
Teaching L^AT_EX to the students of mathematics — The experience from the Jan Kochanowski University

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Abstract

Two years of teaching L^AT_EX to the students of the mathematical institute and checking almost 200 students' papers gave me some fresh thoughts. The main observation concerning the aesthetics and effectiveness of the message may be formulated as follows: the issues concerning the microtypography are usually missed, but — after pointing the students' attention to them — are appreciated.

In my talk I discuss, besides the ideas concerning the perception of microtypography by students, other aspects of the university course preparing the students of mathematics to typeset their theses in L^AT_EX. It might be interesting especially for those who teach similar courses (but not only to them).

1 Introduction

Currently in many universities in Poland, theses in mathematics must be written in L^AT_EX. There are special courses to help students learn L^AT_EX. I have been teaching such a course in the Institute of Mathematics, Jan Kochanowski University in Kielce, for two years and I'd like to share some experiences.

In my L^AT_EX course I speak not only about L^AT_EX, but also about typography and mathematical editing in general. In many cases I start with a description of the effect we want to obtain before introduction of L^AT_EX commands. Sometimes we also talk about more general issues, such as “what is the real size of the 11pt font” or “why A4 paper is just 210x297mm”.

2 Missed microtypography

Let's look at the following example: find the difference between these two lines:

Some text *italic text* and some more text

Some text *italic text* and some more text

(Obtained with `\textit{italic text}` and `{\it italic text}`.)

Usually in the class of approx. 15 students, it takes 2–3 minutes to get the first answer, which sounds something like “the second one is shorter”. Sometimes I ask: “Which of these lines is more comfortable to read?”. Usually the first answers are “the same”, but after a while, someone hits the point: “the first one is more comfortable to read, because all the spaces there have equal width”. And this is

how we've reached the concept of italic correction, and even more: microtypography.

For students it is a very new concept that details which are so hard to notice are important for the reading comfort. But they accept the explanation of this fact. The human eye (or, speaking more precisely, the eye+brain system) gets accustomed to the font shape, word-spacing and so on. And if we change something — we need to get accustomed again. So we can conclude: issues concerning microtypography are usually missed, but — after drawing the students' attention to them — they are appreciated.

3 Some details

The course is held for the students of the first year of mathematics. The whole course takes 15 hours and at the end students have to present something written in L^AT_EX. The students' works are carefully checked and the author gets a detailed report, with editorial, typographical and L^AT_EX-specific mistakes pointed out.

The main goal of this course is obvious: to teach students L^AT_EX to an extent such that they could write their theses using this system. Surely, when one is able to write a thesis in L^AT_EX, he is also able to write an article and other materials. Additionally, I talk about creating presentations (`beamer` class) and posters (`a0poster` class). Also issues concerning the installation of T_EX are discussed.

The second goal is to develop some basic editorial and typographic skills.

The next goal is to introduce a basis of editing mathematical texts.

Finally, I hope that some of my students will like L^AT_EX after attending this course.

At the beginning I try to “familiarize” students with basic concepts related to T_EX, L^AT_EX, and the T_EXnicCenter editor we use in computer labs. My experience is that a less formal introduction makes the whole course more effective. Then I talk about the most basic L^AT_EX concepts like sectioning, cross-references, creation of the bibliography, tabular material, graphics, floats, writing mathematical equations and theorem-like environments. At the end I discuss a few less basic concepts, like the `beamer` class, creating posters with the `a0poster` class, and a few words about MetaPost.

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