

Utilizing Assessments to Improve Knowledge Construction, Motivation, Discipline, and Learning Performance of High School Students'

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Introduction

Literature Review

- Constructivism: Students build knowledge by connecting new info to prior understanding; students discuss, think about, explore, and solve problems related to the new topic.
- Motivation: Intrinsic (enjoy learning); extrinsic (rewards: grades, praise, pressure)
- Assessments: Formative (adjust teaching to help students, feedback, smaller impact on student achievement); summative (evaluate learning, assign grades); bonus points (participation, engagement, quality).
- Teacher Leadership: Improve students' performance, Effective instruction and classroom management support focus, engagement, and learning.
- Dropout: Disengagement, lack of support, and strict rules increase dropout; motivation and supportive teaching reduce it.

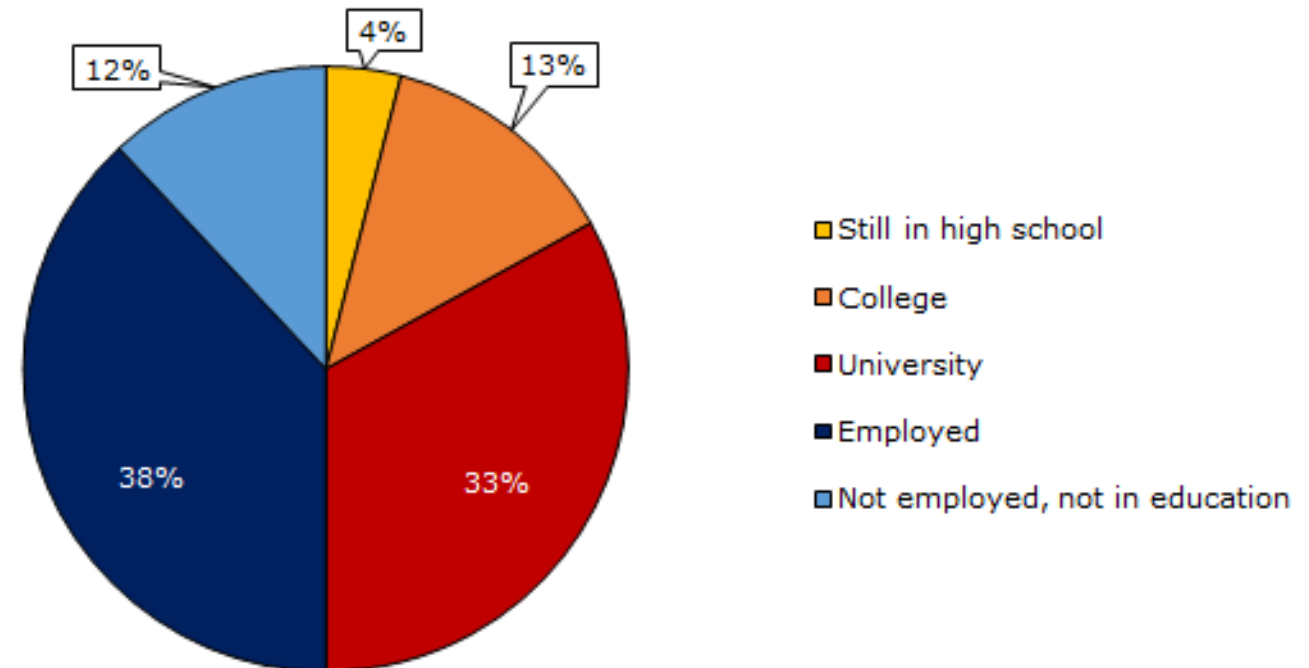
Dropout Background in Canada

In Canada, most young people complete high school around age 18.

Among 18- to 24-year-olds in 2021/2022:

- 50% were enrolled in education:
 - 4% completing high school
 - 13% attending college
 - 33% attending university
- 50% were not in education:
 - 38% employed
 - 12% neither in employment, education, nor training

Chart 1
Education and labour market activities of 18 to 24 year olds, Canada, 2021/2022



Note: The participation rate in apprenticeships cannot be added to this graphic, as it is not known how apprentices report their educational participation in the Labour Force Survey. The reference period for the education activities is 2021/2022, while the reference period for the labour market activities is 2022.

Source: Statistics Canada, tables 37-10-0103 and 37-10-0196.

Research Problem, Significance, Literature Gap

- Formative assessments have a smaller impact on student achievement; it won't indicate the students who are not constructing knowledge, disengaged students, who will fail the summative assessments.
- When disengagement increases, students stop constructing knowledge and struggle to meet learning expectations.
- Over time, this leads to a loss of motivation and a growing sense of being unsupported at school.
- These factors significantly increase the risk of academic decline and eventual dropout.
- Understanding how teachers use assessment practices, effective classroom management, and support strategies to reduce disengagement and improve student success and university transition.

Research Questions

- How do high school teachers experience and interpret their relationships with students in shaping motivation, engagement, and overall classroom performance?
- How do high school teachers experience the use of graded classwork, bonus questions, open-book classwork, and assessment evidence when supporting student success, retention, and university acceptance?

Methodology

Participants

- Non-probability, Purposeful Sampling.
- Invitations were sent to teachers from two independent schools.
- Seven teachers participated in the study, representing a variety of subjects, grade levels, and years of experience.
- Necessary ethical protocols were strictly followed.

Teacher	Years of Teaching Experience	Subjects Taught	Present Teaching Grades	Type of School
Teacher 1	15	English, Law	Grades 8–12	Independent School
Teacher 2	23	Science, Biology	Grades 7–8, 10–12	Independent School
Teacher 3	19	Economics, Accounting, International Business, AP Economics	Grades 11–12	Independent School
Teacher 4	15	Visual Arts, ESL, Social Studies, English	Grades 9–12	Independent School
Teacher 5	36	History, Political Science	Grades 9–12	Independent School
Teacher 6	20	Physical Education, Business	Grades 9–12	Independent School
Teacher 7	24	English, Computer Studies	Grades 9–12	Independent School

Research Design and Data Collection

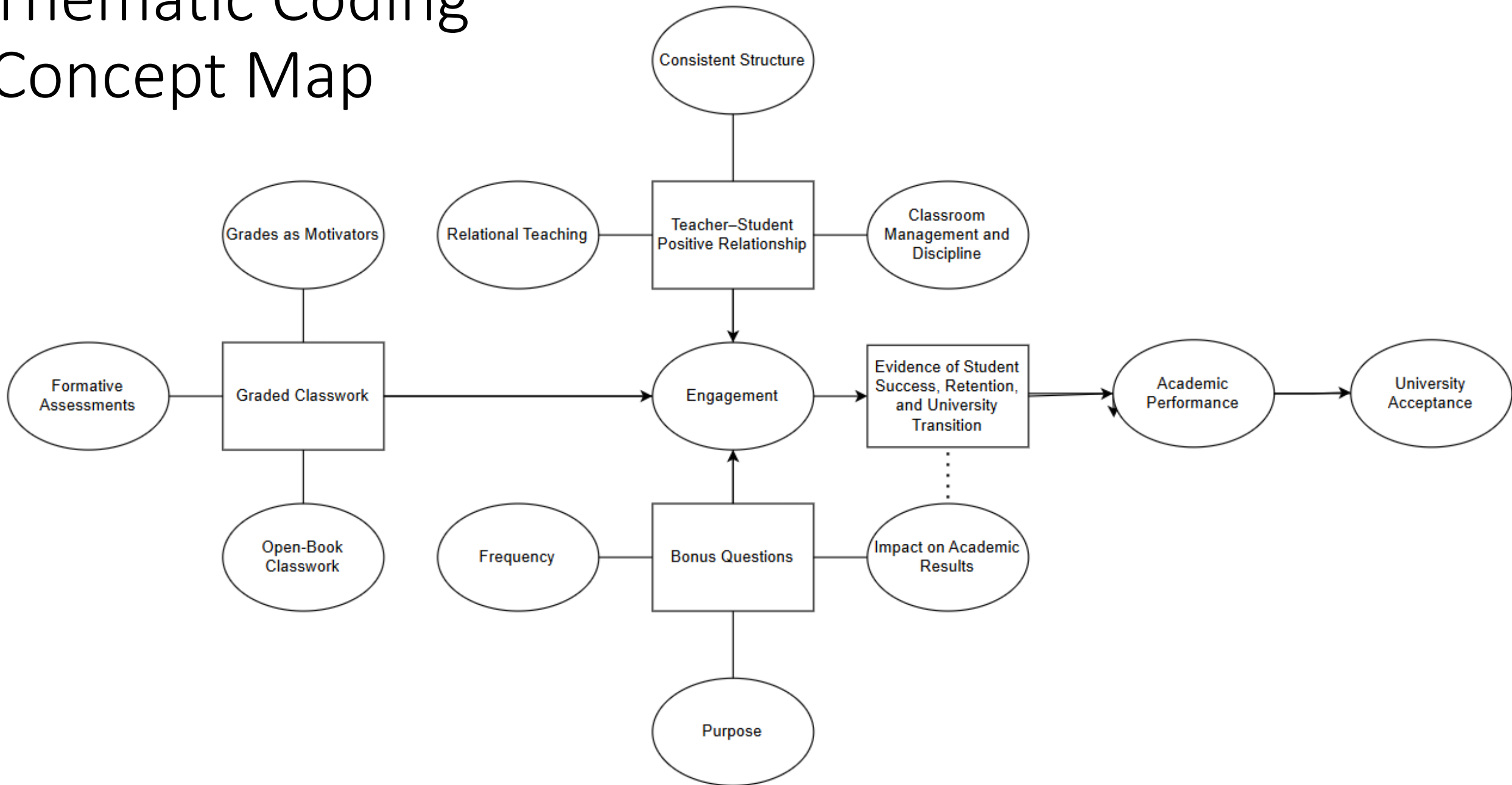
- Qualitative phenomenological.
- Seven structured interviews were conducted with 18 questions, with the last question allowing participants to add opinions freely.
- Interviews were held virtually via Zoom.
- Participants voluntarily provided consent before the interview.
- Transcripts of the interviews were downloaded from Zoom after each interview.
- Transcripts will serve as the primary data source.

Thematic Inductive Analysis

- Reading transcripts several times to familiarize with transcripts.
- Initial Coding: Descriptive coding, highlight meaningful phrases, assign codes and sub-codes.
- Pattern Coding: Generating Themes, combining related codes.
- Reviewing themes, refining and merging themes.
- Defining themes.

Findings

Thematic Coding Concept Map



Discussion

Key Findings

- RQ1 examined how teachers support student motivation and engagement.
- RQ2 focused on how graded classwork, bonus questions, and open-book assessments influence engagement and performance.
- Teachers used strategies such as graded classwork, open-book tasks, bonus questions, flexible deadlines, feedback, extra help, and real-life connections.
- Students were more motivated when they felt supported, less stressed, and when tasks connected to real life.
- Graded classwork increased effort, responsibility, and focus because students knew the work counted.
- Bonus questions helped build confidence and reduce anxiety rather than change overall grades.
- Open-book classwork supported deeper understanding, better organization of information, and reduced test anxiety.
- Strong academic outcomes with high averages, no or minimal failures, and near-100% university acceptance.

Findings in Context

- **Constructivism:** Real-world tasks, graded classwork, and open-book classwork help students build understanding.
- **Extrinsic Motivation:** graded classwork and bonus questions influence engagement.
- **Assessments:** Formative assessments have a significant impact on student achievement; summative assessments confirm progress.
- **Teacher Leadership:** Trust, communication, flexibility, and clear expectations increase student engagement and academic performance.
- **Dropout Prevention:** Supportive relationships, extrinsic motivation, and increasing student engagement and academic performance.

Unexpected Results

A few teachers said:

- Fewer assessments are better, because too many make students stressed.
- Too much workload from many courses can reduce student balance and motivation.
- Adjusting deadlines for student-athletes helps them stay engaged and not fall behind.

Limitations

- The study has a small number of teachers, so the results cannot show all teachers or all schools. More teachers in more schools may give a more complete understanding.
- Students or parents were not included. Students may have different views about motivation and engagement.
- There is no classroom observation, so the study cannot observe teachers using classwork in real time.

Potential Follow-up Research Studies

- Study a larger number of teachers from many schools to see if results are similar.
- Include graduate student perspectives to understand motivation and engagement better.
- Conduct research with several focused groups to examine how open-book graded classwork affects knowledge construction and engagement.
- Perform a case study implementing one open-book graded classwork per unit in every subject for high school students, to examine the impact on learning and motivation.
- Observe classroom practices in real time to confirm how teachers use formative assessments, open-book graded classwork, feedback, and bonus questions.

Conclusion

- Teacher practices strongly affect motivation, engagement, and success.
- Positive relationships increase participation and engagement.
- Graded classwork and open-book tasks help students learn, reduce stress, and build confidence.
- Bonus questions boost motivation and engagement.
- Daily classroom strategies have a significant role in promoting success and preventing dropout.
- Findings support previous research on constructivist learning, motivation, assessments, and teacher leadership.

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