

Lesson Plan Information	
Subject/Course: Trans-Disciplinary Potential. Integration possible in: Language Arts, Sciences, Math, History, and Social Studies.	Name:
Grade Level: 7-12	Date: Time:
Topic: Comparing the impact of diabetes on individuals/Equity	Length of Period: 150 minutes
Expectation(s)	
Big Idea OR Framing Question (Directly from the Ontario Curriculum):	
<p>CHC2D - Strand B - Framing Question - "In what ways did the lives and struggles of different individuals, groups, and communities help shape Canada during this period? What lasting impact did they have on Canada?" (Canadian and World Studies: Grades 9 and 10, 2018, p. 108).</p>	
Expectation(s) (Directly from the Ontario Curriculum):	
Utilize expectations for the current course being instructed.	
Learning Skills: Critical Thinking	
Content	
What do I want the learners to know and/or be able to do?	
Today learners will:	
<ul style="list-style-type: none"> - Relate your primary learning goal to the specific expectation for the course being currently instructed. - The suggested Learning Goals related to the discovery of insulin are the following: <ul style="list-style-type: none"> - Diabetes impacts lives in many different ways - When managed equitably more people with diabetes can live better lives - Medical research has led to developments that have significantly improved the physical well-being of those living with diabetes but more needs to be done for this to be equitable - Personal stories can help others to understand the how life circumstances variations in peoples' lives affect the degree to which diabetes impacts their 	

health

Assessment / Evaluation

(Recording Devices: anecdotal record, checklist, rating scale, rubric, success criteria)

Based on the application, how will I know that the learners have learned what I intended?

- Student generated conversation will allow for partial indication of understanding. This can be accomplished using your anecdotal records, exit tickets or another preferred method.
- Students will be generating a storyboard using the Seven Sentence Story Structure Method described in Lesson 1.
 - Note: This is an overarching task, and will continue over the sequence of Insulin100 lessons.

Learning Context

A. The Learners

(i) What prior experiences, knowledge, and skills do the learners bring with them to this learning experience?

- Learners may be impacted by diabetes and insulin in their own life, or through the experiences of relatives or friends.
- Learners may also be familiar with insulin as it is a common example to use of Canadian innovation and invention.
- Learners will be familiar with the Banting and Best story.
- Learners may have seen the stamp or the heritage minute (to be released).
- Learners will have begun learning about insulin and its story through the Insulin100 Lessons.

(ii) How will I differentiate the instruction (content, process, and/or product) to ensure the inclusion of all learners? (must include, where applicable, accommodations and/or modification for learners identified as exceptional)

- Exceptional learners should be provided with their standard accommodations and modifications.
- ELL students should be provided with their standard accommodations.
- Allow students to present their calls to action in a variety of formats - video, oral presentation, essay format, artistically etc.
- COVID19 Limitations
 - Note: This lesson is optimally delivered in a traditional classroom setting. However, due to COVID19 restrictions you may choose to do this in an

alternative method than described below. Suggestions for alternatives are as follows:

- Student presentation of their calls to action can still be differentiated. Allow students to choose the presentation medium that best suits their needs in a or non-traditional setting.

B. Learning Environment

Instructors may include a map of their classroom in this section, including desk placement, and the location(s) of resources/materials.

C. Resources/Materials (*cite resources as may be necessary*)

- Appendices (see attached file)
- Chalkboard/Chalk
- Whiteboard/Markers
- Smartboard (Optional)
- Projector

Teaching/Learning Strategies

INTRODUCTION

How will I engage the learners? (e.g., motivational strategy, hook, activation of learners' prior knowledge, activities, procedures, compelling problem)

Provide students with Appendix 1: Assessing Impact. Ask them to indicate on the thermometer how significantly they believe diabetes impacted on the physical well-being of four different Canadians:

- a) someone living in poverty with Type 1 Diabetes;
- b) someone from a middle-class family with Type 2 Diabetes;
- c) an overweight male in their 50's with Type 2 diabetes;
- d) a 12 year old boy with Type 1 Diabetes.

To indicate the impact provide students with four dots of different colours (red=living in poverty; green=middle class; yellow=overweight male; blue=12 year old boy).

If the lesson is being taught online, have students use annotations to place the four colour dots on the thermometer.

- Note: Students can be asked to share where they placed each dot to generate a class discussion, or you can allow students to personally critically think or engage in a think/pair/share with a classmate. This can be done via a screenshot and blogpost for non-traditional classrooms.

Set the task

Inform students that they will be using details from the personal stories of Canadians with diabetes to illustrate the degree to which their personal circumstances either helped them to live with diabetes or exacerbated issues related to their physical well-being. Considering what is learned from the personal stories of Canadians, students will create a call to action that suggests three important actions that should be taken to ensure all Canadians with diabetes have equitable opportunities to live relatively healthy lives. Students can determine the form of their call to action (letter, poster, video etc.)

- It is important to acknowledge the hardships people with diabetes face and the stories discussed during this lesson may be difficult for some students to discuss. Therefore it is important to allow learners to process these conversations in a school-approved manner (taking a walk, getting some water, etc).

MIDDLE

Teaching: How does the lesson develop? How we teach new concepts and processes (e.g., gradual release of responsibility – modeled, shared, and guided instruction; content and strategies).

Review the impact of diabetes on personal health

- Inform students that diabetes impacts several aspects of a person's life especially their diet, health, activities.
- Provide students with a copy of Appendix 2: Diabetes Backgrounder. Encourage students to review the information that can be found at the link provided on the backgrounder and to assemble 4-6 important and relevant points that help them to understand the symptoms, treatments and complications relating to diabetes.

Introduce the concept of comorbidity

- Provide students with the following definition of “comorbidity”:
 - A comorbidity is a physical or mental disease or condition that coexists with a primary disease. In the case of diabetes, common comorbidities include high blood pressure, obesity, depression, liver disease and sleep apnea.
- Comorbidities can either complicate the effects of diabetes or can contribute to the development of Type 2 diabetes.

Ask students to identify which of the following statements could reflect a comorbidity for someone with diabetes and which would not. Invite students to share their answer along with their reasoning.

1. A cut finger from peeling an apple
2. A heart-attack
3. Poor diet leading to weight gain
4. A severe response to Covid-19
5. Food poisoning

Establish criteria for assessing the degree to which personal life circumstances* help or harm the health of people with diabetes.

- Note: Personal life circumstances refer to social and economic realities of each individuals' life. For example, their income level, marital/family status, social standing, level of education, nature of employment and so on.

Present students with the following criteria to be used in assessing the degree of impact of personal life circumstances. Remind students when examining evidence to consider each of the criteria as a continuum or scale. For example, were additional health issues slightly more likely to occur or highly more likely? Or, were they slightly or much less likely?

- Criteria for significant impact of personal life circumstances:

- Increases or decreases the likelihood of additional health issues (e.g. quality of sleep, quality of diet, stress level)
- Deepens or lessens the impact of existing health conditions
- Shortens or lengthens life expectancy

Introduce thinking strategy to assist in case study analysis

- Share Appendix 3: Assessing the impact of personal life circumstances on health and comorbidity by posting it online or projecting it in class.
- Provide students with a case study to read independently about someone who lives with diabetes. Examples can be found on the Defining Moments Canada website (see references), or a celebrity such as Max Domi can be referenced.

Once students have read a case study, model the use of the Appendix 3 by presenting a partially completed sheet and reviewing the sample evidence, inferences and conclusions.

- If necessary, review inferencing using material from lesson 3.

Invite students to suggest relevant additional evidence that can be extracted from the case study.

- As students identify relevant evidence, encourage them to suggest a sound inference that can be drawn from the evidence.
- Once a body of evidence and inferences have been gathered ask students to share the degree to which someone's personal life circumstances can either help or hinder their ability to live a healthy life while living with diabetes.
- Ensure students support their assessment of significance by citing 2-3 relevant insights they have drawn from the case study.
 - Note: It is important to encourage respectful discussion during these portions of the Insulin100 lessons.

Build background knowledge through the use of case studies

- Provide pairs or groups of 3 students with one Diabetes Case Study. (There are six historical case studies providing details of the impact of diabetes on people prior to and immediately after the discovery of insulin and six contemporary case studies providing details on the impact of diabetes on the lives of people from various backgrounds.)
 - 6 historical stories, Pilot, Hockey player, Father and Daughter, Indigenous, Poverty
- Also provide the students with a copy of Appendix 3: Assessing the impact of personal circumstance on health and comorbidity.
- Encourage students to independently read their assigned case study.
- After reading the case study, ask students to collaboratively identify relevant evidence and match the evidence to the most appropriate criteria on the Assessing the impact of personal circumstance on health and comorbidity chart.

- As each piece of evidence is identified and added to the chart, remind students to discuss possible inferences that can be drawn.
- Once the students have completed their careful analysis of their case study remind them to draw a conclusion on the degree to which the individual's personal circumstance either helped or hinder their ability to live a healthy life while living with diabetes.

Share Case Study Conclusions

- Provide each group the opportunity to share the conclusions they have drawn based on their assigned case study.
- Remind students to establish context by sharing with their peers, details of their case study including name, when they lived, and any other helpful details. Then ask that they share their conclusions ensuring they provide relevant details to support their assessments.
 - Students may be encouraged to simply present orally to the class.
 - Alternatively, students may create and present a single slide to display their assigned case study and their conclusions.

Encourage Iterative Thinking*

- Invite students to re-visit the Thermometer to consider if they would change their assessment of how significantly diabetes impacted people's lives. Remind them that they are to provide reasoning with evidence from the case studies to support why they would or would not alter their assessment.
- *Note: Iterative thinking refers to thinking that is incremental in nature. Students are invited to consider an initial response to a question or challenge and then to reflect on that response as their learning progresses. When reflecting on their response students could affirm their position/idea; revise their response; or extend their thinking.
 - Note: You may encourage group discussion based on the re-examination of the thermometers.

Select the most powerful actions and helpful details, evidence or quotes

- To finish the lesson, remind students that their lesson task is to Identify the 3 most powerful and equitable actions that should be taken to minimize the effects of diabetes on everyone.
- Ask them to consider the various actions suggested by the groups based on their assigned case studies and to select the 3 actions they believe will make the most important difference. To determine the three most important actions, encourage students to consider which actions would:
 - Ensure an equitable impact on improving people's health and life
 - Have a wide-spread impact
 - Have a lasting impact

- Would make a significant difference to individuals health
 - Note: These criteria directly correlate to *Historical Significance*.

Consolidation and/or Recapitulation Process: How will I check for understanding?

- Understanding will be checked for through student discussion of the different case studies, and their assessment of what would be the most significant actions to take to minimize the impact of diabetes.

Application: What will learners do to demonstrate their learning? (moving from guided, scaffolded practice, and gradual release of responsibility)

- Students will continue to work on their 7-Sentence Story Structure Thoughtbook.
 - Today's lesson allows students to determine significance and to craft calls to action for their stories.

CONCLUSION

How will I conclude the lesson?

Review from Lesson 1, the details of the Seven Sentence Story Structure from their Thoughtbook.

- Remind students to continue to add to their stories using material from this lesson, as well as previous Insulin100 lessons.
- Also, remind them that their overarching challenge is to “Tell a compelling story of the discovery of insulin in a way that can inspire powerful future actions to a selected audience using the most appropriate medium.”
- Remind them that the inclusion of details, evidence and quotes from personal accounts can help to add an important human dimension to their story and ask that they select the three most powerful details, evidence or quotes from personal accounts that they have encountered in this lesson.
 - Note: Students may add more details, but should be advised to keep their stories manageable for time constraints.

My Reflections on the Lesson

What do I need to do to become more effective as a teacher in supporting learning?

References

Ministry of Education, (2018, revised).

<http://www.edu.gov.on.ca/eng/curriculum/secondary/canworld910curr2018.pdf>. Toronto, Ontario.

Defining Moments Canada. (2021, January 14, revised). <https://definingmomentscanada.ca/>.

*This lesson plan template has been adapted from the Nipissing University Schulich School of Education Bachelor of Education lesson planning template.