Didactic Connections between Scientific Writing and Professional Communication in the Foreign Language for Engineering

SUZANA CARMEN CISMAS
Department of Modern Languages and Communication
The Polytechnic University of Bucharest
313 Splaiul Independentei, sector 6, 060042, Bucharest
ROMANIA
suzanacisms@yahoo.com

Abstract: - This article explores didactic connections between scientific writing & professional communication in the foreign language for the field of engineering. It highlights most the delicate composition patterns young technical professionals will use when applying for the desired university or for a job, subsequently performing in that position. The subject is relevant and newly imported into national eastern bureaucracy from the western world. It seems all the more interesting as language professors not only have to teach such frameworks, but also have to analyze and explain cultural differences, so as to minimize the impact of such disturbing factors on employment procedures, simultaneously advising future engineers on how to best present themselves.

Key-Words: foreign language didactics in engineering, scientific writing templates, text approaching strategies

1 Introduction
Professional communication and scientific writing are inextricably linked in engineering practice. Therefore, foreign language didactics should take this aspect into account and make the most of such interdependence. Literacy in nowadays engineering no longer implies exclusively technical knowledge, but calls for oral & written communication skills enabling employees to convey meaning & get professional ideas across, while developing in their careers.

2 Problem Formulation
There is a close relationship between scientific writing and technological reading, in the sense that proficiency in one field generates proficiency in the other. Well developed research abilities add to it, as they constitute the basis for informed and relevant professional reading & writing.

Technical competence and professional communication are closely related, as good employment cannot be obtained without the required scientific knowledge, without the capability to communicate it, or without the capacity to manage constructive dialogues with subordinate teams of workers.

3 Problem Solution
The problem is solved by implementing specific writing in documents related to the job application and selection process–essay, assessment, summary and business plan–closely obeying standard patterns.

3.1 Application Essays
Application essays are written for creating and leaving a good impression under circumstances of tough competition, be that for a job, some part-time employment, or admission to the desired university.

At major universities admissions officers generally read 16,000 application essays per year; therefore, it is vital for a candidate to stand out and be more appealing than the others. Such essays share part of the author’s personality with the reader, avoiding artificial or tricky approaches.

Applicants should not be over-creative with the format of the essay and the tone should be balanced and warm, as if the audience were familiar people, instead of decision makers able to change somebody’s future. The objective is to help the admissions officer understand the candidate’s real self. Best application essays are personal but not sentimental, and cautious with humorous insertions into the text, because the perception of comic situations varies according to the interlocutors’ culture/beliefs/gender/age/status. A simple story about an event in the personal life, (failure, triumph, or incidents while volunteering or working on the job) might prove to be good choices.

One common mistake is the tendency to brag; even if describing all accomplishments may seem a good idea, it generates an ineffective application essay and eventually produces a good resume, but not a good story.

Admissions officers easily detect work done by
somebody else, not belonging to the expected age group, or using online samples of other application essays as a framework. They also detect pretense and improvisation that tries to cover real personality traits. The essay should catch the essence of who the candidate is.

Insertion of many descriptive passages in the narration is beneficial because it helps creating a vivid image in the reader’s mind. The use of a thesaurus for descriptive adjectives&phrases is indicated, but impressive neologisms should be avoided.

3.2 Interview Essays

An interview essay provides a glimpse into the candidate’s personality and opinions on a particular topic or group of issues.

It is an opportunity to share personal views with the world in a conversational style, similar to the one of the interview itself.

The most important stage is the preparatory phase where decisions are made on the general aims and on the list of possible questions, alongside with an outline of the topics to be discussed through the interview process.

This essay features a basic introduction of the interviewee, with past accomplishments and history, clarifying the reasons why that person in particular is being interviewed: connections, special knowledge and expertise in the field, particular perspective on the situation, and competitive advantages.

Once the candidate has been introduced, attention is focused on the questions: personal experience and involvement in the topic, relevant for the current situation, materialized in personal stories and recollections, examples, work samples, and references.

Throughout the interview, the applicant should have opportunities to determine the course of what is being discussed, within the framework of the previously designed outline.

It is useful to allow the author to write about any aspects of the topic that seem most relevant, as it gives both parties the best chance to quantify the candidate’s reasoning and decision-making skills in action.

There must be a reliable method of recording the interview: recorder, transcription, shorthand, documentation of the main points, the outline, specific quotes and paraphrasing.

3.3 Career Assessments

Career assessments are basic & common stages in professional evolution, incorporating periodical self-assessment and formal career evaluation tools.

Job selection and career aspirations are explored by career assessment essays, which begin by stating general interest in a particular field, continue with enumeration of aptitudes, education and experience, and culminate with a solid career guide.

Formal career assessments, such as quizzes or inventories, are designed to combine interest with aptitude, so as to give students a glimpse of what their ideal career would be.

The goal is to ensure that students have the combination of traits that have proven successful for individuals in such domains.

Formal or informal, a career assessment is merely intended to be a starting point, not a final diagnostic recommendation on what a candidate should choose in life. Formal career assessments (first taken in high school, then in the first year of college) are designed to make students think about their future. However, informal career assessment begins long before college and continues long after graduation.

People use informal career assessments as a part of their continuing career strategies, and intelligent workers evaluate their careers frequently, rethinking the goals whenever necessary, since rewarding careers are rarely static. Best careers constantly change in scope and requirements, and steps have to be taken, from continuing education to seeking new positions, in order to ensure the experience of a satisfactory career until retirement.

Career assessments are smart tools for any student, worker, or career-seeker to incorporate into their career-planning strategies.

3.4 Leadership Essays

A leadership essay is an assignment required in business courses, particularly in the field of management. They intend to explore styles/ideas related to strong leadership and explain why/how they are successful approaches in the business world.

It is an essay, not a research paper; therefore, though it will likely include research on various leadership-related concepts, it should ultimately present the author’s individual interpretation and opinions on leadership, rather than simple enumerations of what others said.

Such essays focus on a narrow topic and do not attempt to tackle broad concepts; rather, they explore in detail one specific aspect of leadership, such as a certain theory on leadership or a specific dynamic of leadership in a given workplace.

Once the topic has been decided upon, the writer constructs a thesis which is the author’s opinion or interpretation of the issue. The thesis is the main point or argument of the essay; therefore, it should
be presented in the first quarter of the text. Illustrative examples should be used in addition to theoretic and analytic discussion, and real-life scenarios. The examples clearly display how theory and analysis can be put into practice, as the ultimate aim of all leadership study is to put theories and analysis into successful practice. It is not necessary to present an example for every point the writer is making, but it is helpful to provide an example for each major aspect of the essay.

Some leadership essays may focus on personal experience rather than on analysis. It means that the text will require the author to discuss personal observations/experience regarding leadership. The writer may discuss a known strong leader with his particular style of leadership, or a personal approach to leadership, presenting his/her own experience in implementing the leadership concepts discussed in the lectures.

Business classes regard professional presentation of writing as very important because in the business world presentation matters, hence writing should be clear and error-free. Therefore, a leadership essay should be thoroughly proofread for grammar, spelling, and style mistakes.

3.5 Executive Summaries

They are short pieces of writing summarizing a business document and allowing an executive to determine in a very short time issues such as:

- business value – worth reading entirely or not
- basic points covered
- the conclusion

Such summaries do not contain sufficient information to entitle action by themselves, but they give the reader the gist, so that the document can be further scanned for facts, statistics and relevant details. One common situation in which executive summary essays become frequently used instruments is writing business plans for potential investors.

The time the investors allot to the proposal is limited, so they expect an executive summary presented with the business plan, in order to prioritize it on their reading list, and quickly decide whether or not it is worth further attention.

It should be formulated clearly, in one page or shorter, to be read in under a minute, pointing to the essence of the global plan with the advanced details included in the business plan itself: executive summaries are simple outlines of the content of the plan.

The first step is to introduce the industry the business is targeted at, and describe the market niche the business plan is designed to cover, or the problem it is designed to solve. However, it is important to mention the other solutions offered for the same issues encountered in the market overview.

Research and solid reasoning should demonstrate how the current proposal is superior to others and worth investing into, without examples/details – which are saved for the backup materials (the plan itself and the appendices).

The executive summary has specific audience: investors (mention the investment return expected and the exit time frame), internal use documentation (explanation on company goals achievement by carrying out the plan), advertising agencies, as well as HR&PR managers.

3.6 Small Business Plans

Best practice requires a business plan in place prior to opening a business.

This document is a basic road map for the direction of a business, essential in running it effectively. It basically describes how the business will operate&receive revenue, and provides information about the metrics used to determine how successful the business is. Each business owner decides how extensive the small business plan will be.

Owners pay great attention to the details of their plans, especially when seeking funding, in which case they also include marketing data, market information, and profiles of business operators. Such plans are shorter and less thorough for self-funded businesses, enough, however, for guiding business development.

Different as they may be, all business plans contain a description of the respective business and information about ways in which the business will get revenue. These are key variables that business owners need to reflect upon.

A small business plan is not the same thing as a business proposal, even if similarities exist between the two types of documents. A business proposal is a written document that proposes a certain deal to partners or funders and asks for help or partnership. A small business plan, on the other hand, is a statement about what a business is and how it operates, and it is not as conceptual as a business proposal.

3.7 Marketing Plans

Marketing plans help newly developed products find clients and sell well.

The first stage is extensive research, conducted to determine the target audience, their likes & dislikes, wants & needs, alongside with typically appealing approaches to such consumer categories.

This formal document involves taking a reflective look at the previously marketed products
and at the degree of success attained in those marketing campaigns. Learning from past mistakes and triumphs ensures proficiency.

The second stage is writing the plan focusing on the targeted audience and including detailed information regarding the ways in which they are best reached. Past marketing experiences and how those worked on that segment are also mentioned.

The third stage is drafting the marketing plan proposal for the new product in the proper layout, with exact and detailed description of the steps to be taken and with the types of ads most likely to be successful with that specific target audience.

A characteristic of this type of document is the fact that it looks to the future, including the future goals and forecasts. This is an important component because the initial marketing strategy is about making the product known, while subsequent marketing strategies are about convincing the target audience to make a purchase.

The purpose of the marketing plan is to provide the group with a direction in selling, channeling all efforts into the same strategic movements.

Such documents are persuasive in nature, meaning that the proposed plan should be significantly backed by data and research making it clear that it is the best approach to follow.

At the same time, it should be free of opinion and should be written in the third person.

3.8 Expository Essays

Expository essays, related to research essays, ask the student to write in-depth about a particular issue, and thoroughly research the subject in order to complete high-standard work, able to uncover new ideas or information based on research.

Such formal and lengthy pieces of writing are meant to present a concept or a new development, providing detailed analysis of the multiple parts of the subject, from all angles, including the positive and negative sides.

Its purpose can be providing information to the reader, explaining a topic, or defining objects and processes.

Professors regard expository writing as detective work, and use it particularly in subjects like history, political science, and literature, as they imply critical thinking and clear writing in students’ approaches.

Previous to the first draft, there is a stage of identifying, generating and developing ideas, usually defined as pre-writing, which consists in brain-storming concepts and approaches for the essay, and prioritizing them.

Examples of pre-writing strategies are as follows:

- Making a list
- Creating a web
- Developing a map
- Engaging in free writing
- Drawing a tree diagram

<table>
<thead>
<tr>
<th>Expository essay</th>
<th>Research essay</th>
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<tbody>
<tr>
<td>- the student needs to think critically during the research</td>
<td>- conveys basic information and facts</td>
</tr>
<tr>
<td>- the student is motivated to uncover new data</td>
<td>- in depth research</td>
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<tr>
<td>- exposing the truth behind an idea or fact</td>
<td>- students do not need to think critically about that information</td>
</tr>
<tr>
<td>- factual information</td>
<td>- provides basic data for future expository essays</td>
</tr>
<tr>
<td>- neutral perspective</td>
<td>- without emotion</td>
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<tr>
<td>- without emotion</td>
<td>- written in the 3rd person</td>
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<tr>
<td>- written in the 3rd person</td>
<td>- provides basic data for future expository essays</td>
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Expository essays have an introduction focusing the readers’ attention and formulating the thesis – the one-sentence statement of purpose, summarizing the essence of the entire essay. As a matter of fact, such essays have as key feature a strong thesis supported by relevant facts/statistics/examples/additional data. The author must prove the thesis true throughout the essay. A body paragraph starts with a topic sentence supporting the thesis and summarizing the main idea of that paragraph; the remaining sentences further explain and support the topic sentence, containing data that confirm the thesis. The conclusion consists of one/several paragraphs where the student makes an overview of the key information presented, also expressing personal opinions & ideas. It restates the thesis and the main ideas, but sentences are worded differently. It never introduces new material and the final sentence always summarizes the essay in a memorable or meaningful way.

3.9 Instructional Essays

Instructional essays apply to all fields and give guidelines on modalities to carry out particular tasks. They should be written in a clear style, avoiding the professional jargon, complicated neologisms or un-necessary lexis.

The intended readership will use the instructional essay to learn practical operations or information, hence this potential audience should be studied in advance, so as to be provided with the most concise, easy to use, and relevant data.

If the text is meant for people with previous
training, then examples from those training sessions could be used in the instructional essay; however, if the readers’ background is unknown or too diverse, all issues that might be unclear to the layman should be carefully explained.

If technical lexis definitions are needed in order to get the message across, then such terms must be explained first, in an opening section for special language definitions, so that everyone may be able to proceed at their own pace; knowledgeable people can scan the opening and move forward, while newcomers to the topic can study the basics beforehand.

The topic should be outlined in steps from beginning to end, clarifying what the reader is supposed to do, and pointing to ways of overcoming potentially emerging problems.

The key to success is giving a full outline of what is involved and how to adapt to changing/challenging situations.

Common examples of what the process entails, as well as the most common issues and how to take care of them should be mentioned. Readers are given data on how to adapt to general problems, so that they will be able to come up with new solutions in case difficulties not explicitly defined in the text should appear.

The end of the instructional essay summarizes the key information, guidelines, and approaches, so that the reader is reminded of everything that has been learned.

4 Conclusion

Scientific writing and professional communication are intertwined, which compels the didactic process to approach them in conjunction as well. Professionals get suitable employment only if they are able to communicate effectively with various interlocutors: company bureaucracy, fellow engineers and colleagues, managers, subordinate multinational work force and partners in research contracts.

References:
14. Prutianu, S, Antrenamentul abilitatrilor de comunicare, Polirom, 2005
15. Serbanescu, A, Cum gindesc si cum vorbesc ceilalti, Polirom, 2007