**Pedagogical System for Teaching & Learning Mathematics (Student Version - Survey Prompts)**

(Mathematical Tasks)

*…the problems I’m given help me to build my understanding and improve my math skills.*

*…the problems I’m given challenge me in ways that help me to learn.*

*…the problems I’m given allow me to show my thinking.*



(Tools & Representations – Note: Students should be provided a list of tools & representations prior to the survey and/or have had some introduction to/experience with them.)

*…the use of tools and representations makes it easier to explain my ideas.*

*…representing, in different ways, helps me to make sense of math.*

*…I often make (or am coached to make) connections between my work and my peers’ work.*



(Classroom Discourse)

*…math lessons build on my strengths and experiences.*

*…questions asked focus my thinking on how I’m solving a problem.*

*…questions asked focus my thinking on how I could solve a problem differently.*

*…I learn better when mistakes are inspected in lessons.*

*…I learn better when misunderstandings are inspected in lessons.*

*…discussions in math show respect for the ideas of others.*

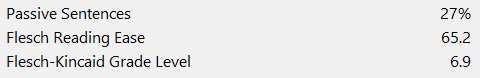
*…discussions in math help me to understand concepts better.*

*…I am encouraged to explain my thinking and give reasons for my answers.*

*...to understand new ideas, my peers’ thinking is “re-voiced” by my teacher or others.*

*…I am encouraged to understand and use math terms, expressions, and symbols.*

*…my explanations are used by my teacher and my peers to help others understand.*



(Non-Threatening Classroom Environment)

In math class, I have think time, time to ask questions, and I’m encouraged to share my thinking.

In math class, I am encouraged to meet expectations for learning as best as I can.

In math class, there are times when I work independently at making sense of ideas.

In math class, there are times when I work in groups to make sense of ideas.

In math class, my teacher and peers listen to my ideas.

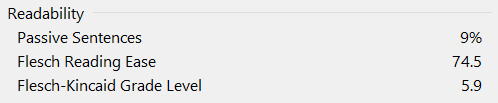
In math class, our discussions focus on helping everyone improve their learning.

In math class, our discussions honor different points of view.

In math class, our discussions help students to self-correct.



**Overall Readability:**



**Re: Tools & Representations:**

Note: Students should be provided a list of tools & representations prior to the survey and/or have had some introduction to/experience with them.

* Representation = an organization of a student’s thinking
  + Examples of representations include: concrete materials, pictures, diagrams, graphs, tables, numbers, words, and symbols (Ontario Curriculum-Grades 1 to 8, p16)
* Tool = digital or physical objects that are used to show a representation
  + Examples of tools include: calculators, computers (e.g., dynamic geometry, statistical, graphical, and spreadsheet software), manipulatives (e.g., Cuisenaire rods, base ten blocks, linking cubes, pattern blocks, fraction strips, rekenreks, geoboards) (Ontario Curriculum, Grades 1 to 8, pp.14-15)