

## A.P.A. Standards

(This is NOT a comprehensive listing. Rather, it sets out the base requirements. Papers MUST comply with these minimum requirements to be read. You may be asked to make additional changes. Candidates are responsible for editing their work. It is not the job of the Academic Advisor. You are encouraged to purchase the APA Publication Manual.)

Please note: (1) Comments are in the right margin. Change your document view if these are not visible; (2) The examples below from a Master's level paper.

### Item 1: Paragraph Structure, Indented Quotation, Reference

The National Council of Teachers of Mathematics (NCTM, 2005) states that problem solving is a skill that students need to master to become successful individuals in all areas of life.

Problem solving is an integral part of all mathematics learning. In everyday life and in the workplace, an ability to solve problems is a tremendous advantage. Teachers can introduce most mathematical concepts through problems based on familiar experiences in students' lives or arising from intriguing mathematical contexts. (National Council of Teachers of Mathematics, October 2005, p.177)

Similarly, the Ontario Education Excellence for All (2004) Expert Panel states that problem solving involves both processing and communicating information which in turn are essential job requirements.

**Comment [a1]:** The quotation is introduced. Quotations cannot just stand alone. The writer must tie them into the text. Note the date is included. Remember, you are guiding the reader in terms of finding the reference material.

**Comment [a2]:** More than 40 words, it must be blocked and indented. No quotation marks. Period at end of sentence, followed by reference notation.

**Comment [a3]:** The quotation is tied.

### Item 2: Unacceptable Paragraph Structure – Insufficient Original Thought and Text

“Problem solving is an integral part of all mathematics learning. In everyday life and in the workplace, an ability to solve problems is a tremendous advantage. Teachers can introduce most mathematical concepts through problems based on familiar experiences in students' lives or arising from intriguing mathematical contexts (National Council of Teachers of Mathematics”

October 2005, p.177). Hilbert et al. (1997) state: “When students encounter mathematical ideas that interest and challenge them in an open ended problem solving context, they are more likely to experience the kinds of internal rewards that keep them engaged” (p.6). Further, O’Donnell (2006) argues “that problem solving allows students to grasp Mathematical concepts rather than just procedures” (p.177).

### **Item 3: Connecting Paragraphs in a Section**

#### Importance of Problem Solving

Why should problem solving be central to the teaching of the mathematics curriculum?

**Comment [a4]:** A question can be a great introduction.

The answer is multifaceted. First, problem solving skills will prepare youth for the future. The

**Comment [a5]:** This guides the reader and structures what follows.

National Council of Teachers of Mathematics (NCTM, 2005) states that problem solving is a skill that students need to master to become successful individuals in all areas of life.

**Comment [a6]:** Note that this supports the author’s view that “problem solving skills will prepare the youth for the future.”

Problem solving is an integral part of all mathematics learning. In everyday life and in the workplace, an ability to solve problems is a tremendous advantage. Teachers can introduce most mathematical concepts through problems based on familiar experiences in students’ lives or arising from intriguing mathematical contexts. (National Council of Teachers of Mathematics, October 2005, p.177)

Similarly, the Ontario Education Excellence for All (2004) Expert Panel states that problem

**Comment [a7]:** Note how this ties the paragraph.

solving involves both processing and communicating information which in turn are essential job requirements.

Second, teaching problem solving skills will help students become more confident and

**Comment [a8]:**

gain a deeper understanding of Mathematical concepts. Hilbert et al. (1997) state: “When students encounter mathematical ideas that interest and challenge them in an open ended problem solving context, they are more likely to experience the kinds of internal rewards that keep them engaged” (p.6). Further, O’Donnell (2006) argues that problem solving allows

students to grasp Mathematical concepts rather than just procedures. Similarly, teaching through problem solving allows for more than one strategy to be used, which complements the different thinking strategies of students (Ontario Education Excellence for All, 2005). All that said, how do we effectively teach problem solving?

**Comment [a9]:** Note how the author's ideas are mixed with references.

**Comment [a10]:**

Third, the teaching of mathematical problem solving skills assists students who have difficulty reading symbols and decoding the problems. Hence, Montague (2005) believes that students who are taught problematic skills develop strategies and skills which in turn help them not only with mathematical text book problems but also assists them in their daily lives. As well, in terms of reinforcing the importance of teaching these skills, Rubenstein and Thompson (2001) state that “many students have difficulty verbalizing, reading, understanding, and writing mathematics to express their mathematical thoughts, reflect on concepts or extend ideas” (p.265). Lastly, student’s perceptions of problem solving are forwarded as an important consideration. Tretter (2003) researched the application of a curriculum for Mathematics problem-solving in teaching gifted high school students. Tretter (2003) summarized the ...

### **Item 3: Quotations in Text**

Second, teaching problem solving skills will help students become more confident and gain a deeper understanding of Mathematical concepts. Hilbert et al. (1997) state: “When students encounter mathematical ideas that interest and challenge them in an open ended problem solving context, they are more likely to experience the kinds of internal rewards that keep them engaged” (p.6).

**Comment [a11]:** Note the period..et al.

**Comment [a12]:** Note the :

**Comment [a13]:** Note quotation and period placement.

... Rubenstein and Thompson (2001) state that “many students have difficulty verbalizing, reading, understanding, and writing mathematics to express their mathematical thoughts, reflect on concepts or extend ideas” (p.265).

**Comment [a14]:** There are rules around the use of ... and .... These allow you to skip over text in making a reference.

**Comment [a15]:** Note the ,

**Comment [a16]:** Upper or lower case...but must be consistent.

#### **Item 4: Paragraph Structure, Reference Notations**

Lastly, student’s perceptions of problem solving are forwarded as an important consideration. Tretter (2003) researched the application of a curriculum for Mathematics problem-solving in teaching gifted high school students. Tretter (2003) summarized the most common themes that emerged from the students in two key points. First, students discussed “the importance of understanding why, instead of merely how” (p.27). One particular student stated: “I learned that the thought process is very important, and that now more than ever I must become responsible for my learning” (p.27). Second, students believe they need to think creatively when developing strategies. Perceptions are important considerations.

**Comment [a17]:** Note date

**Comment [a18]:** Note date

**Comment [a19]:** Note quotation mark and period location.

**Comment [a20]:** Note how the final statement relates to the opening sentence. The PROOF is in the middle.

Note the balance of personal writing and references.

#### **Item 5: Section Headings**

### CHAPTER TWO: REVIEW OF LITERATURE

This chapter presents selected literature from current research in the field of Mathematics education. Essential issues central to the topic of problem solving are examined in an effort to guide the preparation of a curriculum unit. The issues are discussed under the following subheadings: defining the term problem solving, the importance of problem solving and teaching problem solving.

**Comment [a21]:** There are rules about headings. Note the use of all upper case – and in the middle.

#### Defining the Term Problem Solving

**Comment [a22]:** Next level of section heading – upper and lower case

In 1962, Polya established the following definition as the meaning of the term problem solving:

“Searching for an appropriate course ....

Teacher’s Role

**Comment [a23]:** Next layer

The teacher’s role is central to the process of teaching problem solving. To begin, an important aspect of the role includes questioning techniques. Specifically, the Ontario Education Excellence for All (2004) Expert Panel states that teachers should ask...

**Item 6: Figures (Check the Manual for Tables and Appendices.)**

Name:	Problem Solving Checklist	
	YES	NO
Shows problem solving strategy		
Uses picture in solution		
Uses correct process		
Has correct solution		
Checks work		

*Figure 3.* Problem solving checklist (Adapted from Mgombelo (2002))

**Comment [a24]:** Note italics. Note title. Note reference.

**Item 7: Reference List**

**Comment [a25]:** You must make specific reference in the paper in order to include the item on the list.

Reference List

Bottge, B. (2001). Reconceptualizing mathematics problem solving for low-achieving students. *Remedial and Special Education*, 22(2), 102-112.

**Comment [a26]:** Things to note: alpha order, use of periods, use of italics, ....etc.

Education Quality and Accountability Office (EQAO). (2006). *Key words*. Retrieved February 15, 2007 from <http://www.eqao.com>.

Education Quality and Accountability Office (EQAO). (2006). *Strategies for educators*. Retrieved February 15, 2007 from <http://www.eqao.com>.

Flowers, J., Krebs, A., & Rubenstein, R. (May, 2006). Problems to deepen teachers’ mathematical understanding: Examples in multiplication. *Teaching Children*

*Mathematics. National Council of Teachers of Mathematics, 12, 478-484.*

Forsyth, R., & Ansley, T. (1982). The importance of computational skill for answering items in a mathematics problem-solving test: Implications for construct validity.

*Educational and Psychological Measurement, 42, 257-263.*

Fuson, K.C. (2003, February). Toward computational fluency in multidigit multiplication and division. *Teaching Children Mathematics, 9(6), 300-305.*

Goldman, S.. (1989). Strategy instruction in mathematics. *Learning Disability Quarterly, 12, 43-55.*

Hiebert, J., Carpenter, T, P., Fennema, E., Fuson, K., Human, P., Murray, H., Olivier, A., & Wearne, D. (1996). Problem solving as a basis for reform in curriculum and instruction: The case of mathematics. *Educational Researcher, 25 (4), 12-21.*

Hiebert, J., Carpenter, T, P., Fennema, E., Fuson, K., Human, P., Murray, H., Olivier, A., & Wearne, D. (1996). Problem solving as a basis for reform in curriculum and instruction: The case of mathematics. *Educational Researcher, 25 (4), 12-21.*