
T_EX in schools: Just Say Yes!

Simon Michael Laube

Abstract

This article not only describes why using L^AT_EX as an application program for typesetting in schools is a good idea, but also lists several benefits.

1 Introduction

The modern student has to write reports and articles often — especially if one studies any kind of engineering. When it comes to scientific publishing, (L^A)T_EX is definitely the right choice for typesetting, so introducing L^AT_EX into schools could obviously be useful. However, due to the commonly used word processors young people do not even know about real typesetting systems, and that is a shame. This paper is intended to point out the benefits of using L^AT_EX as an application program for students. Further, it is more or less an answer to the article “T_EX in Schools: Just Say No”, written by Konrad Neuwirth in 1990 [1], who claimed that T_EX should not be used *as a programming language* in schools.

As I am still a student in Austria, the expressed opinions are related to the Austrian school system, but could be adjusted to other countries too. Moreover, this paper is meant to be valid for upper-secondary schools or higher educational institutions.

2 The benefits of L^AT_EX as an application program

Konrad Neuwirth’s article was written at a time when computers were still rare in Austrian schools. Since that time, much has changed — students are using computers every day, either at school or at home. Engineering schools have also started to teach programming languages like C or Java to every student, as they are an important skill in the modern world. Konrad Neuwirth considered using T_EX as a programming language in schools, which is not the aim of this paper — although students are more confident with programming nowadays, so it would not be a big problem.

Nevertheless, L^AT_EX should be used by students as an application program only and should definitely not be more than that. Thus, it is important to guide beginners through the first steps, because they have to be aware that writing a document in L^AT_EX is not a fancy point-and-click adventure (the mouse is not used that often) they are used to. Once they have learned the basics, students are prepared to use L^AT_EX for their daily work.

There are many benefits of using L^AT_EX in schools, but most of them are also valid and essential for L^AT_EX itself. One of the most important points — especially for young people — is that L^AT_EX forces its users to *structure a document*. Students often find it very hard to structure things like their daily timetable, the priorities of tasks and — of course — documents. Normal word processors do not require a strict structure within a document while L^AT_EX obviously does. Structuring can help people to save considerable time, either at work, school or in their free time and therefore it is an important skill.

Second, students will learn to *concentrate on the content* of a document, not on its layout when using L^AT_EX. I personally do not completely agree on this point — although I am emphasizing it — as many people often find themselves searching for the best design for their L^AT_EX document, but for schools a completely different approach has to be taken. Teachers often use their own requirements for the student’s documents, such as homework and project reports. How about coding these requirements in L^AT_EX and passing the macros to the students instead of telling them how to format their document? When doing so, the students will definitely produce better content as they are able to concentrate on their topic, while the formatting stays the same for every document.

Another important fact is that L^AT_EX makes *group projects more productive* due to two features:

- file format
- subfiles

L^AT_EX’s text-based file format is not an advantage an average student would primarily think of, but it could save plenty of time when different people are working on the report of a group project or something similar. Text-based means that the file is pure, human-readable text with a specific encoding, nothing more. This feature ensures compatibility across systems and engine versions and could be even more important in larger groups. The commonly-used word processors do not always ensure this compatibility as they often have commercial and open-source versions as well as different versions of one product. Most of the word processors are somehow text-based too, as they use a zipped file tree with XML files to save a document, but this structure does not ensure compatibility in any way.

A second advantage of L^AT_EX for group projects is the use of several text parts located in subfiles, which can easily be included into a main document. Thus, each group member can work on one or more

text files, which are then included into the group's master file — \LaTeX does the rest and keeps references correct.

2.1 \LaTeX in non-engineering schools

All the points mentioned above have one thing in common: they are all about structure. As previously mentioned, students often find it hard to structure something. Things get even harder when people are not confronted with structuring every day, because their profession or education does not require it. Students of engineering schools have a bit of an advantage here, because their strict mathematical and logical education forces structuring more than the education of students at non-engineering schools. Both of them are experts in their profession, but cannot get used to \LaTeX in the same way.

Nevertheless, \LaTeX could also help people at non-engineering schools that do not need formulas and equations. It could help them producing *more readable pieces of text*, which is very important — especially when texts get very long. They are able to learn which fonts to choose to ensure the maximum reading convenience. Long and theory-laden texts could be reproduced using \LaTeX to make learning them more efficient and less tedious.

2.2 \LaTeX for teachers

\LaTeX could not only be a good tool for the students at a school, but also for the teachers. One main advantage of \LaTeX for teachers is the abovementioned possibility of creating and distributing *formatting templates (classes and packages)* which the students can then use to create documents with the desired look and appearance. In a scaled-down approach, teachers do not always need to write whole packages to get what they want. Simple macros could also be written and distributed to fulfill special tasks,

for example special-looking lists or anything similar. The key point of that all is again, compatibility. Formatting templates in \LaTeX are compatible with different systems and installations, whereas word processors often have their problems with that.

Another notable advantage of \LaTeX — when it is used by teachers — is that they can use the program to typeset their scripts in a better way. For example large scripts can be maintained more efficiently if a version control system is used. Further, the scripts can be typeset in an easily readable form, as mentioned in the previous section, to make them better understandable for the students. Some teachers only use their scripts in a digital form. In this case even animations within the script are possible and useful as they show technical drawings and processes in more detail.

3 Conclusion

All in all \LaTeX does a great job in schools. I have experienced the great possibilities of \LaTeX at my own school and I would definitely recommend the program to every student. Sure, at the beginning it is hard to get used to \LaTeX , but it is worth the effort as it greatly improves the working process of writing a document and therefore:

Just say yes!

References

- [1] Konrad Neuwirth. \TeX in schools: Just say no. *TUGboat*, 12(1):171–174, March 1990. <http://tug.org/TUGboat/tb12-1/tb31kneuwirth.pdf>.

◇ Simon Michael Laube
Wieselburg, Austria
simon dot laube (at) gmx dot at