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Full Title with Line Returns after Prepositions to Create an Appropriate Break in Wording

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ABSTRACT. A summary of the problem, methods, results, and conclusions of about 100 to 250 words.

1. Introduction

This section is typically written in the past tense.

1.1. Books about LaTeX. There are quite a few very good references for how to use LaTeX. For the novice, the older ones, from 1994, by Leslie Lamport (inventor of LaTeX) and Goosens et al., are likely to be the most useful. In fact, the first chapter of Lamport's book is available as a preview at amazon.com (as of this writing, May 2006). Also quite useful for the basics is Grätzer's book *Math into LaTeX*. See the references section of the typeset version of this file, or the *RCME* information page from which this file was retrieved for full bibliographic information on these and on some other, more recent books (Goossens, Mittelbach, & Samarin, 1994; Grätzer, 1993, 2000; Lamport, 1994; Mittelbach, Goossens, Braams, Carlisle, & Rowley, 2004).

1.2. Citing References and Block Quotes. To call a reference to support an assertion, use the *cite* command:

`\cite{reference1,reference2}.`

Note that between the braces in the *cite* command there are NO SPACES after commas (see below for more examples of the use of the *cite* and *nocite* commands.

To cite a reference within the text use the *cite*{} command. If you type a complicated reference, use the *nocite*{} command to make sure the bibliographic entry gets typset correctly. For example, the following raw LaTeX code:

```
 Hanna (2000) has referred to the difference between proofs that
``convince'' and those that may prove without being persuasive to students
(p. 7).\nocite{Hanna00} Other research has focused on differentiating the
types of proofs and proving processes with which students
work\cite{Balacheff88,Harel98}.
```

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when typeset, would look like this:

Hanna (2000) has referred to the difference between proofs that "convince" and those that may prove without being persuasive to students (p. 7). Other research has focused on differentiating the types of proofs and proving processes with which students work(Balacheff, 1988; Harel & Sowder, 1998).

Block quotes To get a long (40 words or more) quote into the format called a "block quote," use the *quote* environment. For example, the following LaTeX code,

```
\begin{quote}
{\it Pat:}  Well, when I first thought about going to graduate
school, I wasn't sure I wanted more than a master's degree.
I mean, I was a high school teacher for crying out loud!
The idea of becoming one of those ivory tower academics
with a doctorate just did {\it not} appeal to me.
Now, I have finished the master's degree, the thing
they call here the ``consolation prize'' and I am through
comps, on my way to a Ph.D.
\end{quote}
```

will be typeset as an indented block of text, as shown below. The *quote* environment is quite useful for including transcriptions of interviews in a manuscript.

> *Pat:* Well, when I first thought about going to graduate school, I wasn't sure I wanted more than a master's degree. I mean, I was a high school teacher for crying out loud! The idea of becoming one of those ivory tower academics with a doctorate just did *not* appeal to me. Now, I have finished the master's degree, the thing they call here the "consolation prize" and I am through comps, on my way to a Ph.D.

1.3. Producing the Bibliography (i.e., the References section). The *templaterefs.bib* file provided with this template is a database of bibliographic information formatted for BibTeX. The file contains examples of just about every type of bibliographic item (e.g., articles, things in edited books, in proceedings, dissertations, etc.). Many more items are included in the sample *templaterefs.bib* file than are actually called by this template.tex LaTeX file. That's okay. In fact, it is the beauty of BibTeX: one can create a single database and use it for ANY LaTeX-typeset manuscript.

Please refer to the *templaterefs.bib* file for information on creating your own *.bib* file to use with BibTeX. Feel free to use *templaterefs.bib* as the foundation of your bibliographic database, just make sure to rename it <u>*authorrefs.bib*</u> using the <u>first author's surname</u>.

1.3.1. *Using BibTeX.* This *template.tex* file has been set up with the assumption the author will use BibTeX to create the bibliography. One typically typsets a document once, then runs BibTeX, then typesets two more times (to make sure cross-references and page numbers come out right). One way to see if what you need is already installed on your machine is to download the *.bib* and *.eps* files for this template file, typeset this file, run BibTeX on it, then typeset two more times. The error messages that LaTeX gives will let you know what is still needed.

1.3.2. *NOT Using BibTeX.* If you want NOT to use BibTeX, you will need to include your references in the manuscript's .tex file using the appropriate formatting. Here's a very brief description of one way to do it.

In the .tex file, at the end of the body of the paper and before any appendices, you would format references (in the order they should appear) using the *thebibliography* environment, as shown below.

Sample in-file bibliography for NOT using BibTeX to create the References. The part in braces after *bibitem* is the <u>identifier</u> used in a *cite*{<u>identifer</u>} command

```
\begin{thebibliography}{99}

\bibitem{Balacheff88}
    Balacheff, N. (1988). Aspects of proof in pupils' practice of
    school mathematics. In D. Pimm (Ed.), {\em Mathematics,
    teachers and children}.  Kent, UK: Open University.

\bibitem{Hanna00}
    Hanna, G. (2000).  Proof, explanation and exploration:
    An overview.
    {\em Educational Studies in Mathematics, 44}, 5-24.

\bibitem{Harel98}
    Harel, G. & Sowder, L. (1998). Students' proof schemes:
    Results from exploratory studies. In A. H. Schoenfeld,
    J. Kaput, & E. Dubinsky (Eds.), {\em Research in
    Collegiate Mathematics Education. III} (pp. 234-283).
    Providence, RI: American Mathematical Society.

\end{thebibliography}
```

1.4. Typeset Punctuation and Mathematics. A double return (blank line) creates a new paragraph. A paragraph must contain at least two sentences.

1.4.1. *Using "quotation marks" and dashes –.* LaTeX requires special treatment of quotation marks. The standard <shift><quote> will not format correctly. The LEFT quotation mark must be a double ' ' (this is often found on the upper left of the keyboard, with the tilde, $\sim$ key). The RIGHT quotation mark being two ' ' single quotation marks in a row, "like this" (the single quote mark is on the mid-right of many keyboards). Remember that commas and full stops go "inside quotation marks," all other punctuation "goes outside" – unless it is "part of the quote itself!" Also note that a double dash – is used to create a long dash mark while a single dash - is a hyphen.

1.4.2. *Using mathematics.* Any use of mathematics beyond the simple enclosing of mathematical expressions between dollar signs will require expertise beyond the scope of this very basic template. The books by Goossens et. al (1994) and Grätzer (1993, 2000) are very helpful. To include an in-line expression would look like this: $x^{n-2}+7=0$. To have the mathematics set out on its own line, use double

dollar signs on either end.

$$x^{n-2} + 7 = 0$$

2. Theoretical Perspective

This section is typically written in the past tense.

3. Methods

This section is typically written in the past tense.

4. Results

Like the earlier sections, the Results section is usually written in the past tense in an active voice (i.e., not in passive voice, see American Psychological Association, 2001, p. 32). You may wish to give descriptions or examples in a list. Authors are encouraged to use descriptive rather than bulleted lists. See below for an example.[1] See Section 5.20 of the APA *Publication Manual* about locating footnotes. The number of the footnote will appear where the *footnote* command appears. Please limit the use of footnotes, do your best to incorporate material into the text of the manuscript.

4.1. Example of the use of the {*itlist*} environment. We categorized the main results under three broad themes. Each of these was an area of adjustment reported as "significant" or "important" by the graduate students and untenured faculty members in the focus groups.

[First the raw code, then the typeset version.]

```
\begin{itlist}
\item[Theme 1 - Personal.] Stresses related to resolving dissonance
        among self views and personal goals within and outside of
        graduate work.
\item[Theme 2 - Intrapersonal.] Challenges of communicating
        effectively with peers, family members, faculty, and staff in
        the department. We included in this
        category reports of cultural disconnects between individuals.
\item[Theme 3 - Community.]  Pressures associated with
        becoming or staying a member of a desired community.
        This included focus group discussion around
         the idea of being a member of a clearly identified
         community of practice.
\end{itlist}
```

Theme 1 - Personal. Stresses related to resolving dissonance among self views and personal goals within and outside of graduate work.

Theme 2 - Intrapersonal. Challenges of communicating effectively with peers, family members, faculty, and staff in the department. We included in this category reports of cultural disconnects between individuals.

Theme 3 - Community. Pressures associated with becoming or staying a member of a desired community. This included focus group discussion around the idea of being a member of a clearly identified community of practice.

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[1] Only use subsection (or subsubsection) commands if there will be at least two such subsections in the section.

4.2. Example of using the {*figure*} **environment.** Like tables and sections, figures can have labels so that they can be referred to by label. That way the typesetting program keeps track of the numbering. Below is an example for including the figures *templatefig-01.eps* and *templatefig-02.eps* in this manuscript. The bracketed t, [t], instructs LaTeX to place the figure at the top of a page. The bracketed width command tells LaTeX to make the figure 55/100 as wide as the maximum width of text. Change the number (acceptable values are in hundredths between 0.25 and 0.99) in the width command to adjust the displayed size of the figure. Your figure's true size should be NO SMALLER than the displayed size. That is, blowing up a small figure using this command is usually a very bad idea.

Example, continued. Upon entering the PhD program, graduate student Pat drew the diagram shown in Figure 1 as her concept map of graduate study. Following the two-week workshop on *Becoming a Successful PhD Student*, Pat provided the sketch shown in Figure 2. Two notable differences between the representations are the details and the directionality of the relationships perceived by Pat.

Note that inside the *figure* environment the caption goes AFTER the figure file is called by the *includegraphics* command. In the *table* environment, the caption goes BEFORE the table (see §4.3).

[The raw code is shown below, the typeset version will place the figures.]

```
\begin{figure}[t]
   \begin{center}
\includegraphics[width=.6\linewidth]{templatefig-01}
\caption{Pat's drawing of graduate school expectations
             before the workshop.}
\label{Pat-pre}
   \end{center}
\end{figure}

\begin{figure}[t]
   \begin{center}
\includegraphics[width=.6\linewidth]{templatefig-02}
\caption{Pat's drawing of graduate school expectations
             after the workshop.}
\label{Pat-post}
   \end{center}
\end{figure}
```

In order for the above to typeset correctly, your folder would include two .eps files:

(1) templatefig-01.eps
(2) templatefig-02.eps

The AMS publications department requires RCME to provide EPS files for every figure. If you have only PDF files for your figures, please send the PDF files. The Production Editor will attempt to generate EPS versions of them.

4.3. Example of using the {*table*} **environment.** Any tables in your paper will have to be formatted using LaTeX commands inside *table* and *tabular* environments. For example, the raw LaTeX, below produces the typset table on this
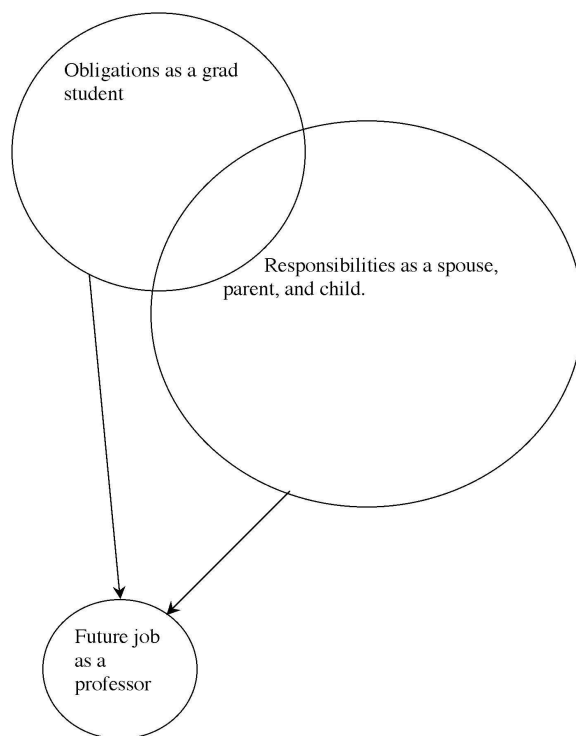
Obligations as a grad
student

Responsibilities as a spouse,
parent, and child.

Future job
as a
professor

FIGURE 1. Pat's drawing of graduate school expectations before
the workshop.

Rights and
responsibilities as a
grad student learner,
as a new researcher, as
a member of the
research community,
as a college teacher

Rights and
responsibilities as a
spouse, parent, child.
and community
member.

Rights and
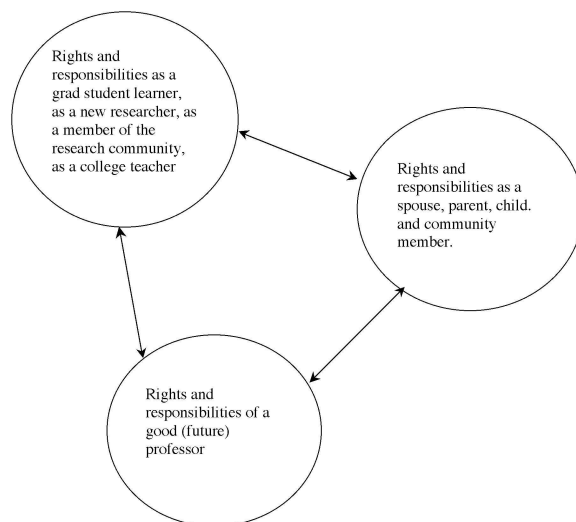responsibilities of a
good (future)
professor

FIGURE 2. Pat's drawing of graduate school expectations after the workshop.

page. As in the *figure* environment, the [t] tells LaTeX to put the table at the top
of a page.

TABLE 1. Fall 1990 Calculus III grades for study participants and for all students enrolled in the course.

Grade	Participants		All Students	
A	4	(17%)	8	(5%)
B	6	(27%)	24	(15%)
C	7	(30%)	49	(30%)
D	4	(17%)	41	(25%)
F	2	(9%)	33	(20%)
W	0	(0%)	10	(6%)
Total	23	(100%)	165	(100%)

[First the raw code, the typeset version will place the table]

```
\begin{center}
\begin{table}[t]  %default is t for top of page
\caption{Fall 1990 Calculus III grades for study participants
  and for all students enrolled in the course.}
\label{T:grades}
\begin{tabular}{c r r r r} \hline
Grade  &\multicolumn{2}{c}{ Participants }
       &\multicolumn{2}{c}{ All Students } \\ \hline
A    &4  & (17\%)  &8  & (5\%)   \\
B    &6  & (27\%)  &24 & (15\%)  \\
C    &7  & (30\%)  &49 & (30\%)  \\
D    &4  & (17\%)  &41 & (25\%)  \\
F    &2  & (9\%)   &33 & (20\%)  \\
W    &0  & (0\%)   &10 & (6\%)    \\
Total  &23 & (100\%) &165  & (100\%) \\ \hline
\end{tabular}
\end{table}
\end{center}
```

There are several formatting characters in the *tabular* environment:

Alignment within Columns. The *c* and four *r*s in

```
\begin{tabular}{c r r r r}
```

tell LaTeX to create a table with five columns, the first column has centered material, the other four columns have material that is aligned on the right. To get left aligned material in the third column, one would change the second *r* to an *l*.

Ampersand &. The ampersand is used to indicate the beginning of the next column (there is no & before the first column).

Line Returns, \\. \\ is used to create a line return to the next row in a table.

Horizontal rule, \hline. The `\hline` command creates a horizontal line AND a line return in the table

Also used in the example table is the `\multicolumn` command. For more complicated formatting in a table, including a multirow entry, seek help from an

expert! The basic table example given here does not allow for multiple lines in a single row.

If you are a novice at using LaTeX, you can try using the template in combination with the expertise of a LaTeX-savvy colleague and the book *The LaTeX Companion* (Goossens et al., 1994; Mittelbach et al., 2004).

4.4. Captions. As mentioned above, be aware that inside the *figure* environment the caption should be entered AFTER the figure file is called by the *includegraphics* command. In the *table* environment, the caption should be entered BEFORE the table (see the code for figure and table inclusion above).

5. Discussion

This section is typically written in the PRESENT tense (American Psychological Association, 2001).

6. Conclusion

If you have a separate section for concluding remarks, directions for further research, or implications for practice, it is also usual to write it in the present tense.

Acknowledgments

If your `\thanks{}` entry (at the beginning of the *.tex* file, with the author and title information) will take up more than two lines of footnote on the first page, then do not use `\thanks{}`. For example, the standard NSF disclaimer takes too much space and is more appropriate as an acknowledgment. This material is based upon work supported by the National Science Foundation under Grant Nos. DGE9912345 and DGE0212345. Any opinions, findings and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation (NSF).

Appendix A. Interview Prompts

If appropriate, you may have one or more appendices that offer detail, forms, or other illustrations of instruments used in the research.

References

Alcock, L., & Simpson, A. (2002). Definitions: Dealing with categories mathematically. *For the Learning of Mathematics*, *22*, 28–34.

American Psychological Association. (2001). *Publication manual of the American Psychological Association* (5th ed.). Washington, DC: Author.

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Grätzer, G. (1993). *Math into tex: A simple introduction to ams-latex.* Boston, MA: Birkhäuser.

Grätzer, G. (2000). *Math into latex* (3rd ed.). Boston, MA: Birkhäuser.

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Harel, G., & Sowder, L. (1998). Students' proof schemes: Results from exploratory studies. In A. H. Schoenfeld, J. Kaput, & E. Dubinsky (Eds.), *Research in collegiate mathematics education. III* (pp. 234–283). Providence, RI: American Mathematical Society.

Lamport, L. (1994). *The latex companion* (2nd ed.). Reading, MA: Addison-Wesley.

Mittelbach, F., Goossens, M., Braams, J., Carlisle, D., & Rowley, C. (2004). *The latex companion* (2nd ed.). Reading, MA: Addison-Wesley.

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