that they do not feel pressured to respond? How are we going to ensure their safety and comfort?

Data collection process/questions: How are we going to ask the questions in order to obtain the relevant responses?

Analysis and sharing of results: What are we going to do with this information? Who needs to know this information? How are we going to use this information to make a positive change?

Project Framework - Template

Our research question:	
Objective: What do we want to accomplish as a team?	
Guiding principles: What are some important values/considerations for our project?	
Project team members (name and email)	Roles and responsibilities

Key project activities	Needed resources (project team members, external partners, other)	Budget needed	Dates

Budget		
Budget Item	Cost	Notes (Who will purchase it, and where will we store it?)

Timeline	Proposed accomplishments over two weeks
Final Presentation Date:	
Team Meeting Dates:	

Research Ethics Review Application Process

Instructions to *Students as Researchers* Team

Now that you have designed your research, you need research ethics approval before you can start your research. This process involves 4 simple steps:

- ❑ **Step 1:** Using what you have learned about research ethics, please complete this 2-page form, providing as much information about all the steps your team will take to do research in an ethical way. Refer to your toolkit if you have questions. Once you finish completing this form, submit it to the Research Committee at your school (if unsure, ask your school principal). You will also need to fill out the necessary sections of the Consent Form for Research Participants and attach the form to this application.
- ❑ **Step 2:** The ethics review committee in your board or school and your school principal will review your information to ensure that your proposed steps meet school board and school requirements about ethical standards. Using an Ethics Review Feedback Form, they will provide constructive feedback and suggest any required additional steps.
- ❑ **Step 3:** Meet as a team to review the feedback. On the Ethics Review Feedback Form, document (in the right hand column) how you are going to take the additional steps and submit the form.
- ❑ **Step 4:** The ethics review committee and school principal will review your response to their feedback, and if satisfied, will give you approval to start your research project.

Note to school principal and committee reviewing the ethics review application

This is a youth-friendly research ethics review application form, developed for the *Students as Researchers* pilot project, as part of the Student Voice initiative led by the Ontario Ministry of Education. All questions related to research ethics, as outlined in the guidelines of the Tri-Council Policy statement on ethical conduct for research involving humans, are included in this form, in plain language and a youth-friendly format. Standard institutional information about the *Students as Researchers* initiative that relates to all research projects (sponsor agency, funding, oversight, support) is provided below.

As part of the *Students as Researchers* initiative**,** student-teacher teams (4 students and 1 teacher) in your school district will be designing and conducting a collaborative inquiry (action research) project, related to student engagement. The student-teacher teams have developed research skills and learned about research ethics during two days of training and will receive an action research toolkit, for reference. Each team will submit to your committee the Research Ethics Review application form. Please use the Ethics Review Feedback Form, designed for the *Students as Researchers* initiative, to provide feedback to the teams. Once they receive approval from your committee (and from the school principal), each team will implement their research by a specified date and present their findings to the school and the Ministry of Education. The ministry hopes to use these findings to inform student engagement initiatives. Teams will need approval from the school principal before uploading information/reports from their research to the Internet. Teams will receive ongoing mentorship from teachers, Student Success Leaders, and the ministry to successfully complete their projects. At the end of their project, teams will be required to submit all hard and soft copies of their research data to the school principal for safekeeping. Teams will be able to access and use their research data for up to two years, after which the school will purge all data. If you have any questions about the *Students as Researchers* initiative, please contact studentengagement@ontario.ca at the Ministry of Education.

Research Ethics Review Application Form

Date of application: _____

1. **Your research team:** Write down the names of the team members
2. **Title of your research:** Write down the title of your research project. E.g. "Impacts of Cyber bullying on Student Engagement" or "Student Perspectives about the Environmental Awareness Programs at School"
3. **Your research goals:** Write down your research question, a few sentences about why your team chose this topic/why it is important, what you plan to do with your findings, and what questions you are going to ask participants.
4. **Data collection method(s) and study participants:** Beside each data collection method your team plans to use, document the kind of interaction it will involve, who you are going to interview, and how many from each group. Provide gender, grade and other background information. If you are using secondary data, indicate in the "Other" section the source and content of the data.

Data collection method	**Type of interaction** (face-to-face (indicate location), self-administered, by telephone, online)	**Duration** (hours/minutes per activity, e.g. 20-minute survey, 1- hour interview)	**Number/background of participants** (grade or age, gender, etc., e.g. 10 male and 10 female students, from grades 7 and 8, from single-parent families)
Survey			
One-on-one interview			
Focus group			
Photovoice			
Film-based			
Other (specify here)			

Research Ethics Review Application Form (Continued)

Recruitment: List all the ways you are going to recruit participants for your research (e.g. recruitment flyer, word of mouth, Facebook).
Informed consent: Document all the steps you will take to ensure that participants take part in your research voluntarily, feel safe and comfortable participating, and know that they can refuse to answer questions. Note that you will require each participant (and their parents if student is under 16 years) to sign the Consent Form for Research Participants before they can take part in your study.
Confidentiality: Document how you are going to protect the identity of research participants and any people to whom they refer. This involves removing personal names or identifiers from the data. Photovoice and digital storytelling will involve further security measures. Document the steps to ensure safe storage, use, and access of the data collected (e.g. team-member only access by password).
Minimizing harm: Document steps to ensure that research participants or others involved in the project are kept safe from harm (physical or emotional) during or as a result of the research.
Signatures of team members: Ask all team members to sign below

Consent Form for Research Participants

Dear Participant/Parent,

Our team is conducting research, as part of the *Students as Researchers* initiative of the Ontario Ministry of Education. Student-teacher research teams receive training and support to design and conduct research on issues that are important to students. Results from these research projects will be used to strengthen student engagement in schools. All research teams have received training on ethical research practice, including how to ensure that no one is pressured into participating, how to keep participants safe and comfortable, and how to ensure confidentiality. This research project has been approved by the school principal and research committee of your school district. When the research is complete, the report and any other communication material (e.g. film) will be available in the school library. Only reports and communication materials that are approved by the school principal will be uploaded to the Internet.

You/your student have been invited to participate in our research project because your/your student's views and experiences will help us identify answers to our research question. The chart below outlines our research goals, participant activities, and your rights to decline, to not answer questions, and to withdraw from the research. Before deciding whether you want to participate in our research (or consent to your student's participation), please read the information and feel free to ask us any questions.

About the research project	**Note to research team:** write down appropriate information from your research project in each row before giving the consent form to potential participants.
Title of our research project	
Goals of our research	
How many people in total and which groups are being asked to participate in the research?	
Why are we asking you/your student to participate?	
What will you/your student be asked to do in this research?	
How much time will it take to complete this?	
Where will this take place?	
What are some examples of questions that will be asked?	
Any other relevant information:	

Are there any risks in taking part in this research for me/my student?

The principal and the ethics review committee in your school board have reviewed this research to make sure that there is minimal or no risk to participants in this research. You/your student may experience some emotions when talking to the research team about their experiences. In such cases, you/your student may request to speak to a counsellor.

If you have any questions or concerns about this research project, you can contact the teacher who is part of this research team at _____or the school principal at _____

By signing this consent form to participate in this research, you understand that:

1. Your/your student's participation is voluntary and you may withdraw at any time, without consequence.
2. You/your student have/has the right to not respond to any questions.
3. Your/your student's decision to participate or not will have no negative impact at school.
4. All research data will be safely stored and accessed by only our research team. For extra security, all research data will be destroyed by the school principal two years after project completion.
5. Confidentiality: to the greatest extent possible, the research team and the school will protect your/your student's identity. The extent of confidentiality, however, varies by the type of research:
    a. If the research involves surveys and one-on-one interviews, your/your student's name will be kept confidential and not used in any research reports or communication materials. All research findings will be presented using an alias or participant code number for each participant.
    b. If the research involves focus group discussions, all steps in 5a will be followed. The research team will also ask focus group participants to keep the conversation confidential but cannot guarantee that participants will do so. If you/your student participate in a focus group discussion, please be mindful of the information that you share.
    c. If the research uses photography or other visual/digital media (e.g. photovoice, film) and you do not want your/your student's face or voice captured, request that the research team digitally remove them.
6. You will receive a copy of this consent form.
7. You can request a copy of the final research report or research communication material.

Student consent: I consent to participate in this research project.

If participation in this research involves being photographed or filmed, **I consent to being** *(check one. If the research does not involve photography or film, leave blank):*

- ❑ photographed
- ❑ filmed
- ❑ filmed without exposing my face or voice

Name: _____
Signature: _____ Date: _____

Parental/Guardian consent (for participants under 16 years): I give permission for my student to participate in this research project.

If participation in this research involves being photographed or filmed, **I give permission for my student to be** *(check one. If the research does not involve photography or film, leave blank):*

- ❑ photographed
- ❑ filmed
- ❑ filmed without exposing face or voice

Name of student: _____
Name of parent/guardian: _____
Signature of parent/guardian: _____ Date: _____

Our Key Messages:

What is our message? Who is our audience? What actions might they take? Decide on a format that helps convey your key messages (e.g. video, photovoice, video etc.)

<table>
<tr><td colspan="2">Research question:</td></tr>
<tr><td rowspan="4">Project Snapshot: a summary of the CI process you followed including: your data collection method, data analysis, research findings, what worked and what didn't, the key recommendations and suggested next steps including how you shared your results and with whom.</td><td>Students/Classmates/Peers:
What is the message for young people from what you have learned? What can young people do?</td></tr>
<tr><td>Parents/Guardians and community:
What are the key messages for adults and what can they do?</td></tr>
<tr><td>Principals/Teachers/School board: What is are the key messages for educators? What can teachers, principals and the school board do?</td></tr>
<tr><td>Ministry/Government: What are key messages for the ministry? What can the ministry do?</td></tr>
</table>

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