Synergies of English for Specific Purposes and Language Learning Technologies

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Cambridge
Scholars
Publishing

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This book first published 2017

Cambridge Scholars Publishing

Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN (10): 1-4438-5298-8
ISBN (13): 978-1-4438-5298-2

TABLE OF CONTENTS

Part A

PART A

CHAPTER ONE

RECENT DEVELOPMENTS IN ESP THEORY AND RESEARCH: ENHANCING CRITICAL REFLECTION AND LEARNER AUTONOMY THROUGH TECHNOLOGY AND OTHER MEANS

DIANE D. BELCHER

Introduction

Arguably at the heart of the praxis, or theory-based practice, we call English for specific purposes is sensitivity to the needs of specific language learners in specific contexts with specific current and future target goals. Although it is commonplace for many in English language teaching (ELT) to value a learner-centered approach in the classroom especially since the development of the communicative language teaching perspective, learner-centeredness has been the priority of ESP since its earliest days. The ESP commitment to being learner-centered is also distinct from the common garden-variety learner-centered ELT approach in that ESP is about much more than just facilitating classroom activities not dominated by teacher-talk. ESP practitioners, ideally, base what they do for their students on an understanding of the needs of those particular learners. In other words, ESP instructors steer clear of language for general purposes, or what Long (2005) would call all-purpose or no-purpose language instruction, a "one-size-fits-all approach" (19).

Taking an ESP approach means being willing to face head-on the challenges of teaching to the unique situatedness and target needs of specific learners, no matter how far attempting to address these needs may take the instructor from her usual comfort zone. Not surprisingly, there are, and continue to be developed, as many different types of ESP as there are specialized learner needs. Perhaps the best known of these types is

EAP, or English for academic purposes, which can be designed to meet the needs of language learners at any educational level, from low or no-literacy learners to those attempting to publish scholarly research. Less well known to some in ELT may be the many varieties of EOP, English for occupational purposes, which includes such professional-purpose branches as English for medical, business, legal, and engineering purposes. EOP can, and in fact has been, responsive to the needs of learners in a dizzying array of occupations, ranging from air traffic controllers, to brewers, horse breeders, and mountain-climber guides (Belcher, 2009b). EAOP, or English for academic occupational purposes, combines aspects of both EAP and EOP, focusing on the needs of those studying in the health sciences, law, business, engineering or other professional fields. Still another branch of ESP is the less-known ESCP, or English for sociocultural purposes, designed for learners who, for instance, are incarcerated, physically disabled, or seeking local community membership (Belcher 2004, 2009b; Morgan and Fleming 2009).

The challenge faced by language specialists untrained in any of the domains that ESP may engage in to address learners' specialized language needs can prove to be both intriguing and intimidating. Some have argued that language specialists actually should not even try to meet such specialized needs, and that facilitating literacy learning and language socialization in the disciplines or professions should be left to those immersed in those areas (Spack 1988). Yet others have countered that there is much we can do, and indeed, ethically speaking, should do, to help language learners more efficiently and effectively adapt to situated communicative practices that may otherwise bar them from full participation (Hyland 2002, 2006).

Attempting to meet learners' specific needs, however, does not mean that we should become what Pennycook (1997) has called "vulgar pragmatists," who unreflectively prepare learners to satisfy the expectations of the gatekeepers of a target discourse community. About a decade ago, I (Belcher 2004) cited a parody news report from the satirical news outlet The Onion that captures what Pennycook and others may see as the least admirable aspects of ESP practitioners' efforts to pragmatically meet the needs of such language learners as the adult immigrant "Eduardo":

New York: An English as a Second Language textbook focuses predominantly on food-preparation vocabulary, night-school student Eduardo Reyes reported Monday. "I must admit, I would like to learn to say more than: 'I have diced the onions,' and 'Did he want scrambled or over-easy?' said a disconsolate Reyes, speaking through a translator, following his first lesson. "I had hoped to learn words for the different

parts of the body so I can pursue my dream of becoming a doctor. I have instead learned much about the grilling of chickens." (Siegel et al. 2002, 206, cited in Belcher 2004)

The problems in this scenario are multiple: Eduardo's immediate needs, to be employed, are the focus of instruction, while his long-range needs are ignored; nor is it clear that his personal goals were even sought (Belcher & Lukkarila 2011). Benesch (2001) has argued for a view of learner needs that includes learner rights, as in learners' right to give voice to their own needs. In considering target discourse communities, we should also, Benesch and others have observed (Casanave 2002), keep in mind that joining a community should not simply be viewed as a matter of unidirectional socialization: the newcomer meeting the current members' expectations for compliant discourse community members. Newcomers necessarily undergo some change to become members of a new community of practice, but they too can contribute to change in that community through their membership, as in the case of someone like Eduardo, who could potentially alter the default thinking about what adult immigrants are capable of. Thus, when Pennycook argues that ESP practitioners should be critically pragmatic, he means that we need to assume "a position that … insists that while we do have to get on with our teaching, we also have to think very seriously about the broader implications of everything we do" (Pennycook 1997, 267). Or as Harwood and Hadley (2004), have pointed out, invoking Benesch, we really have two objectives: "to help students perform well … while encouraging them to question and shape the education they are being offered" (Benesch 2001, xvii, cited in Harwood and Hadley 2004, 357). So, the tall order of ESP practice becomes even taller when the critical pedagogy perspective is added on: to prepare learners not only to enter specific discourse communities but to do so as critically reflective newcomers. This complex goal requires us too, as ELT professionals, to be critically reflective, to consider whose needs (and rights) are to be addressed and how. Fortunately, and perhaps largely unforeseen in the 1990s and even early 2000s, technology-enhanced theory, research, and pedagogy are offering new ways we can better determine and appreciate our students' immediate and future needs and empower them to assess and meet their own needs with more learner autonomy than ever before.

Needs analysis: The alpha and omega

One might easily argue that all teaching, not just the learner-driven pedagogical practice called ESP, requires understanding of students'

needs. For ESP, however, understanding learner needs is its alpha and omega: what informs the design of and preparation for a course of instruction, its subsequent implementation, and its hoped-for outcomes. While, it is safe to say, doing learner needs assessment has never been viewed as an easy task among ESP practitioners, ESP's conceptualization of it has evolved over recent decades to become increasingly more complex and multi-perspectival. Whereas early needs analyses focused to a great extent on target needs from a specific discourse community's gatekeeping perspective, that is, with almost exclusive emphasis on what learners are expected to be able to write, read, say and comprehend as listeners in a specific discourse community, needs assessment today is seen as including the learner's perspective as well. The learner's own sense of current, short and long-term needs, which may actually involve more than one community, is valued and seriously taken into account. With such sensitivity to learners as a priority, performing ESP needs analysis becomes not just something done as input for course development but is ideally ongoing during and even after formal ESP instruction ends, and it requires critical reflection on what should be, is being, and still needs to be learned.

Although determining routine target discourse community practices is no longer seen as nearly enough for learner-sensitive needs analysis, it is still viewed as an important component, but how it is carried out has evolved in recent years. In the earlier days of ESP, data collection for target needs analysis was primarily opportunistic: ESP professionals obtained what was available, for example, a discourse community's published texts, and analysis of sample documents called for labor-intensive manual discovery and counting of patterns, usually lexogrammatical, sometimes with input from specialists from the target field. The result was a largely decontextualized bottom-up register analysis of vocabulary and sentence-level grammar. Now target needs analysis is more often envisioned as both top-down and bottom-up (macro and micro-level) discourse analysis in context, informed by genre theory and enhanced by corpus linguistics (Belcher 2006, 2009b; Biber, Connor, and Upton 2007).

To fully appreciate what genre theory can bring to needs analysis requires an understanding of what genre is. Although there are many different definitions of genre, in simple terms genre theorists essentially conceive of genre as socially agreed-upon ways, written or spoken, of meeting communicative goals (Belcher 2004; Hyland 2007, 2015). To take a genre approach to discourse is to look at whole texts (including spoken "texts") from beginning to end, such as whole business letters, engineering design reports, or dissertation oral defenses, and this means looking at

their overall macro-structure, i.e., their rhetorical organization, or discourse "moves" (Swales 1990; also called "stages" by systemic functional linguists, e.g., Martin 2009). Micro-level features are not ignored but viewed as ways of linguistically realizing moves at the lexical and syntactic levels (Flowerdew, L. 2005).

Perhaps the best known moves analysis model is that which Swales (1990) empirically arrived at for research article (RA) introductions, namely, CARS, or, create a research space, consisting of three major moves: (1) establishing a territory, (2) establishing a niche, and (3) occupying the niche (141). Within the context of each move, Swales and his colleagues have looked at more minor "steps" and how these are often instantiated, or their frequent linguistic features. In one of their EAP textbooks, Swales and Feak (2012) have translated these RA introduction insights into lessons and exercises focusing on, for example, "negative" verbs and adjectives that frequently cluster in Move 2 (see 351), enabling writers to indicate a gap in prior research and, hence, construct a rationale for their own work. Swales and Feak's CARS-focused lessons help us see how the combined macro and micro-analysis of a genre can serve as a target-needs-based foundation for ESP pedagogy.

Swales' genre analysis research has inspired a multitude of specialized genre studies in a wide range of target fields. If we look, for instance, at engineering (which will be used for many of the examples in this chapter), we can find numerous EEP, English for engineering purposes, target needs assessment studies examining such genres and part-genres as RAs across three engineering fields (Kanoksilapatham 2015), software engineering RA introductions (Anthony 1999), engineering theses (Koutsantoni 2006), design reports and presentations (Dannels 2009), and academic engineering lectures (Olsen and Huckin 1990; for further discussion of engineering-focused studies, see Parkinson 2013).

Clearly, Swalesian moves analysis has offered an approach to target genre investigation that ESP professionals have found invaluable in their explorations of discourse in numerous academic and workplace communities-of-practice (see the special 2015 issue "25 years of 'genre analysis'" of the Journal of English for Academic Purposes), but what is now greatly facilitating such work at a pace and with a scope not possible before widespread computer use is corpus linguistics. Thanks to the development of specialized software, or corpus tools, e.g., AntConc (http://www.laurenceanthony.net/software/antconc/) and Wordsmith (http://www.lexically.net/wordsmith/), linguists can relatively easily analyze huge amounts of authentic language data assembled in corpora, that is, computer-compiled and archived databases.

The best known authentic language corpora are probably the largest, e.g., the UK-based British National Corpus (http://www.natcorp.ox.ac.uk/), at 100 million words; the Bank of English, or Wordbanks Online (http://www.collins.co.uk/page/Wordbanks+Online), with eight varieties of English and more than 550 million words; and the more recent US-based Corpus of Contemporary American English (COCA) (http://corpus.byu.edu/coca/), with more than 520 million words and continuously updated. To take just the COCA as an example, we can find in it a huge array of genres, including spoken and written, popular genres such as magazine and newspaper articles and fiction, as well as academic genres. However, probably of still greater value to EAP needs analysts are the more specialized corpora such as those developed specifically for academic discourse: BASE (http://www.reading.ac.uk/AcaDepts/ll/base_corpus/) and BAWE (http://www2.warwick.ac.uk/fac/soc/al/research/collections/bawe/), the British academic spoken and written English corpora, which Nesi and Gardner (2012) have provided a genre roadmap to, and MICASE (http://quod.lib.umich.edu/cgi/c/corpus/corpus?page=home;c=micase;cc=micase) and MICUSP (http://micusp.elicorpora.info/), the Michigan corpora of academic spoken English and of upper-level student papers. The latter two corpora, MICASE and MICUSP, are publicly available and easily searchable, with an interface supporting searches tailored to specific genres in specific disciplines produced by speakers or writers with such specific attributes as being speakers of a specific first language and studying at a specific academic level.

For those in EFL, or English as a foreign language, settings (where English is not the dominant language), however, of even greater interest may be the ELFA, English as a Lingua Franca Academic (http://www.helsinki.fi/englanti/elfa/elfacorpus.html), corpora, previously solely a spoken corpus but now including a written corpus. The ELFA corpora were developed in an EFL university setting, in Finland, and consist of academic English speech events and now publications by users of English-as-an-international-language, or English-as-a-lingua-franca. Given that there are actually more ELF users than mother-tongue English speakers, the ELFA corpora are likely to be of increasing value to more and more ESP practitioners, and not only in EFL settings but in ESL as well, where many professional academics and students are in fact ELF speakers or interact with them.

Although the academic corpora just cited—British, American, and Finish—are all valuable general academic corpora, there has also been a felt need for more specialized academic corpora focused solely on single disciplines. Hyland's (2004) discipline-specific corpus-based studies of

various genres show us what rich resources specialized corpora can be, especially when the help of disciplinary insiders is enlisted to confirm and extend corpus analysts' observations. Another highly specialized corpus-based study is that of Rozycki and Johnson (2013), who analyzed the writing of English-as-an-international-language authors who won IEEE Transactions (in electrical engineering) "best paper" awards over a number of years, in other words, writing that was vetted at numerous levels by accomplished disciplinary insiders—journal reviewers, editors, and those invited to participate in the "best paper" selection. Rozycki and Johnson's analysis of their corpus revealed that "noncanonical" English usage often seen as characteristic of lingua franca users, e.g., definite/indefinite article omission, subject/verb discord, was not uncommon in their corpus. This finding suggests that there are grammatical issues that learners of English for electrical engineering purposes, even if they wish to be published in IEEE Transactions, need not be excessively concerned about. Such fine-tuned analysis as Rozycki and Johnson have done would be a far more arduous undertaking without the advantages of corpus tools.

While target needs analysis from the community-of-practice perspective is an essential component of needs analysis, present needs (which can overlap with target needs) analysis is also necessary for a fuller picture of learner needs. Turning to present needs, or the most immediate learner needs and how far current learner abilities are from needed abilities, inevitably expands the analyst's purview beyond the target discourse communities to include the learners themselves as individuals at particular proficiency levels, with specific backgrounds and specific lacks (more objectively determined) and wants (more subjectively identified). Learner (or current) needs analysis tools have been less technology-enhanced than those for target needs analysis, yet, as we shall soon see, there is a growing role for corpus tools in exploring needs from the learner's perspective.

Tests, questionnaires, and interviews are fairly common means of determining learner needs, with admissions and placement tests by far the most common. General language proficiency tests such as TOEFL, TOEIC, and IELTS, which many universities and some workplaces use for determining entry, provide ready-to-use information about current abilities but tell little about readiness for a specific discourse community. Douglas (2000) advocates tailor-made language-testing-for-specific-purposes, and provides guidelines for such test development. Artemeva and Fox (2010) have reported on their own attempt at such an assessment, focused specifically on engineering genre knowledge, which enabled their finding that familiarity with an engineering genre's textual features was necessary

but not sufficient for continued development of writing competence in engineering genres.

Questionnaires and interviews, in contrast with tests, offer quite different, more emic perspectives on learners' current needs, with questionnaires enabling more efficient data collection from a larger sample of learners and others who interact with them, and interviews allowing for more fine-grained, flexible, individually customized data collection. Kassim and Ali's (2010) survey of engineers in 20 Malaysian companies, for example, helped these ESP practitioner-researchers discover that oral communication skills, such as for teleconferencing, could have more of an impact on engineering students' future career advancement than writing proficiency would. Kaewpet (2009), on the other hand, relied not on the pre-determined questions necessary for survey construction but on more open-ended, face-to-face, semi-structured interviews of Thai stakeholders—ex-civil engineering students of a technical English course, ESP teachers, employers, practicing civil engineers, and civil engineering lecturers—to ascertain the key communicative events in all skill areas that should be included in an EEP course. A still fuller view of needs, and how those needs may change over time in the course of a career, can be obtained with the use of ethnographic participant observation triangulated with surveys and interviews, as Spence and Liu (2012) found in their case study of process integration engineers at a semiconductor plant in Taiwan, which included online surveys, interviews of engineers and one of their customers, and onsite observation.

What we have not discussed so far with regard to current needs analysis is taking a critical perspective on needs, which can further complicate but at the same time enrich such analysis and bring ESP professionals closer to the critical pragmatism Pennycook recommended. In Jasso-Aguilar's (2005) critical-ethnographic case study of a seldom-looked-at workplace, that of resort hotel housekeeping staff, she used true participant-observation. Jasso-Aguilar embedded herself with hotel maids by working alongside them, which afforded her a much fuller, more nuanced appreciation of the maids' needs than hotel management, who were interviewed, apparently had. Engagement in hotel interactions with clientele and supervisors as a maid brought home to Jasso-Aguilar the real-time processing demands of such interactions. Close engagement with the maids revealed their felt need for much more than the "aloha" language (144) valued by management, and hence the differences between staff wants, within and beyond the workplace, and hotel management goals. Jasso-Aguilar's approach to needs analysis thus enabled her to

appreciate how ESP instruction could empower the hotel maids to do much more than meet employer-defined needs.

More recently, critically-aware ESP specialists have realized that what may be even more potentially empowering for students than the findings of their instructors' needs assessments is the ongoing self-needs-analysis that learners can be taught to do for themselves. As mentioned earlier, needs analysis is now often seen as much more than a one-off undertaking. It is also seen as not exclusively the domain of the ESP professional but also of learners who develop the habit of reflecting on their own needs, or wants, lacks, and personal goals, vis-à-vis the target needs of their discourse community (see Johns 1997 on students as ethnographers of disciplinary discourse). Archer (2008), as a result of her work with South African engineering students, advocates a "critical and transformative curriculum" that promotes student agency:

A curriculum which draws on students' experiences and discourses … provides an opportunity for students to begin to interrogate their past situations as well as their aspirations. They also start to think critically of engineering as a profession within … [their own local] context. (264)

Technology can further enhance critical reflection on needs when students are taught corpus analysis skills (discussed at greater length in the following section), which can help them determine how close they are, or want to be, to their target discourse community (Lee & Swales 2006; Starfield 2004).

Needs responsiveness as learner empowerment: Negotiating the knowledge challenge

As challenging as learning to navigate, and guide learner involvement in, needs analysis for specific-needs-oriented teaching and learning may look, at least initially, to would-be ESP instructors, knowledgeably responding to identified needs may appear still more daunting. Novice ESP practitioners may well wonder how they will acquire the subject-area knowledge they themselves need to address such specific learner needs, and their sense of expertise as instructors may be threatened by students' own better developed knowledge of area-specific subject matter. However, as Ferguson (1997) has pointed out, to play the facilitative role that ESP instructors should play in their students' path to greater participation in their target communities, in-depth knowledge of their subject areas may not be needed so much as knowledge about how those discourse communities construct and communicate knowledge, that is, what their values, epistemological bases, and preferred genres are. ESP professionals

can also learn much that they need to know from and with the students themselves (Dudley-Evans 1997), as they, the teachers, lead their students in investigations of the communicative practices of their communities. Recent pedagogical and technological developments, and the synergy of the two together, offer a multitude of resources and new means of support for ESP practitioners that should help them feel and be better prepared to assume their role as enablers of students' autonomy and agency as language learners and community participants.

Problem-based learning (PBL) is one increasingly popular pedagogical approach that can serve as a means of facilitating students' own learning in subject-specific domains. PBL is used in many disciplines to simulate the problem-solving situations that students will face as practicing professionals, and is now being put to productive use in ESP as well (Belcher 2009a). With this approach, students, working in groups, are given real-world discipline-specific problems to research and propose solutions to, thus engaging in resource reading, writing up of analyses, and oral presentations of findings. To cite engineering again as an example, PBL, as Parkinson (2013) has noted, helps enculturate students into engineering activities "by using group work as practicing engineers do, to solve design problems" (163). Neville and Britt (2007) were among the first to report on, and share a sample module for, the use of PBL for teaching language for engineering purposes, in their case German-language instruction for biological engineering students. Among ESP professionals, Wood and Head (2004) have used PBL for medical purposes in an EFL setting where there were few existing materials and little time to develop a curriculum to prepare students to go abroad to study medicine in an English-dominant setting. According to Wood and Head, PBL enabled them, despite their limited specialist knowledge and other constraints, to deliver a course of instruction that motivated students to learn discipline-specific language. Still another advantage for language educators, as Barron (2002) has observed (citing Margetson 1991), is that PBL can serve as a means of promoting critical thinking, for it "encourages … open-minded, reflective, critical and active learning" (305).

The specialist knowledge challenge of ESP can also be made less overwhelming by some of the same technological advancements that have benefitted needs analysis. Discipline-specific vocabulary often poses one of the most formidable challenges for language learners and their ESP instructors. As Hyland and Tse (2007) have noted, specialized, or technical, vocabulary is crucial for fluent reading and comprehension of discipline-specific texts. Corpus linguistics is especially helpful in this

respect, in that specially-compiled corpora, such as those discussed earlier, can identify the language most needed for specific registers in the genres students will most likely be exposed to, especially as readers.

Yet, according to Coxhead and Nation (2001; see also Coxhead 2013), even a non-technical general academic corpus can be extremely helpful to readers across the curriculum. Combining the 2,000 basic high frequency word families of one of the earliest corpora, the General Service List (GSL), with the 570 reasonably frequent word families in Coxhead's Academic Word List (AWL) provides, Coxhead and Nation assert, a core academic vocabulary that gives about 90% coverage of the reading undergraduate students would be likely do in introductory-level classes in 28 subject areas.

Some ESP professionals such as Ward (2009), however, have questioned, not just how useful but also how easily learned general academic word lists are, especially for students in EFL settings about to enter technical fields. Concern for such students' needs motivated Ward to compile a more specialized, engineering textbook-based corpus from 25 textbooks in five engineering areas, resulting in a highly teachable Basic Engineering List of 299 word types, many of which are also in the GSL and AWL and not likely to be greatly challenging for ESP teachers with non-technical backgrounds. Attempting to provide a vocabulary list capable of offering still more extensive engineering reading coverage, Hsu (2014) compiled an Engineering English Word List from 100 college textbooks in 20 engineering fields. As Hsu points out, resources as hers can be equally valuable to students and ESP materials developers, especially with the aid of online concordancers, e.g., AntConc, which can facilitate access to contextualized examples of authentic usage.

Knowledge not only of relevant corpora but also of corpus construction and analysis methods can enable ESP professionals to equip their students with the tools they need to launch and continue into the future their own independent learning about community-specific communicative practices. Providing students with the means to build and analyze their own corpora offers them specially tailored resources for investigating the genres, and their linguistic realizations, that they will encounter as they progress in their disciplines and professions.

Lee and Swales (2006) were among the first to develop an advanced EAP course specifically designed to teach personalized-corpus-building skills for, as Charles (2007) puts it, "ongoing individual consultation" (290). Lee and Swales' students were guided in construction of two specialized corpora, one comprised of their own writing and another of exemplar publications in target journals of their choice. The two self-

compiled corpora made it relatively easy for the students to compare their growing expertise as academic writers to that of accomplished published writers in their own fields, and, as Lee and Swales point out, to make their own "discoveries [and form their own opinions] about what is 'done' in the language" (71) free from dependence on not-always-helpful and often narrowly-prescriptive grammar and style books, or "native speaker" intuitions, or even their ESP instructors.

With similar goals in mind, Charles (2007) has developed sequenced tasks to guide students in their discipline-specific top-down and bottom-up corpus investigations, that is, of both rhetorical moves and lexicogrammatical features, of crucial components of research writing, e.g., the "defending your research against criticism" pattern. In further work promoting student corpus use, Charles (2012) has found that do-it-yourself (DIY) student-built corpora of as few as 10-15 research articles can prove to be highly useful to students, and that once they succeed in "getting the corpus habit" (Charles 2014, 30), many are likely to continue consulting their DIY corpora long after their ESP classes have ended.

Technological savvy has enabled some ESP professionals to develop still other sophisticated computer-aided instructional resources beyond stand-alone corpora. Lo, Liu, and Wang (2014), for example, have constructed a computer-based writing tutorial system aimed at building genre knowledge, expanding lexicogrammatical repertoires, and scaffolding source documentation abilities. Their three modules, using both Chinese, their students' mother tongue, and English, provide access to, among other things, support for source collection and management, genre-based writing instruction, and global and local, paragraph, sentence and even phrase-level resources for research paper writing. The system user interface puts at students' fingertips the ability to import an Endnotes library, examine templates illustrative of genre-specific rhetorical moves, access plagiarism detection software to monitor source use, and check their collocations for genre-appropriateness. Although designed specifically for Chinese users of English, Lo, Liu, and Wang's tutorial program shows us what knowledge of programming, genre theory, and corpus linguistics can enable ESP instructors to do for their students—provide a resource that complements teacher-led EAP instruction and supports continued self-study. It seems quite likely that in the future more such resources will be commercially and institutionally available for ESP professionals to take advantage of in their own curricula development.

Still another technology-assisted way of promoting learner autonomy, as well as the type of collegial collaboration common in many professions, can be seen in the work of Hafner and his colleagues (Hafner 2014; Hafner

& Miller 2012), which combines problem-based learning with student production of a multimodal genre, the digital science documentary (akin to digital storytelling; see Bloch 2009). In Hafner's course, students, working in PBL-style groups, developed science documentary videos that mirrored in many respects what scientists do when addressing research questions and documenting their methods and findings. To produce their digital documentaries, the students needed to read relevant literature on their research problem, design and perform experiments or collect observational data, then re-enact scripted versions of their studies for their videos and post the videos to YouTube to reach an actual audience. According to Hafner, student motivation was high, partly because of their interest in the technology and variety of semiotic resources they could use for the assignment, as well as the prospect of public dissemination of their work (for examples, see http://www1.english.cityu.edu.hk/acadlit/index.php?q=node/29). The students were invested in creating a product with engaging, clearly communicated, scientifically-sound content. This task, Hafner tells us, served as a steppingstone for more formal scientific report writing but also introduced the students to a digital genre and mode of communicating likely to be increasingly valued in this "late age of print" (Bolter 2001). As Hafner (2014) points out (citing Schetzer & Warschauer 2001), the needs we address in our classes should be defined less by our (including the target communities') past than by our students' futures.

Conclusion

The goal of this chapter was not to make ESP praxis look still more demanding than it may already seem to novice practitioners but to, nevertheless, be realistic about ESP's demands, which paradoxically can be its rewards, for it is as intellectually stimulating as it is challenging. Performing needs analysis and then pedagogically responding to those needs obviously entail a willingness to enter as an outsider into specialized domains—academic, occupational or other—that may feel as foreign to us as the language and genres we attempt to teach may feel to our students. The recent developments in ESP theory and practice discussed here offer the promise of easing our access to those domains and of enabling us to empower language learners to feel more at home, as self-aware, critically reflective participants and future contributors, within them.

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CHAPTER TWO

CHANGING NEEDS OF THE ESP STUDENTS

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Introduction

It has long been widely accepted that a foreign language is best learned with a purpose in mind. A particular reason for learning a language makes learners motivated not only to take up the extra effort but also to persist in it. It is true for general English classes as well as for more specialized language instruction, which often takes place in environments that clearly define the target use of the foreign language. To identify the reasons of particular course participants and operationalise them for teaching purposes we conduct needs analysis concisely defined by Hyland (2003: 58) as "the means of establishing the how and what of a course". It is the process of analyzing the needs of the learners that this paper aims to investigate, with an aim of determining the pitfalls awaiting the ESP practitioners who are sometimes left dissatisfied in spite of carrying out meticulous analysis of their students' needs in accordance with the procedures recommended in the literature of the subject.

Theoretical overview

Developing the concept of needs analysis Hyland (2003: 59) states that "Needs is actually an umbrella term that embraces many aspects: What are learners' goals, backgrounds, and abilities? What are their language proficiencies? Why are they taking this course? What kinds of teaching do they prefer?" Hyland warns that the idea, seemingly straightforward, is in fact a versatile one, comprising an array of factors that should be considered from the point of view of the learner as well as the employer or an exam body. He also quotes Richards (2001: 54) as saying that the findings obtained in the process of needs analysis are often very subjective

and may differ greatly as they are articulated by different stakeholders or even by various learners who belong to the same group (Hyland, 2003: 59) .

In fact, Long (2002, 25: 33), having listed various possible sources for needs analysis as well as various methods of carrying them out (see Table 1), opts for triangulation. He suggests using different sources and different methods to compare the results. In case of significant differences he recommends further investigation to find out the reasons for the discrepancy. He admits the process will thus be demanding on the part of the teacher in terms of time and expertise, but it is most likely to cater for the specific needs of the particular target group of learners.

Sources of needs analysis	Methods of needs analysis
- Published and unpublished sources e.g. previous NA carried out in the field, job descriptions, manuals, performance standards, US Department of Labor's Dictionary of Occupational Titles - Learners e.g. experienced workers, graduates of previous ESP courses - Teachers and applied linguists (with experience in teaching or researching ESP) - Domain experts (on the level of task analysis) - Triangualted sources (by source, by method, or by sources and methods)	- Non-expert intuitions - Expert practitioner intuitions - Unstructured interviews - Structured interviews - Interview schedules - Surveys and questionnaires - Language audits - Ethnographic methods - Participant observation - Non-participant observation - Classroom observation - Diaries, journals and logs - Role-plays, simulations - Content analysis - Discourse analysis - Analysis of discourse - Register / rhetorical analysis - Computer-aided corpus analysis - Genre analysis - Talk-based, criterion-referenced performance tests - Triangulated methods

Table I Sources and methods of needs analysis Long (2002: 25: 33)

In practice, it is, therefore, often up to the language teacher to evaluate the degree of importance of each of the factors included in the needs analysis, and consequently develop a syllabus of the course that best reflects the

needs of a particular group. At this stage teachers are faced with yet another issue: the degree of specificity of the course.

Since the resulting syllabus is always a compromise and leaves some skills, areas of language use or topics unattended, the question of whether to create a more or less specialized syllabus has long been discussed. It started with Waters and Hutchinson 1980 article in which the authors argued for teaching linguistic competence which underlies communication rather than focusing on specialized discourse. A few years later the authors maintain:

> "... now there is a need for a wider view that focuses less on differences and more on what various specialisms have in common ... what they have in common is that they are all primarily concerned with communication and learning. ESP should properly be seen not as any particular language product but as an approach to language teaching and learning which is directed by specific and apparent reasons for learning." Hutchinson & Waters (1987: 19)

Contrary to that, Hyland (2002) argues for a "narrow angle" approach that concentrates on the content specific to the situation where learners will use the language later on. He sees "de-specification" as a shortcut where the budget or time frame is not sufficient for a proper needs analysis. He points out three other reasons often listed as justification for "wide angle" courses: low level of linguistic competence of the ESP learners, low level of expertise in the subject matter of language teachers, and generic features of discourse that occur across many disciplines. In his paper he discusses all of these claims and disputes against them. He asserts that cost effectiveness of needs analysis should be determined not on the basis of its face price but after an evaluation of the results of the course. When it comes to the initial language competence of the learners, he notices the fact that language learners do not learn in a predefined linear way but attend to those features of the language that appear in their environment. In his view language teaching should stay in the hands of language teachers rather than be passed on to subject matter specialists. Furthermore, he gives examples of some great differences in terms of discourse that closely related disciplines may exhibit.

Huckin (2003), while generally supporting Hyland's call for more specificity in ESP teaching, warns that "narrow angle" ESP courses may become too teacher centered or prescriptive, which may lead to student demotivation. He also recommends students taking control of their educational needs leaving teachers the role of "language experts not technical insiders" (Huckin; 2003: 16). This, in his view, could be done by changing the focus from teaching linguistic forms and uses, which he sees