

A Importância do Inglês para os Estudantes de Odontologia

THE IMPORTANCE OF ENGLISH FOR DENTAL STUDENTS

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Resumo: O inglês é a língua do intercâmbio científico e cultural. É também a língua oficial das associações internacionais, congressos e publicações. Na área da Saúde, e mais especificamente na Odontologia, é a língua mais utilizada para comunicação internacional e acesso ao conhecimento atualizado. Programas de intercâmbio internacional como o “Ciência sem Fronteiras”, do Governo Federal, e o constante estímulo à inclusão de estudantes de graduação em projetos de pesquisa têm exigido conhecimentos de inglês cada vez mais aprofundados. No entanto, a maior parte dos cursos de Odontologia no Brasil não incluem o inglês em seu currículo. Além disso, há pouca informação disponível sobre o nível de proficiência em língua inglesa de estudantes e profissionais da Odontologia. O objetivo deste artigo é revisar a literatura e discutir diferentes aspectos do inglês na Odontologia, tais como sua presença nos currículos de graduação e sua importância para os estudantes dessa área no contexto contemporâneo.

Palavras-chave: Odontologia. Inglês. Currículo.

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Abstract: English is the common language of international scientific and cultural exchange. It is also the official language of international associations, their meetings and publications. In health sciences, and more specifically in Dentistry, it is the most widely used language for international communication and access to current information. International exchange programs such as the federal government's "Ciência sem Fronteiras", and the constant demand for the inclusion of undergraduate students in research projects have required improved English language skills. However, most Dental schools in Brazil do not include English as part of their *curricula*. There is also little information available on the English language proficiency of Dental students and professionals. The objective of this article is to review the literature and to discuss different aspects of English in Dentistry, such as its presence in undergraduate dental curricula and its importance for dental students in the context of contemporary practice.

Keywords: Dentistry. English. Curriculum.

Introduction

English is the common language of international scientific and cultural exchange and as the world becomes more globalized and dependent on the internet, it becomes increasingly important as a second language. It is also the official language of international associations and their meetings and publications (MORSE; NAKAHARA, 2001). In the health sciences, and more specifically in Dentistry, it is the most widely used language for international communication and access to current information.

The Brazilian Ministry of Education maintains an updated database of scientific periodicals, indexed and classified according to their relevance for each field of knowledge (QUALIS CAPES, 2013). Out of the 1413 journals indexed by CAPES in the field of Dentistry, only 341 have been classified as QUALIS "A", the most relevant journals, and all of them are published in English. It is clear that, to have access to relevant and updated scientific information, a dental student or professional must have the ability to comprehend academic texts in English.

During the yearly selection process for undergraduate students at the State University of Londrina (UEL), the only requirement for a dental student regarding foreign language knowledge is to answer 10 multiple choice questions (UNIVERSIDADE ESTADUAL DE LONDRINA, 2016). It is also important to point out that applicants may choose among three languages (English, Spanish or French). Foreign languages are not a part of the second phase specific knowledge test (“segunda fase”), where future dental students are evaluated on Biology, Chemistry and Portuguese. Considering that the applicant may choose Spanish or French in the multiple choice test, it is possible to be admitted as a dental student without any knowledge of English. In contrast, until 2013 UEL’s Medical School and Biomedical School required their applicants to take the second phase specific test with open questions on Biology, Chemistry and English, showing the importance this language has in other health sciences schools in the same institution (UEL, 2013) – in 2014, however, English was replaced with Sociology for Medical school applicants at UEL. The Biomedical school still has English as a second phase subject for its applicants.

After entering Dental School at our University, exposure to English is constant in different classes and extracurricular activities, and reading texts in English is frequently required. Most commonly, reading articles to elaborate seminars for curricular classes and the mandatory course conclusion paper; and also for the optional enrollment in research projects. However, no institutional measures such as instrumental English classes or other activities are available to students to this moment.

Considering the importance of English in the health sciences and more specifically in Dentistry, and considering the evaluation of dental school applicants at UEL does not cover English comprehension thoroughly, the question arises whether the importance of English for dental students in our institution has been underrated. If so, how important is it for our dental students to be able to apprehend knowledge that is available in English?

The present article represents the first efforts to investigate the question as well as to point out some possible alternatives to tackle the problem. Moreover, the objective of this article is to review the literature and to discuss different aspects of English in Dentistry, such as its presence in undergraduate dental curricula and its importance for dental students in the context of contemporary practice.

Theoretical Background and Analysis

According to Holtzman et al. (2005), historically, the ability to communicate effectively has been recognized as a hallmark for membership in the learned professions. During nineteenth-century America, the promotion of basic literacy (the ability to read newspapers and write letters) was associated with the beginning of industrialization itself. Today, the association between advanced literacy (the ability to read a variety of texts in a critical fashion and to write in a variety of modes for diverse audiences) and professional advancement continues.

Considering the importance of English for dental students to access and apprehend knowledge that is crucial to their professional and academic success, it is important to discuss the concept of English for Specific Purposes (ESP), in contrast with “general English”. According to Basturkmen (2006), while in the teaching of general English the student goes from a point A towards a rather undetermined objective, in ESP the student goes from a point towards a point B in the most efficient way possible. “Point B” for Dental professionals and students can be reading academic texts, writing abstracts for meetings or scientific articles, participating in research projects, speaking with foreign professionals or speaking at international meetings, for example.

Concerning language learning in the professional context, Vian Júnior (2008) reports that the demands for use of the target-language are in consonance with practical demands and productions of speakers of English in their academic or work environments. That degree of specificity may not be found in didactic materials that are not developed for that field of knowledge, demanding the creation of specific materials.

The rationale for ESP in higher education wishes to implement language instruction taking into account specific educational needs. Such didactic aims can be fostered by content-based instruction, a valuable approach that enhances both language acquisition and academic success by the incorporation of content material into language classes. This matching of language and content also broadens cross-curricular awareness and specific knowledge to be spent both to improve academic studies or for the world of work (CIANFLONE; COPPOLINO, 2009).

Another concept, discussed and tested by Jesus, Pereira and Cruz (2002) is AESP, or *Adapted English for Specific Purposes*, in which students receive an integrated “multi-ability manual” containing grammar, communicative functions and topics, and also the four abilities (listening, speaking, reading and writing), pronunciation and vocabulary. The method is supplemented by intense work on technical texts, using reading strategies such as scanning, and specific terminology. The authors claim that AESP should be the method of choice for the teaching of English in Dentistry, considering its characteristics: it is instrumental, it works on communicative skills, it prepares for the technological context in which students are inserted, but also covers the four basic abilities.

In an attempt to identify what are the specifics of English used in the Dental Sciences, Carlson (2000) performed a computer assisted linguistic research into what “Dental English” might comprise. He analyzed 1,400 dental abstracts from 14 dental journals published in North America. According to the author, most of the scientific literature that is read is in the form of abstracts. In addition, non-English journals often require that manuscripts be published with an English abstract to make them internationally accessible. He also claims that using this type of methodology can allow for the concentration on the most commonly used language in dentistry. Carlson found that the methodology he used in the study (corpus-based linguistic investigation) has many applications for language instruction, such as planning a course.

Carlson (2000) believes that working within a lexical-syllabus framework, a teacher begins by targeting a core vocabulary that a learner needs to know in a certain domain. For example, the author found the two hundred most frequent content words in dental English and presents the fifty most common in the article (Table 1). Therefore, a teacher can identify the most common meanings of those words as well as their regular patterns of usage, and thereby structure a course that offers students a view of what is most typical in dental English. According to the author, this approach can be used for teaching listening, speaking, reading and writing.

Table 1 – The first 50 content words found in Dental abstracts from indexed scientific articles

Count	Word	Count	Word
1,111	patients	350	health
1,042	study	345	mean
941	dental	344	bond
865	treatment	340	compared
788	group	339	purpose
617	results	329	dentin
595	oral	328	use
595	p	321	root
570	teeth	291	different
536	significant	289	enamel
522	pain	289	periodontal
517	used	280	patient
482	mm	278	materials
478	groups	278	surface
476	clinical	276	differences
459	using	276	found
441	bone	274	cells
427	significantly	273	children
400	subjects	271	age
383	control	264	test
371	tooth	262	data
371	years	255	time
367	caries	251	mandibular
363	resin	251	tissue
352	showed	247	care

Source: Carlson (2000).

Internationally, the importance of English in Dental Education has been recognized and in several countries the language is considered a basic requirement in the formation of a dental professional. Ling and Fu (2007) present a thorough analysis of the evolution of Dental curricula in China. According to the authors, Chinese guidelines state that compulsory courses

involved in basic dental science should include the introduction of stomatology, dental anatomy, head and neck anatomy, oral physiology, oral pathology, oral biology, oral pharmacology, dental materials, oral diagnosis of radiology, the basis of oral biological dynamics, oral engineering, and technical foreign language. In most Chinese schools, English is the foreign language. However, in some special regions of the country, the foreign language used may be Russian, Japanese or another language.

There have been Medical and Dental schools worldwide that chose to use English as the primary language for teaching all subjects. Loster and Likeman (2012) report their 5-year experience of teaching dentistry in the English language to students on the Medical Course for Foreigners at the Jagiellonian University Medical College, Faculty of Medicine, School of Medicine in Krakow. Two courses are offered by the University: a 6-year undergraduate course in medicine and a shorter 4-year course for students who are already graduated in another discipline. All teaching on the course for foreigners is in English, and students may be from any part of the world. It is important to point out that in most European countries Dentistry is a medical specialty, requiring dentists to attend medical school before taking a dental course. In Brazil, teaching Dentistry in another language is unnecessary, considering most dental students are Brazilian and plan to practice in Brazil after graduation; however, the ability to read texts in English is required during dental school and professional career.

In Brazil, Moncayo (2007) presents the results of the use of ESP in the Medical, Nursing and Dental schools at the University of Amazonas. One aspect of the experience, as reported by the author, was the need for constant interaction and interdisciplinarity. Given the complexity of technical terms in the health sciences, the English instructor had to interact with faculty from the specific fields. The clinical faculty was able to clarify any questions and suggest texts to be used for study. The author also points out that, as in the Dental school at UEL, most of the faculty provided texts in English to be used as material for in-class seminars and activities that are used for student evaluation. As in our reality, students are required to read and interpret texts in English frequently and are evaluated based on the knowledge they were able to apprehend.

In most Brazilian Dental Schools, technologic training and the teaching of procedures are the main focus of the curriculum. When the curricula of the twelve top rated Brazilian dental schools are analyzed, none of the schools have English as a mandatory subject, and only two schools offer instrumental English as an optional subject (Table 2).

Table 2 – Summary of the curriculum analysis of the twelve dental schools rated as 5 (maximum score) by the Brazilian Ministry of Education

Dental School	English Teaching in the Curriculum
UFPI (federal)	No
UNOESTE (private)	No
UFRGS (federal)	No
UFRN (federal)	No
UFBA (federal)	No
UNIP (private)	No
UFPB (federal)	No
UFSM (federal)	No
UNB (state)	Optional Subject – “Inglês Instrumental I”
UFC (federal)	No
UERN (state)	No
UESB (state)	Optional subject– “Inglês Instrumental I”

Source: e-MEC (BRASIL).

Even when considering health care itself, treatment of the pathology is more emphasized than its prevention. Humanistic approaches are very rarely discussed, even though more emphasis has been given recently to considering the patient as a whole. Therefore, it is not surprising that language and communication are not prioritized in the curricula. However, Dentistry evolves rapidly, demanding frequent consultation to foreign publications, usually published in English (JESUS; PEREIRA; CRUZ, 2002).

In the State of Paraná, Brazil, five public universities offer Dental undergraduate courses: UFPR, UEM, UEPG, UNIOESTE and UEL. Analyzing the curricular matrices of these five Dental Schools, only UEPG offers Instrumental English as a curricular subject, with a total of 68 hours during the initial part of the course. The content list of the Instrumental

English course lists “reading of Dental technical texts: general ideas and specific information; references, logic connection, paragraph structure; speech markers; word formation; levels of generalization and notions of grammar” as the covered content (UNIVERSIDADE ESTADUAL DE PONTA GROSSA, 2014). No information is available on when the course was first established. However, the fact that a State Dental school has Instrumental English as a curricular, mandatory course indicates the recognition of its growing importance in our reality.

The Brazilian Federal government launched in 2011 a nationwide program (“*Ciência sem Fronteiras*”) that aimed “to promote the consolidation, expansion and internationalization of Brazilian science, technology, innovation and competitiveness through international exchange and mobility”. The initiative was a result of the joint efforts of the Ministry of Science, Technology and Innovation (MCTI) and the Ministry of Education (MEC) so that Brazilian undergraduate and graduate students could develop internships in foreign countries and learn from technologically competitive educational systems. The program also offered grants so international researchers could come to Brazil or establish partnerships with national institutions (BRASIL, 2011). The current economic situation has reduced the number of international scholarships and grants, but internationalization is a tendency in Brazilian higher education institutions.

At UEL, the question of internationalization has led to the creation of ARI (International Relations Office), an institutional branch of the President’s office, which aims at establishing partnerships with foreign institutions as a way to stimulate scientific, technological, cultural and social exchange. Therefore, international mobility and the stimulation of global knowledge and partnerships are being discussed at our university.

Dentistry is one of the areas covered by “*Ciência sem Fronteiras*”, including scholarships for undergraduate dental students to spend up to 18 months in a foreign institution. However, it is required of Brazilian students enrolling in the program to be proficient in English. According to UEL Dental school administration, so far the insufficient knowledge of English has prevented Dental students in our school to be a part of this important program.

The English proficiency of international students attending Dental schools in the United States has also been proven to predict their academic

performance. Pitigoi-Aron, King and Chambers (2011) report that the number of American and Canadian dental schools offering programs for dentists with degrees from other countries leading to the D.D.S. (Doctor of Dental Surgery) or D.M.D. (Doctor of Dental Medicine) degree has increased recently. This fact, along with the diversity of educational systems represented by candidates for these programs, increases the importance of identifying valid admission predictors of success in international dental student programs. The authors analyzed data from 148 students accepted into the international dental studies program at the University of the Pacific from 1994 through 2004. Dependent variables were comprehensive cumulative grade point average (GPA) at the end of both the first and second years of the two-year program. The Test of English as a Foreign Language (TOEFL) and both Parts I and II of the National Board Dental Examination (NBDE) were significant positive predictors of academic success for dental students studying at that university. Comparing these results to our reality, it is possible that better knowledge of English would also lead to an improved learning experience of Dental students enrolled in the “*Ciência sem Fronteiras*” program.

Very scarce information is available in the literature on the evaluation of the English reading skills of dental students, especially in Brazil. Loffredo et al. (2004) evaluated the sociocultural, educational and family characteristics of dental students at the Araraquara Dental School, UNESP. The authors included in their study questions concerning students’ assessment of their own reading, speaking and writing abilities in English. The results showed that among freshman dental students, their self-reported fluency varied between 6.5% to 17.4%. Among senior students, the percentage varied from 9.3% to 14%. Even though this study did not aim to evaluate students on their knowledge of English, the low self-reported fluency reported by students is of notice and similar to that observed empirically in dental students at UEL.

Jesus, Pereira and Cruz (2002) published a study evaluating the contribution and importance of English as a curricular subject in the Dental course in our country. The authors performed a comparative analysis of students from two different universities in the state of Rio de Janeiro, Brazil. The experimental group was made of 7th period Dental students at a private university (UNESA) who had been enrolled in a curricular course entitled

“Linguas VII” that consisted in English classes using the Adapted ESP method. The control group was represented by 7th period students from a public dental school that does not offer English as part of the course. All students had studied Oral Pathology as a curricular subject. All students answered a test consisting of 30 questions, written in English, on the subject of Oral Pathology. The authors then compared the results quantitatively. It was observed that the average result for the experimental group (22,27) was statistically different from the control group (16,05), which suggests that AESP was relevant and resulted in better comprehension of English written content. The authors believe English is instrumental for the students in their learning process, and can also contribute to the professional performance of the dentist. English is, in summary, an integrative element in the dental curriculum, considering almost all subjects in a dental course have a significant part of their literature published in English.

Based on the current status of Dental education worldwide and considering the undeniable importance English has for the access to relevant information, the inclusion of Instrumental English in the Dental academic context at UEL seems necessary.

Final Remarks

English has become the language of scientific exchange in Dentistry, and should be considered as an invaluable tool through which Dental students and professionals may have access to current information. Therefore, it must not be overlooked in dental education, but considered as an important part of the curriculum.

At the State University of Londrina Dental School, little is known about the current status of our students regarding the use of the English language, even though they are regularly required to consult the literature for several purposes. This essay is but a first attempt to call attention to this question and to be an incentive to the proposal of new strategies to face it. Be it in the form of research projects, workshops or disciplines, the inclusion of English in our Dental School is a pressing matter.

Initiatives such as the International Relations Office (ARI) at UEL have worked towards scientific and cultural exchange with foreign institutions.

However, specific fields of knowledge such as Dentistry have apparently been overlooked. Likewise, Dental school administrations seem to have prioritized technical academic training while students' knowledge of English has not been an object of concern so far.

As more attention is devoted to the importance of English for Dental students at our school, significant improvement is expected both inside the classroom and in extracurricular activities. The enrollment of students in the “*Ciência sem Fronteiras*” program, which so far has not happened, would benefit enormously not only the students, but our school as a whole. It is also important to point out that most post-graduate programs in Dentistry, including UEL's Masters program and residency programs, require at least some knowledge of English from applicants, specially reading and interpretation of scientific articles.

Finally, it is important to point out that established Scientific Initiation programs such as UEL's PROIC and CNPq's PIBIC aim at involving undergraduate students in research projects developed by full professors of Brazilian universities. Postgraduate programs of both Masters and Doctorate levels are commanded for associating scientific initiation students in postgraduate projects. Therefore, as the government requires more involvement of undergraduate students in research activities, it is necessary to secure that students are able to interact with the world of knowledge that in Dentistry, as in other fields of the Health Sciences, is mostly available in English.

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