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DESIGNING AN ESP COURSE

Abstract: Designing an ESP course in an academic setting is a multidimensional challenge. To meet it, we should address the needs and interests of our students, which in most cases means incorporating subject-specific content (specialized vocabulary, typical genres, authentic materials, discourse communities practices) into a language course. This on the practitioners' part involves tackling their lack of disciplinary expertise, which might be very difficult for various factors. One of them might be difficulty in gaining expertise due to a wider curriculum and institutional policies (like teaching many ESPs at the same time). Another might be finding the right balance between discipline-based knowledge and pure language on such a course. It seems that the adequate language teaching expertise which the practitioners should possess in order to help students start using the language as a communication tool for their academic and occupational purposes, can be achieved through a careful choice of the syllabus type to be adopted, the academic skills and genres to be practised, the specialized topics for the language to be presented and reliable sources of materials to raise motivation and serve as an example. This paper describes taking the aforementioned elements into account when designing specialized English language courses for BSc and MSc students of Biology, Geography and Physics, at the Faculty of Science, Masaryk University in Brno, Czech Republic. It analyses which language course elements can be shared across the mentioned sub-disciplines of EST, and where their syllabi start to diverge.

Keywords: ESP, needs analysis, specific disciplines, syllabi design, materials development, ESP testing

PROJEKTOWANIE KURSU ESP

Streszczenie: Projektowanie kursu ESP w środowisku akademickim jest wyzwaniem wielowymiarowym. Aby to osiągnąć, powinniśmy odpowiedzieć na potrzeby i zainteresowania naszych studentów, co w większości wypadków oznacza włączenie do kursu językowego treści tematycznych (specjalistyczne słownictwo, typowe gatunki, autentyczne materiały, praktyki społeczności dyskursu). To nakłada na praktyków konieczność zmierzenia się z brakiem specjalistycznej wiedzy dyscyplinarnej, co może być bardzo trudne z powodu różnych czynników. Jednym z nich może być trudność w zdobyciu wiedzy specjalistycznej ze względu na zbyt rozbudowany program nauczania i politykę instytucjonalną (np. nauczanie wielu ESP w tym samym czasie). Innym może być znalezienie właściwej równowagi między wiedzą opartą na dyscyplinie

a czystym językiem w takim kursie. Wydaje się, że wystarczające doświadczenie w nauczaniu języków, które praktycy powinni posiadać, aby pomóc uczniom rozpocząć używanie języka jako narzędzia komunikacji dla ich celów akademickich i zawodowych, można osiągnąć przez staranny wybór rodzaju programu nauczania, umiejętności akademickich oraz typów wypowiedzi pisemnej zalecanych do wyćwiczenia, jak też specjalistycznych tematów dotyczących prezentowanego języka i niezawodnego źródła materiałów w celu podniesienia motywacji i możliwych do wykorzystania w formie przykładów. W niniejszym artykule opisano uwzględnienie powyższych elementów podczas projektowania specjalistycznych kursów języka angielskiego dla studentów studiów licencjackich i magisterskich z dziedziny biologii, geografii i fizyki na Wydziale Nauk Ścisłych Uniwersytetu Masaryka w Brnie w Republice Czeskiej. Prezentowany tekst analizuje, które elementy kursu językowego są wspólne dla wspomnianych poddziedzin EST i gdzie ich sylabusy zaczynają się różnić.

Słowa kluczowe: ESP, analiza potrzeb, specyficzne dyscypliny, projektowanie sylabusów, opracowywanie

Introduction

Observing world-wide practice, we can infer that, even on lower levels, teaching foreign languages at universities today focuses mostly on a provision of language for specific purposes (LSP) rather than on studying general language or its belles-lettres (Bárbara, 2007; Long, ed., 2017; Suan Chong, 2018; MTU Edung, ND Udung, 2008; Guilbaud, 2017). Such a situation mirrors the needs of the educational market and we, educators, want to address those needs by providing our students with tailor-made courses, which would appeal to their interests, and which would leave hardly any room for irrelevance or impracticability. It would be extremely difficult for language publishers to anticipate the practitioners' needs resulting from such a narrow approach. Also, as Gary Jones (1990) points out: "The actual teaching materials should be non-transferable per se, [and] the idea of an all-embracing textbook for an ESP course is a contradiction in terms." Hence we, language teachers, are often forced to accommodate the demand for designing our own LSP courses. This paper will describe designing English for Specific Purposes (ESP) courses at B1 and B2 level according to the Common European Framework of Reference, for students of the natural sciences at Masaryk University (MU), Brno, Czech Republic. It will focus on five main aspects of language course design: 1. needs analysis, 2. choice of syllabus, 3. creating teaching/learning materials and their implementation, 4. assessment, and connected with these points 5. reflection and feedback from students.

1. Needs analysis

An elemental factor in organizing a specialized language course is probably recognizing the most characteristic features of a given LSP. This can give us some

hints as to: what genres to teach, which context is the most likely for the language to be introduced to our students, which authentic materials could be used for such a context, or which skills to practise. As far as English for Science and Engineering (EST) is concerned, we can state that 'science is quantitative, repeatable and ideally free from bias' (Parkinson, 2013). Hence, the language with which we should provide our students should be: descriptive, analytical, objective, most likely impersonal, and it should contain based-on-evidence argumentation, among other things. Gaining even such a general view can be very helpful. From the above short description, for example, we can conclude that in our case teaching first person past narrative would not be a top priority.

Another important aspect of needs analysis is the concept of discourse communities (Miller, 1994; Swales, 1998, both cited in Dudley-Evans: 7) and awareness of disciplinary cultures. A specialized language course should address the need for "learners' socialization into a discourse for the purpose of becoming members of a target language community' (Parkinson, 2013). It is important that the students are able to follow current trends in the ways of communication within scientific communities. Furthermore, it is true with regard to worldwide phenomena, such as the need to deliver TED-like presentations and being able to write and share research articles with other scientists on the Research Gate platform, as with regard to regional-specific needs (the requirements of an affiliated institution, etc.). Thus, a language course should allow for some flexibility in students' choice of alternative skills and genres in their language production.

The third element in considering what to include in our language courses regards the choice of topics that will provide the context for the language that we want our students to practise. For language teachers, not educated in the technical matters of their students´ field of study, this might be a very tricky task (Spack, 1988). We often do not know which parameters or criteria to choose when deciding which topics courses should cover, so that they are of interest to the students, while at the same time serve as appropriate material for the language to be taught. At the Faculty of Science, whose students we teach, we have six specialized courses of English, and these are: English for Biologists, Physicists, Chemists, Geographers, Mathematicians and Geologists. The faculty, however, trains students in many programmes within each of these fields of study (for example within Biology: Anthropology, Applied Biochemistry, Ecological and Evolutionary Biology, Molecular Biology and Genetics, and others). It is important then to have topics in the language courses that would be broad enough to encompass all those specializations. Still, it is difficult for a language teacher to identify core areas for each field. What might be helpful in such a situation is finding field-related courses offered by the affiliated academic institution in L1, and examining their syllabi. Chosen this way, for example, our courses of English for Physicists have, among others, the following topics for practising language: Time, Solar System, Universe (from 'Elements of Astronomy' run in Czech), Experiments or Thermal Properties of Matter and Phase Transitions ('Mechanics and Molecular Physics').

The last and invaluable source of information regarding what should be included in the course and how to present it in the lessons are alumni. The specification of the typical language skills used by alumni with a few years' work experience can help significantly in the formation of course content. However complicated the collection of such feedback seems at first, it might turn out to be perfectly feasible and time-effective with the help of information technology assistants. The IT support at the Faculty of Science facilitated the way students who graduated in 2014, 2015, and 2016 from the fields of Biology, Geology, and Geography were addressed. They were asked three brief questions about using language skills in their professions. Out of six hundred respondents, fifty sent back their answers. The most interesting part of the results can be seen in the following graph where the respondents stated the purposes for which they use English.

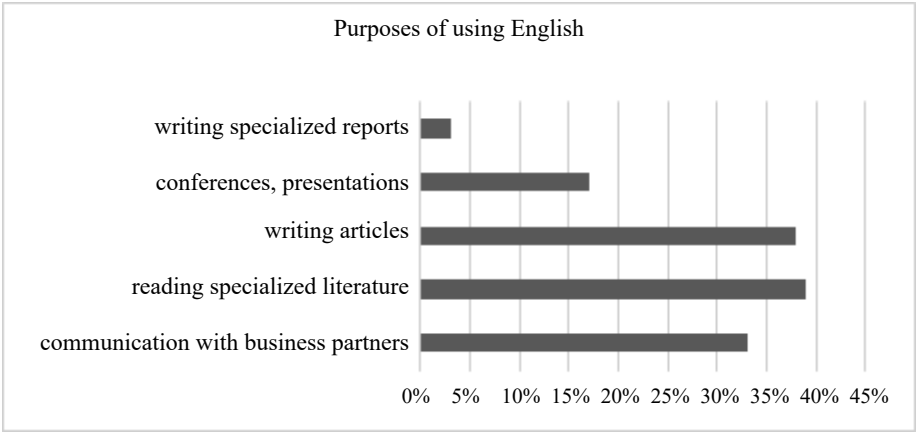

Figure 1. Purposes of using English

Source: own elaboration.

This information confirms that the current content of ESP courses corresponds to the purposes mentioned, i.e. presentation skills and academic skills in subject-specific context. Admittedly, we do not focus so much on business communication because this would divert us from our aims. Nevertheless, we have included the practice of professional e-mail writing.

2. Choice of syllabus

Having analysed the needs, it is possible to think about the kind of syllabus to be adopted for a language course. What also needs to be considered here is any broader curriculum specified by the authorities of the affiliated academic institution. The requirement of the Faculty of Science, MU, is that the Language Centre provides courses of specialized English for the six aforementioned disciplines. The courses

are four semesters long. The first two semesters are at B1 level and are recommended to undergraduate students. The third and fourth semesters are taught at B2 level and are recommended to master's students. The policy of the faculty is to offer those courses as optional ones. Also, the students can join them whenever they wish during their degree, that is, a first year undergraduate student of Chemistry, for example, can start with *English for Chemists 3* (third semester) without completing *English for Chemists 1* or *2*. Such a policy means that the number of students enrolling on language courses can significantly fluctuate throughout semesters, and that the language teachers must take into account the probability of starting a new ESP.

In such a situation, there was a need to unify the syllabi for specific disciplines. It turned out that in an academic setting it would be probably the best idea to use academic skills as a unifying element. The next step was to enlarge this common framework by adding typical functions and grammar (e.g., academic correspondence: formality in written texts, modals, indirect questions; giving numerical values in a scientific context: arithmetic, describing formulas, giving measurements, rules for using numerical values in written texts, countable/uncountable/group nouns, quantifiers). Such a common framework could, in our opinion, work as a strong basis for individual courses.

From that point, however, the syllabi for specific disciplines would diverge. Whereas the context can be pretty similar across specializations when teaching numerical values, in other areas it would be more efficient to narrow it down to topics within a studied field, topics familiar to students (e.g., teaching process description on the example of plant fertilization for Biology students, urban sprawl for Geography students or generating electricity for Physics students). However, the topics can be used as a context for language teaching only if appropriate materials are available.

3. Materials

From our experience, even renowned language textbooks appear to be too general in their focus and do not offer well-tailored materials. We feel that useful sources of materials are authentic ones, both those offering science to a broader audience and to professionals. Given the wide range of such sources it is advisable to check the objectivity and author reliability. A list of suggested sources might include websites from governments and educational institutions, articles from the science sections in independent media, BBC or CNN reports, journals and magazines (such as Nature, The Scientist), TED platforms, educational videos (e.g., Crash Course), or open education courses (e.g., MIT, UCI Open), and last but not least textbooks for undergraduate students. Materials adapted from such sources can be effectively utilized to train a specific genre or a skill relevant to a particular ESP area. From

this point of view, using traditional language textbooks would not be effective in accessing a specific discourse community.

One such example of how an authentic source could be exploited for teaching purposes is a newspaper article from The Times. A report in a January 2017 issue concerns the demographic situation in post-industrial regions and rural areas. The topic, Demography and Settlements, constitutes an important part of Geography studies at the Faculty of Science at MU. Although the style of the text is journalistic and the topic is narrowed to basic facts so as to be accessible to a general audience, the report offers practical aspects for utilization in an ESP class. Firstly, it can serve as the start for a discussion, which can be general or place-specific with personalized comments; further, it presents the target vocabulary (e.g., life expectancy, rural areas, rates), and finally, it applies specific language structures for describing trends and speculating about the reasons (modals, present continuous tense, particular verbs). By elaborating varied activities here we can aim at the discipline-specific skill of interpreting current demographic trends.

4. Assessment

The procedure for designing an ESP course needs to be in accordance with language testing demands from the very beginning. In our case, the Faculty demands that we ensure the skill 'of using specialized vocabulary' is tested at B1 and B2 levels for BSc and MSc students respectively. At this point, the key task is to interpret what this demand means in relation to the descriptors in the Common European Framework of Reference (CEFR). We have worked in a seven-member team supervised by the institution's experts to develop sets of tests specialized for each field of study (Biology, Chemistry, Mathematics, Physics, Geology, and Geography) at both language levels. As a result, we have agreed on a testing structure that would accommodate the aspects of proficiency (B1 and B2), achievement (technical vocabulary) and specializations (six fields of study).

Within the test tasks, the listening, grammar and writing parts are proficiency-type tests and as such, they are based on an academic context. On the other hand, the speaking and reading parts are achievement-type tests based on specific topics. The academic skills are manifested in the productive tasks (speaking and writing) where particular language functions need to be employed. For example, one of these tasks is to write a structured interpretation of visual information from a graph, making comparisons where relevant.

The pitfall of assessment in ESP is in deciding what role, if any, the subject-specific knowledge should play in the assessment because it cannot be separated from the context of the test tasks. As language teachers and testers we do not aspire to test subject-specific knowledge. Rather, we want to see how students argue, explain or describe issues related to their specializations. Such a point of view has been generally accepted, as expressed by Alan Davies: 'LSP testing cannot be

about subject-specific knowledge, it must be testing for the abilities to manipulate language functions' (Davies, 2001). This approach requires developing the test tasks relevantly or adapting them to a new perspective. We have adapted the older speaking tasks from topic-based speeches (such as 'Environmental Change') to a new form 'Talk about a problematic area within a biological context, e.g., malnutrition, or environmental change, explaining its causes and consequences.' Using the new formulation, students have the freedom to choose the specific context while the examiner focuses on how they work with language functions, such as cause-effect language.

5. Reflection and students' feedback

The teachers' reflection is carried out regularly during both formal and informal meetings and experience-sharing sessions. The system in which we specialize in the needs of individual disciplines works thanks to a clear division of areas of responsibility among individual language instructors. Each teacher covers in their courses the so-called transferable skills that are applicable in professional situations universally, and on top of that, focuses on genres specific for the particular discipline. Thus, some skill-training activities can be shared throughout more courses and there is substantial room for teacher co-operation, and at the same time, each discipline requires its ESP teacher to have experience with unique uses of the language.

Students complete feedback forms twice a year, at the end of each semester. They consistently tend to express a high level of satisfaction when dealing with specialized topics. The new vocabulary enables them to discuss specific concepts within their disciplines and this is where they seem to experience the greatest progress. Other aspects appreciated by students included practising the four language skills, academic skills (e.g., presentations or mock conferences), and discipline-specific skill (e.g., understanding a research article on the Internet). For illustration, after the spring term of 2017, among the attendees of the English for Geographers II, 68% found 'working with specialized topics' beneficial and 32% said that they liked 'working on language skills in general.'

A greater divergence throughout the disciplines appeared when the students identified 'useful' and 'less useful' topics. The most significant controversy was over the topic of the Scientific Method. For instance, among the students of Biology, in spring 2017, 25% found the topic very useful, while 15% of the Geography students explicitly said they did not find it useful. This situation can be viewed as a clear sign of the differences between ESP in Biology and ESP in Geography. While Biology students expect to be instructed about the scientific method procedures and about experiments, the field of Geography includes many interdisciplinary specializations that do not rely on experiments, therefore writing an experimental or laboratory report is not what the students primarily expect in their ESP course.

Conclusions

The process of designing an ESP course is based on a multi-aspect needs analysis that provides the rationale for the choice of particular syllabus elements. Moreover, this choice should not be random or perhaps based on subjective areas of interest. It should be backed up with the awareness of disciplinary cultures and the corresponding content of the courses offered in L1. The broader curriculum and the context of the institution also play an important role. Institutional policies lead to the need for high performance and effectivity, which makes teachers want to use unified syllabi. To cope with this situation, a common framework could be built around typical language functions and academic skills. Besides, there is still the need to specialize the ESP courses according to different disciplines and their topics and genres. Here it is beneficial to find a balance between unification versus specialization. The specialization of a course's content can be ensured while using authentic sources materials which can be elaborated on in a structured way, in several steps such as relating the topic to learners' experience, an initial activity plus some deeper work, and a final outcome, possibly a written paragraph or an extended definition, or even a role-play. The course content is then reflected in the assessment by testing relevant language skills in the specific contexts of different disciplines. Here the focus on language functions can clarify the assessment conditions to some extent by helping to distinguish between language and subject-specific knowledge. The reflection of the experience with the approach described shows that the achievement of good results is based on two strategies. First, there is a need to ensure a discipline-specific context by an informed and logical choice of topics. This condition is fundamental for maintaining students' motivation. And second, the ways of training language skills for different disciplines are not identical and attention should be focused on typical genres connected with related language functions and selected grammar areas.

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