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The Role of Discipline-Specific Knowledge in ESP Teaching

Abstract:

The article gives an overview of the discussion on the role of discipline-specific knowledge in ESP teaching. It presents selected research findings related to the significance of subject-matter knowledge, as well as various conflicting views related to the issue. It also discusses the scope and value of specialist knowledge in highly technical contexts, and the team teaching approach developed for teaching English in such settings. The concluding sections of the article focus on ESP professional infrastructure, selected ESP teachers' accounts of experience, and a practical solution to the ESP teacher's dilemma offered in the literature of the subject.

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1. Introduction

According to Belcher (2006: 139), one of the roles the ideal ESP practitioner is that of “content-knowledgeable instructor, capable of coping with a revolving door of content areas relevant to learners’ communities”. This very fact makes the ESP teacher work extremely demanding since no matter how desirable, specialist knowledge cannot be feasibly provided on any ESP teacher training programme (Ferguson, 1997). As reported by Estaji and Nazari (2015) in their study conducted with 20 Iranian teachers of English for General Purposes (EGP), in many cases, it is the lack of appropriate content knowledge, and the related lack of confidence that belong to the main impediments preventing EGP teachers from becoming ESP practitioners.

Owing to the fact that the role of discipline-specific knowledge in ESP teaching has been the subject of much controversy in the literature of the subject, the present article is an attempt at giving an overview of the discussion on the issue. It first presents selected research findings related to the significance of subject-matter knowledge, and different approaches to reading comprehension of discipline-specific texts adopted by language teachers and subject specialists. After trying to reconcile various conflicting views related to the issue, it goes on to discuss the scope and value of specialist knowledge required from the ESP teacher in narrow-angled contexts. The subsequent section of the article focuses on the team teaching approach developed at Birmingham University to help ESP teachers cope in contexts involving highly specialized language instruction. It is followed by a section on ESP professional infrastructure, which seems to bridge a gap in the limited provision of education programmes for ESP teachers. The final sections are devoted to the selected ESP teachers' accounts of experience and the role of ESP learner as a source of discipline-specific knowledge. The *Conclusions* section summarizes the discussion on the issue, and makes a brief reference to a practical solution to the ESP teacher's dilemma offered in the literature of the subject.

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2. Research Perspective

The ESP teacher's competence in the discipline-specific area is a very controversial issue, and the literature of the subject abounds in various differing, and often conflicting views on the extent of specialist knowledge needed in ESP teaching. Being one of the first to address the issue, Early (1981) emphasizes a relatively limited scope of the teacher's competence in a particular professional or academic area, stating that in many cases, learners will certainly possess far more in-depth knowledge of their specialist field than the teacher. For Strevens (1988: 42), the ESP teacher is like the "educated layman", i.e. someone who is "familiar with the language of the subject", whereas Robinson (1981) is convinced that what is required from the ESP teacher is a grasp of sub-O level concepts in a given area.

Researching the issue, Selinker (1979) demonstrates that in order to understand a scientific text, it is necessary to know the concepts and presuppositions involved in a given field of study. Ignorance of these is likely to direct the teacher's attention to lower-level features of grammar and vocabulary, which may not be properly understood either, since their role in the overall scientific discourse is not grasped.

White (1981) arrives at similar conclusions, and finds that language teachers and subject specialists interpreted discipline-specific texts differently and set different comprehension questions on them. Since the language teachers tended to focus on lower-level issues, they set several comprehension questions on the texts, all directed at the identification and reproduction of facts. The specialists, on the other hand, were more concerned with text interpretation. Accordingly, instead of several questions, they set one question on the text. Its objective was to test students' understanding by giving them a problem to solve.

In Arnold's study (1986: 2), subject specialists were requested to judge a number of tape recorded ESP classes. The results reveal that some interpretations and explanations were scientifically inaccurate and usually based on layman's notions of the terms, or "half-remembered secondary school teaching".

3. Conflicting Views

Attempting to answer the question – who will be a better ESP teacher: a philology graduate with discipline-specific background, qualified specialist, e.g. a lawyer, with qualifications for language teaching or an EGP teacher with some general knowledge of a given field and its discourse? – it seems that there is no unequivocal answer though, at the same time, it is difficult to negate the ideal option, i.e. a philology graduate with discipline-specific background. As observed by Robinson (1991), a great deal depends on the context of ESP teaching, the type of course (narrow- or wide-angled), sponsor's requirements or specific needs of the target learners. Each situation is different, and the answer to the question posed above requires taking into account a number of factors.

Perhaps the most important one relates to whether the target learners are experienced in their specialism or not. In the case of pre-experience learners, the ESP teacher may be expected to possess the knowledge of some basic concepts related to the target discourse community, whereas when teaching post-experience students a more in-depth understanding of discipline-specific texts, values, and cultural norms is required. In each of these situations, learners may have different views on the teacher's engagement with their specialism. Thus learners who regard the teacher as an authority may not accept a teacher admitting to ignorance of their field of work or study. On the other hand, learners who are convinced that English language

teaching consists in grammar and vocabulary practice may be at times disconcerted with the language teacher attempting to teach their specialism (Robinson, 1991).

Another important factor relates to the requirements of the institution sponsoring the course. These frequently oblige the teacher to design a course oriented towards concrete priority skills indispensable in a particular professional setting. Last but not least is the availability of different forms of ESP teaching aids and assistance, e.g. appropriate teaching materials, team work, collaboration with subject specialists or time needed by the teacher to become conversant with the basics of a particular specialism.

What specialist knowledge in a given area is required from the ESP teacher in the case of narrow-angled courses? An overview of perspectives on the issue presented below may help to solve the dilemma with which many ESP teaching practitioners are faced. Taylor (1994:14) is convinced that instructors with a good attitude towards and interest in the subject area are definitely much better teachers compared to content experts who tend to take “linguistic and content knowledge for granted”. Ferguson (1997) believes that it is enough to know about an area, its values, epistemological bases, and preferred genres. Discussing the issue, Gajewska and Sowa (2014) contend that teachers need to have a knowledge of the fundamental principles of the subject, and awareness of the scope of their own competence, which in practice comes down to “the ability to ask intelligent questions” (Hutchinson and Waters, 2010: 163). Master (2005) reviews the discussion on the ESP teacher’s discipline-specific knowledge with reference to a continuum. At one end of the continuum, there are views whose authors believe that content knowledge is a potential obstacle, preventing ESP teaching practitioners from fulfilling their true role. At the other end, there are proposals related to content-based instruction in a foreign language in which linguistic knowledge is subordinate to subject content teaching. Master (2005) himself expresses an opinion that ESP teachers are usually much better prepared to cope with the needs of ESP students than subject specialists, with the exception of highly technical contexts, e.g. air traffic control.

In many contexts of ESP teaching, the knowledge of students’ specialism will undoubtedly be of great help to the ESP trainer, and some ESP teaching practitioners pride themselves on teaching in settings where they can draw on their discipline-specific background. Adams-Smith (1983: 38) mentions some of the finest ESP teachers she has met who would “probably pass their students’ subject area examinations very credibly”. However, it is also argued that the knowledge of a particular specialism is not a pre-requisite for successful ESP instruction

(Scott-Barrett, 1989). Discussing the issue in relation to teaching technical English for industry, Scott-Barrett (1989: 1) contends that needs analysis for technical students reveals that “in terms of skills and micro-skills, there are many overlaps with other, non-technical, areas of language training for industry”. It follows that an experienced ESP teacher will have no problem skilfully transferring the ideas and strategies used when teaching learners in other fields to the teaching of technical English.

The chief value of ESP teacher’s competence in a given field of work or study is to give the teaching practitioner confidence (Robinson, 1991). Lack of confidence in the ESP classroom is one of the serious obstacles to successful ESP training. Discussing the issue with reference to classes conducted for experienced doctors, Sheerin (1981) shows that it can be eliminated through careful preparation and access to relevant reference materials. And indeed, as observed by Scott-Barrett (1989), the greatest contribution that the client/sponsor can make to the development of a successful ESP course is time. In addition, it is extremely helpful if the client/sponsor provides the ESP teacher with “as much relevant documentation as possible in advance – e.g. product brochures, technical specifications, instruction manuals, etc.” (Scott-Barrett, 1989: 2). The documentation can be used as a source of “background knowledge about the company, its products, processes and services” (Scott-Barrett, 1989: 2), and a point of departure for designing the programme and materials. Time, on the other hand, allows for the study of the basics of a particular specialism and careful preparation of the course.

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4. Team Teaching

It also seems that in some contexts involving narrow-angled ESP instruction, the team-teaching approach developed at Birmingham University (Johns and Dudley-Evans, 1985) is worthy of note. Being a response to the demands of teaching English to students from highly specialized fields, the approach involves three parties – the ESP teacher, the subject specialist, and the students. The typical instructional sequence, with focus on listening comprehension, proceeds in the following stages: the subject specialist records a lecture, the ESP teacher prepares a handout with comprehension questions on its key points, and a team taught session is held. The session focuses on students’ responses to the questions, with the subject specialist providing information on various points of the content and the ESP practitioner clarifying arising linguistic issues. Thus the ESP practitioner acts as a mediator in the process of content knowledge acquisition in English. Johns and Dudley-Evans (1985) explain the rationale for

the approach in terms of needs. The student needs to receive feedback on “how his performance is measuring up to the expectations of his teachers”, and – if necessary – “immediate assistance with the difficulties as they arise” (Johns and Dudley-Evans, 1985: 141). The subject specialist needs to know how effectively s/he communicates with his students, whereas the language teacher needs to grasp content specific issues in order to understand specific language use and emerging problems.

A variation of the team teaching approach is referred to as subject language integration (Dudley-Evans, 1983). It refers to a situation in which both language and content are taught by the language teacher. However, the material presented and taught derives from the earlier collaboration between the language teacher and the subject specialist. Working on listening comprehension, Dudley-Evans (1983) employed a procedure similar to that in Birmingham. In Singapore, however, the students worked on the previously recorded live lectures in a language laboratory answering the questions that had already been checked with the subject specialist.

Johns and Dudley-Evans (1985), and Dudley-Evans and St John (2009) are convinced that discipline-specific work is best approached through collaboration with subject specialists. This cooperation, which is oriented towards learning about the subject syllabus in an academic context and/or the tasks learners have to perform in different professional or academic settings, can take the following forms:

- some integration between specialist studies or activities and the language, i.e. the subject specialists provides the subject content, e.g. discipline-specific texts, for the English course;
- the ESP teaching practitioner prepares students for discipline-specific language use, e.g. subject lectures, prior to the lectures being held;
- the subject specialist checks and comments on the content of the teaching materials prepared by the language specialist (Dudley-Evans and St John, 2009).

The fullest collaboration, however, involves the cooperation between a subject expert and a language teacher in team taught classes (Dudley-Evans and St John, 2009). In EAP settings, this kind of training helps students improve their understanding of subject lectures delivered in English-medium university teaching contexts or the writing of examination answers,

essays, etc. in English. In EOP instruction, the cooperation results in the teaching of both priority skills and the language related to the target discourse community.

As shown above, the collaboration between language teachers and subject specialists has undeniable benefits for all the parties involved. Johns and Dudley-Evans (1985) observe that it has led some of the subject specialists to introduce improvements in their lecturing style. However, they also contend that for successful team teaching of any type, several conditions must be fulfilled. The first important one relates to simple recognition that there is a problem, and its solution requires a close collaboration between a language teacher and a subject specialist. Secondly, a clear framework for the pattern of activities and responsibilities of the cooperating parties needs to be laid out in advance. It is also important that the student group is homogeneous, both in terms of language proficiency and subject content.

Last but not least is respect for each other's autonomy. Arnold (1988: 7) argues that for successful ESP team teaching "the subject specialist and the English teacher should be prepared to give up some of that autonomy which has traditionally been held to be theirs". Each party needs the advice, support and guidance of the other, and cannot be truly efficacious without it. The experience of Johns and Dudley-Evans (1985) shows that if intrusion on the subject teacher is reduced to a minimum, the help of the subject specialist can be exploited to the maximum.

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5. ESP Professional Infrastructure

Limited provision of ESP teacher education programmes (Basturkmen, 2014), and the resultant knowledge deficits in the area can be partly eliminated by participation in conferences and various kinds of training programmes. Lafford (2012) states that ESP teachers – in contrast to non-English LSP practitioners – are much better served by annual conferences held by various professional organizations (e.g. the British Organization for Lecturers in English for Academic Purposes, England, or the European Association of Languages for Specific Purposes, Spain), as well as by conferences like the First International Conference on English for International and Intercultural Communication in Spain in 2011, the first international conference on ESP in Asia in 2009, the International Conference on Teaching Foreign Languages to Meet the Needs of the Labour Market in Poland in 2015, etc. In addition, international conferences organized by the International Association of Applied

Linguistics (AILA), Teachers of English to Speakers of Other Languages (TESOL), International Association of Teachers of English as a Foreign Language (IATEFL) include several ESP presentations. Thus, ESP practitioners and researchers become part of the national and/or international infrastructure that helps communicate among colleagues in ESP and EAP in various parts of the world.

Apart from that, there are many short courses run by public and private sectors, many of which are currently available in online modes. Northcott (2012) observes that in the UK some of the university-based and private sector language schools offer courses in ESP teaching. The most frequent are Teaching English for Business and Law courses, which belong to the most popular. They usually focus on such issues as language analysis and course design, materials available on the market, and the use of authentic source material as the basis for materials development. In many countries, such short ESP training programmes are organized by the British Council. Their subsequent editions help teachers transfer from general to specific language teaching and/or improve their qualifications in the area. In addition to that, many teachers for whom one particular ESP area, e.g. EST, is likely to become a major part of their teaching practice often look for opportunities to develop their specialist knowledge base. The most frequently employed strategies include attendance at specialist lectures, reading introductory books on core subjects, reading newspaper articles to keep up to date with the most recent developments, subscribing to email lists (e.g. Jurist) (Northcott, 2012). They can as well enrol on a postgraduate course in marketing, logistics, finances, etc., and thus gain thorough specialist background. Also, the Internet gives access to a wide variety of resources for teacher training as well as discussion forums.

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6. ESP teachers' Accounts of Experience

Of particular importance are specialist publications, such as *English for Specific Purposes*, *The Journal of English for Academic Purposes*, *ESP World*, etc., which provide examples of individual ESP teachers' initiatives in response to concrete situations and problems emerging in the process of teaching. They range from accounts of teaching practitioners utilizing different strategies to compensate for their knowledge deficits in a given subject area to reports focusing on instructors' attempts at adapting to particular contexts of ESP teaching and orienting their teaching activities at discipline-specific discourse.

In their relatively small-scale investigation, Wu and Badger (2009) look at the teaching practices and cognitions of three teachers of maritime English in a college in China. Focusing on how the teachers respond to unpredicted situations in which their content knowledge is limited, the researchers conclude that in each situation the teacher's decision to use either the strategy of avoidance or risk-taking was determined by their concern to maintain the smooth flow of the class, which was closely related to the need not to lose their students' respect as experts in the field. None of the teachers, however, is reported to have chosen to admit ignorance for fear of the loss of face this would involve. Researching the strategies implemented by five Iranian ESP teachers, Tavakoli, Nasri and Rezazadeh (2013) identify avoidance, risk-taking and admitting ignorance. Most of the teachers in their study declared to use the strategies to maintain face and respect. The results of the questionnaire administered to students reveal that the ESP teachers were not expected to know everything about their subject area and admitting ignorance in some specific contexts did not seem to work to their disadvantage.

Some ESP teachers' accounts show the process of adapting to particular contexts and transferring from general to specific language teaching. Northcott (1997) shows how an unusual legal English teaching context – a training programme for interpreters in the courts in Zimbabwe – can – in the case of many legal English teachers – act as a catalyst precipitating the need to adapt to the legal teaching context and orient teaching procedures at discipline-specific discourse. Chen's (2000) action-research case study shows how a general English teacher can develop ESP expertise and improve his/her teaching performance through critical reflection. It leads to the realization that basic subject knowledge is a key elements of teacher qualifications, and that it is possible to develop appropriate teaching approaches by professional involvement in the disciplinary culture.

The latter accounts show how in response to limited provision of ESP teacher education, many teachers adopt reflective approach to ESP teaching (Maclean, 1997; Northcott, 1997; Chen, 2000; Belcher, 2013; Basturkmen, 2014). Based on the premise that not everything that a professional does is rooted in scientific understanding, the approach to teaching gives due recognition to received knowledge and experiential knowledge, which leads to a reflective cycle of practice and reflection (Wallace, 1991). In practical terms, this model of teaching involves reflective “thinking-in-action” (Maclean, 1997: 173), i.e. critical reflection on employed teaching procedures and their possible modification. It allows the teacher to gain insight into the implemented didactic activities, and – if need be – take action to introduce

appropriate changes. The decision may involve exploring teaching innovations or modifying teaching routines based on what has been learnt (Murphy, 2001). Presumably many ESP teachers similarly approach their teaching practice, making various attempts at implementing concrete didactic solutions in the ESP classroom. Not all of them, however, share the results of their work by publishing reports or writing articles.

7. ESP Learners as a Source of Discipline-Specific Knowledge

As shown above, discipline specific knowledge is one of the serious problems of many ESP teachers, which may be aggravated in highly technical contexts. Since there is no cure-all solution to this problem, ESP practitioners are advised to develop basic expertise in a given area (Robinson, 1991; Ferguson, 1997; Dudley-Evans, 1997). However, in situations where students know more about their specialism than the teacher, ESP practitioners can be recommended to follow the suggestion made by Strevens' (1988: 42-43) : “become familiar with the ESP course materials”, “the language of the subject”, and “allow students to put them right!” This approach to the issue is in keeping with the fundamental principles of learning-centred teaching, whereby learning is not viewed as a one-way movement, but rather a two-way process in which teachers share their own knowledge with their students, and at the same time learn from them. Thus, teacher discipline-specific knowledge is not seen as “a static commodity”, but developing expertise, and many ESP practitioners may be surprised to discover “how much knowledge of the subject matter they ‘pick up’ by teaching the materials and talking to students” (Hutchinson and Waters, 2010: 163).

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8. Conclusions

The discussion on the role of discipline-specific knowledge outlined above demonstrates that there is no unequivocal solution to the ESP teacher's frequent dilemma concerning the scope of content knowledge required for successful teaching. Belcher (2006: 139-140) is convinced that in highly specialized contexts, the issue of how much subject knowledge is sufficient for

ESP instructors “is still an open question”. Undoubtedly, dual professionalism, i.e. training in the target subject area and applied linguistics, can be considered to be the best option as it provides “the best of both worlds”. Nevertheless, it is not the most frequently available.

Concern with limited content knowledge induces many ESP specialists to collaborate with subject experts, adopt the team teaching approach or its variation of any form. In spite of the benefits of team teaching discussed above, some regard this solution as far from perfect (Goldstein, Campbell and Cummings, 1997). Various institutional constraints and/or unwillingness on the part of would-be collaborators are considered to be the main impediments to teaching partnerships (Belcher, 2006).

In most ESP teaching settings, however, the issue largely comes down to the context of ESP teaching, as well as learner specific needs and expectations. These variable need to be first and foremost factored in when designing a particular course and/or deciding on the scope of subject-matter knowledge required from the teacher.

It goes without saying that many ESP practitioners experienced in teaching in a variety of academic and/or professional contexts can skilfully transfer their ideas and strategies to new ESP settings or partly compensate for the lack of appropriate content knowledge through careful preparation and access to relevant reference materials. Also, the gap in ESP teacher subject-matter knowledge can be partially bridged thanks to participation in various training programmes organized by professional institutions and/or associations. Other sources of useful information on how to cope with limited content knowledge in various teaching contexts include different ESP teachers’ accounts of experience presented in specialist publications concerned with the dissemination of ideas on ESP teaching practice. In their attempt at developing expertise in a given field of work or study, teachers are advised to rely on their learners, who – in certain contexts – are experts in their specialisms. Neither should ESP teaching practitioners dismiss the option of post-graduate courses related to particular areas.

At this point, it is worth turning to the question posed by Abbott (1983: 35) about the number of content areas in which the ESP instructor can acquire even “the layman’s outline knowledge”. Addressing the issue, it seems that successful ESP teaching in a variety of contexts involves at least some basic knowledge of different content areas. Dudley-Evans (1997) offers a practical learner-centred solution to the subject-matter knowledge dilemma. He is convinced that ESP teachers need to learn how to learn from and with their learners, engaging with them in genuinely participatory explorations of specific discourse domains. This approach to the issue does not imply “the teacher having to learn highly specialized

subject matter”, but rather “the need to dispel the mystique of specialist knowledge and build up the ESP teacher’s confidence in coming to terms with it” (Hutchinson and Waters, 2010: 163-164).

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