

The boilerplate: a new look at a familiar device

Writing in English for “digital natives” and “digital immigrants”

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Abstract

Writing is one of the key means of demonstrating one's knowledge in academe. Increasingly, students and teachers are required to present their research findings in English. The strict conventions pertaining to academic English are not always readily identifiable, neither are they easy to master for English-as-a-Second-Language users. As a template containing guidelines, suggestions, and solutions, the boilerplate (a term used in the publishing industry to denote a template with static elements) acts as an aid to students and teachers writing papers, reports, essays and theses in English. Unlike the system already available in Microsoft Word,¹ the boilerplate is tailored to suit specific subjects and types of document. It can be updated on a regular basis, is user-friendly and inexpensive to produce. The present article discusses the potential

of the boilerplate for so-called “digital natives” and “digital immigrants”. We consider how it enables students to master threshold concepts in academic writing, thereby laying the ground for life-long learning. In the second half of the article, selected features of the boilerplate are discussed in relation to their potential to solve problems for students writing in English and save precious correction time for teachers and tutors. We also consider user-friendliness and how digital immigrants and digital natives work with computer programs.

Digital natives and digital immigrants

The terms “digital native” and “digital immigrant” have become accepted tropes within higher education as a means of explaining and understanding the rapid technological developments taking place in the digital age. Young people have grown up in a technologically advanced age and are familiar with new digital technologies. Older people, however, are considered to be “a step behind/apart in their dealings with the digital” (Bayne & Ross, 2007, n.p.). Immersion in digital technologies entails a very different approach to learning, as it is associated with immediate access, instant gratification, and a lack of patience with linear thinking. It is essential that teachers adapt both in terms of teaching method and content to the “native’s” way of thinking and understanding in order that they will be perceived as up-to-date and even employable (Prensky, 2001; Oblinger, 2003; Long, 2005 & Thompson, 2007).

Working in digital/technological environments offers new ways of communicating and constituting knowledge as well as selfhood. The terms “native” and “immigrant” allow one to understand the differences, and their implications for learning, between young learners, i.e. “natives”, who have grown up with the digital environment, and older users such as teachers, most of whom belong to the “immigrants” category. This is not to say, however, that the concepts are homogenous: there are significant differences between different natives and immigrants depending on, for example, socio-economic background, age, gender, and exposure to digital environments and aids (Owen, 2004). It should also be noted that the use of internet technology among young people, especially for social networking, does not necessarily result in a demand for more technologically-focused approaches to teaching and learning at universities or colleges (JISC, 2007 & Bayne, 2005). The template described in the present article requires a minimum of technological input from students: it is the technical specialist who tailors the boilerplate to the needs of a specific teacher and course, thereby saving valuable time for students and teachers alike. The boilerplate thus overcomes the fundamental problem embedded in the digital native/immigrant debate: it is not the teacher as immigrant who must transform into a native (an impossible feat!) but the technician working alongside the teacher who provides the technical pre-requisites for digital learning. In this way, the teacher can focus on subject content and method. A functional boilerplate requires an initial investment in time on the parts of the teacher and technical adviser; thereafter, teacher/technical input is kept to a minimum.

Many students are already familiar with the basic functions of the Word program but they do not always choose to take advantage of these when writing. The market is inundated with new devices and programs for asynchronous and web-based learning, synchronous and real-time distance learning, mobile learning and situated learning, multimodal interaction and augmented devices for learning, as well as content management systems and repositories (Li, et al, 2008). In contrast, the boilerplate builds

on an already existing system with which both the digital native and immigrant are already at least partially familiar. It does not entail investment in new equipment and is self-explanatory, as users are guided through different options and encouraged to make choices that augment knowledge and enable them to develop their existing knowledge and skills. The gap between “native” and “immigrant” is reduced as the technical adviser takes on the role of mediator.

As the explanatory diagrams in the second half of the article demonstrate, there are two basic, built-in options in Word when it comes to responding to problems in texts. The first is when a document, as opposed to the user, takes advantage of and acts upon options that automatically correct the spelling and grammatical mistakes; this option is known as “hijacking” and is where the program does the work rather than the user. The second option is when Word’s built-in spelling and grammar assessor notifies the user. This results in red or green lines appearing beneath the questionable text. Here the user takes advantage of personal knowledge and the special features of the program to correct the mistake; all too often, however, s/he ignores the error completely. As neither of these options significantly expands the user’s knowledge base, we have implemented a third alternative. This is a modified and expanded version of the first, hijacking option. The database we have created alerts the user to the existence of a problem; s/he receives a message indicating the specific nature of the error, e.g. ****There is a problem: grammar**** or ****There is a problem: spelling**** etc. As a consequence, the user is obliged to participate actively in the learning process by utilizing one of the three options.

Threshold concepts

Disciplines are characterized by concepts and principles that are subject-specific. These must be mastered as part of the ongoing learning process. Threshold concepts refer to a new way of understanding without which it is difficult to progress within a subject. The thresholds are “conceptual gateways” or “portals” that lead to a particular way of thinking that was previously inaccessible and initially potentially “troublesome” (Meyer & Land, 2003). As a result, new ways of comprehending, interpreting or viewing something may emerge that constitutes “a transformed internal view of subject matter, subject landscape, or even world view” (Meyer & Land, 2005, p.379). The boilerplate enables students to acquire threshold concepts related to the discipline itself as well as to the conventions of academic writing in English.

Threshold concepts are “transformative” in that they change the way in which students perceive and practise aspects of their discipline. They are also “irreversible” because once acquired, they are rarely forgotten or “un-learned”. Threshold concepts are “integrative” as they allow connections to be made to concepts or knowledge previously unknown or concealed from the student. They are “bounded” in that they help define the boundaries of a subject area. They can also be “troublesome” in that they may involve students in acquiring knowledge that is conceptually difficult.

The boilerplate discussed here was developed specifically for the level-IV English course at Kristianstad University, which leads to a Swedish “Magister” degree. This course focuses on the learning and teaching of English as a Second Language. Before describing some of the threshold concepts that the level-IV English students must acquire at Kristianstad University, a brief introduction will be given to how students gain an understanding of threshold concepts.

According to Meyer and Land, at the first stage of acquisition students must enter

a so-called “liminal space” which can be likened to the experience of adolescents caught between the worlds of the child and adult. If students do not acquire the level of understanding required to “cross a threshold”, they will enter a state of “liminality” in which they have only a partial or limited understanding of the concept (Meyer & Land, 2003). As the student acquires a threshold concept, the transformation in understanding may be rapid or occur over a longer period of time. Such a transformation may be exhilarating or disturbing (Palmer, 2001). In crossing a threshold, students experience a shift in feelings, attitudes, emotions, perception, and understanding (Meyer & Land, 2005; Entwistle, 1981). Language and vocabulary may also be extended as a result of crossing a threshold. There are epistemological and pedagogical differences in acquiring threshold concepts across the disciplines. These relate to the nature of the knowledge existing within a subject and the methods employed to acquire such knowledge.

Threshold concepts may, as already established, lead to the acquisition of “troublesome knowledge”. The latter may consist of tacit knowledge that students find difficult to apply to real-life tasks or for which they have little understanding or evidence (Perkins, 1999). Without acquiring the necessary threshold concepts, however, there is a danger that students will adopt a surface approach to learning as they complete their educational program (Boustedt et al., 2007). Threshold concepts not only give students the opportunity to acquire the necessary concepts, they also facilitate understanding of how experts within the field think.

Threshold concepts in English as a Second Language

We have identified three kinds of threshold concepts that we work with in the subject English as a Second Language: structural, methodological and mechanical. In the boilerplate currently being used for the second time on the level-IV course at Kristianstad University, the following structural threshold concepts have been incorporated: introduction, aim, primary/secondary material, method, previous research/theoretical background, analysis and discussion, summary and conclusion, and references and appendices. Each of these concepts is incorporated in the boilerplate, the correct font and style are pre-set for each heading, and explanatory notes are provided, as well as guidelines as to how to express the correct information in a suitably formal style. As the student works on each section, s/he reflects on what is to be included/excluded, the style in which the relevant information should be expressed, and the level of detail required for each part. As each section is completed, the student deletes the instructions. Illustrations of how this works in practice are provided below.

The methodological threshold concepts relate specifically to the lines along which the particular investigation will be conducted and the criteria for analysis of the selected material. Students are advised in the instructions incorporated in the boilerplate to define theoretical terminology, explain abbreviations, and refer to previous research of relevance to the project. They are instructed to explain the method of investigation employed in the study, e.g. interviews, questionnaires, observation etc. The description of the method should be sufficiently detailed that it is possible for others to replicate the study. Students are also instructed to justify their choice of method(s). The instructions in the boilerplate emphasise the importance of referring to secondary sources on research methods in order to validate the student’s choice of method.

The mechanical thresholds incorporated in the boilerplate are extended spelling

checkers and punctuation guidelines that indicate incorrect British or American English. These include the use of double or single inverted commas, how to write block quotations, and when and how to use capital letters, colons and semi-colons, italics and bold type. The mechanical threshold concepts include an extended grammar checker that assists students with tense choices, articles, word order, and adjectives and adverbs. Errors of a mechanical kind are marked in the same way as in regular Word documents. However, the boilerplate has been extended to include errors not identified by the Word grammar checker. These have been selected from previous essays written by students. It is our aim to extend the number of errors accommodated within the boilerplate as our project progresses.

Threshold concepts mastered as opposed to learned by rote

The threshold concepts presented in the boilerplate are pre-requisites for discussing the reference literature that students read in Module A (“The Theory and Practice of English as a Second Language”) and Module B (“Testing”) of the level-IV “English as a Second Language” course at Kristianstad University. The instructions in the different sections of the boilerplate guide students in placing the correct information in the right sections. In this way, they gain an overall view of their dissertation as well as develop an understanding of how the different elements relate to one another. Suitable expressions are provided for each section; students must choose the one(s) most suitable for their particular study. In this way, they are encouraged to relate concepts to particular situations and purposes.

The boilerplate in practice

Following is an explanation of the three kinds of elements integrated in the boilerplate. These represent the three kinds of threshold concepts that characterise the subject English as a Second Language.

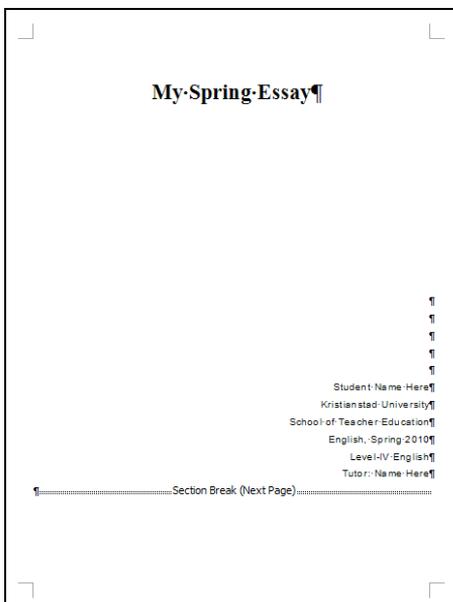


Image 1. Title Page: Formatting View (2010)

Structural elements

An essay's title page needs to contain visual connections to a professional document (Image 1). As seen here, the layout is set so that there is a styled space between title and author information. Differences regarding manual line and paragraph breaks are also visible. By using a dynamic table of contents (Image 2), the program helps the user to keep track of all changes in page numbers and chapters, multiple sub-chapters, references, and appendices. Most essays require listing and careful organisation of data. The most widely accepted methods are bulleted lists and numbered/alphabetical lists, as seen in Image 3. The bulleted list is used for generic points, while numbered/alphabetical lists are used where sub-sections may need to be included.

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2.1 Previous Research	2
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2.2 Theoretical Background	3
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Appendix 1	ii
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Image 2. Structural Formatting for Dynamic Table of Contents

<ul style="list-style-type: none"> • Example: Bulleted Lists • Dictionary strategy for comprehension • Extended dictionary strategies • Looking-up strategies
1. Example: Numbered Lists
2. Note-Taking Strategies
2.1. Meaning-Oriented Strategies
3. Encoding Strategies
3.1. Associative
3.1.1. Visual
3.1.1.1. Visual Awareness
3.1.1.1.1. Visual Semantic Awareness
4. Oral Repetition

Image 3. Structural formatting: bulleted and numbered lists

Methodological elements

As seen in Images 4, 5 and 6, the addition of instructions within the boilerplate creates a direct connection to the content required for each section. Black is reserved for actual essay content while blue denotes boilerplate instructions; in this way, students are able to differentiate between texts that are to be kept and those that are directly related to the boilerplate instructions themselves (these will be deleted before final submission). Image 4 presents some of the basic boilerplate instructions.

Boilerplate Instructions: English Level-IV students

1) All formatting has been pre-styled to be used specifically with WORD 2003:
please do not change it!

2) Open the FORMAT Tab in WORD 2003, and choose "Styles and Formatting". The options will appear on the right hand side of the Word document.

A) How to change and apply the formatting possibilities:
Highlight the text and click the appropriate option:
Heading, Body Text, Long Quotations, References, etc...

How to:
Replace the sample information with your own. Start by filling in the title page and your essay information (see Image 1).

Image 4. Boilerplate Instructions

Incorporating the instructions in the boilerplate itself means that they are always on hand. Only when the tasks have been completed are they deleted (Images 5 & 6).

1. Introduction

State your area of study, simply and clearly. Give a brief introduction to the background of the problem investigated so that the reader understands the topic of the essay and why this is relevant.
Length: maximum 1 page.

1.1 Aim

Write a detailed description of what you intend to do in your essay, including what aspects you are going to investigate. The aim is the foundation of your essay. All material you collect, the methods you use, and the aspects you analyze must be in line with your aim. Make your aim specific and limited. Length: maximum a few lines.

1.2 Material

A presentation of the primary materials used in your study, i.e. materials from your field studies, or the teaching/testing materials you are going to analyze. Describe the materials you are using in detail, how you collected them, and what motivated your choice of materials/data. Remember, for ethical reasons all parties are to remain anonymous.
Length: this will be as short or as long as your material requires.

Image 5. Student guidelines

3. Analysis and Discussion

This is the major part of your thesis. Here you present your results, analyze and discuss them, and draw conclusions on the basic problem investigated. This section requires careful structuring and the use of sub-headings. Pay attention to the classification of your material in order to make it comprehensible to the reader. Include tables and/or figures where relevant. Always comment on tables, figures, and examples. Refer to these by number as opposed to their title.

Support your statements by referring to either your own data or the secondary sources discussed in the theoretical background – or both!

This part may be split into two sections: results/analysis, and a discussion section. It is also possible to combine the two sections, depending on your choice of topic and/or method. Often when a qualitative method is used (as is likely in your essay), the sections are combined so that analysis and discussion are intertwined.

Image 6. Information regarding sections and sub-sections.

Mechanical elements

These elements are noted and added to the boilerplate's database of problems and solutions. As seen in Tables A and B below, "1" is the questionable element, "2" is an automatic "high-jacked" correction (as used in Word), and "3" is the learning option we have implemented where the student is informed of the error and must correct the problem him-/herself.

Table A: Correcting Poor Spelling: "sum"

1. On sum days, one would think to double check one's work.
2. On some days, one would think to double check one's work.
3. On ****Check Spelling and Word Choice**** one would think to double check one's work.

Table B: Correcting Grammar Usage/Word Choice

1. The researcher makes interviews with oral English teachers.
2. The researcher conducts oral interviews with English teachers.
3. The researcher ****Check Meaning and Word Choice**** English teachers.

Specific components of commonplace errors are added to the database resulting in error notifications to the user. In this way, it is hoped that the standard of the language used in student essays will improve (Images 7 and 8).

them to arrive at mutual understanding. This is especially true when the learners is works together to accomplish a particular goal, for example, in task-based instruction.

Image 7. Grammatical Error - "is works"

them to arrive at mutual understanding. This is especially true when the learners **Grammar-Check Verb Tense** together to accomplish a particular goal, for example, in task-based instruction.

Image 8. Correction Notice Given. Grammatical Error: “is works”

Some reflections on Human-Computer Interaction and program choice

Using text editors or more advanced word processors is part of the standard student and teacher knowledge base, yet higher-level functions such as those the boilerplate utilises can be perplexing if one does not consider the knowledge level of the user. The boilerplate project takes into consideration pedagogical issues that both digital immigrants and natives face when they are required to use computer programs in their courses. When using any technological program, it is important to reflect upon Human-Computer-Interaction (HCI) issues such as usability and user-friendliness. One area that Usability Studies investigates is how easy a particular program is to use. Many users will never read an instruction manual: they utilise previous experience in order to help them comprehend and use the program. The clarity of the program’s design is particularly important with regard to the ease with which the user is able to interact with/use the program.

As discussed above, both digital natives and immigrants use technology for different purposes. Yet, both have expectations of which icons should be readily identifiable, and where these should be located on the monitor. A case in point is the operating systems MS XP and MS Vista. Both systems have the traditional Start icon in the lower left hand corner, and the clock in the lower right hand corner. Programmers and technology majors with a broader level of knowledge and experience will readily identify familiar icons in unfamiliar places. Their level of experience will also enable them to recognise unfamiliar icons where familiar ones are expected (Nielsen, 2009). As a result, when digital natives and immigrants use a program, they will anticipate these icons based on previous experience. By utilizing a user-friendly program that is familiar to both digital natives and immigrants there is more focus on the task, as there is no need to learn a new and unfamiliar program.

Conclusion

The boilerplate implemented at Kristianstad University is a significant advance on currently available text editors: it offers additional functions tailored to the specific needs of a discipline/course; it requires minimum input by students and teachers; and it enables students to cross thresholds of understanding in a controlled and efficient manner. The boilerplate can be extended and adapted as new needs or problems arise. As students suggest additions to the boilerplate, the latter becomes part of an ongoing learning process for students and teachers alike. The tool can be applied at all levels and within all programs where students are required to write in English. It can also be used by teachers wishing to publish articles in international journals. We invite readers to contact us to discuss the potential of the system for their particular discipline or needs.

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1 Given that Word 2003 is installed at Kristianstad University, we are obliged to base our boilerplate on this version. Students using Word 2007 have had no problems in making use of all functions, both generic features and those added by ourselves. Word 2007 offers additional higher-level functions, e.g. so-called building blocks, and the new Office “X-format” for programmers.