

Bilingual Textbook as Driver of Knowledge Transfer in Modern Educational Environment

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Abstract

Realities of modern education actualize the need to change the approach to developing textbooks for higher education. Bilingual textbooks are becoming more highly-demanded as they provide for achieving a dual purpose – teaching both a foreign language and a professional discipline. Despite the spread of CLIL approach in elementary and secondary levels, it has not been introduced in higher education as widely as traditional teaching methods. It is mostly employed in Master's programmes, whereas bachelor-level programmes are completely uninvolved in this regard. Scarcity of appropriate teaching materials alongside with the lack of reliable materials in the Russian language accounts for the limited scope of CLIL implementation in our country. The textbook developed by the authors is an attempt to introduce CLIL techniques into the curriculum of the second year of study in the Legal Department of Pyatigorsk State University in teaching a professional discipline – Financial Law by means of a foreign language, namely English. The textbook is innovative in its nature as it promotes meta-knowledge, problem solving and critical thinking, collaboration and communication thus serving as the driver of knowledge transfer in modern Russian educational environment.

Keywords: bilingual textbook; CLIL; knowledge transfer, professional education.

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Published by Moscow City University and peer-reviewed under responsibility of TSNI-2021 (Textbook: Focus on Students' National Identity)

Introduction

Reforms in higher education triggered by globalization and subsequent adaptation of Russian education to the world educational standards bring to the forefront bilingual approach to professional training of

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students of institutions of higher education. Use of techniques of CLIL – content-language integrated learning – has proved the efficiency of the method worldwide (immersion Språkbad, Sweden, bilingual education, Hungary, multilingual education, Latvia, integrated curriculum, Spain, Languages across the curriculum (Fremdsprache als Arbeitssprache), Austria, language-enriched instruction, Finland) (Eurydice Report). Many European universities adapted CLIL-based approach to the study of law, business, economics, engineering, medicine and a number of humanitarian disciplines. However, it should be emphasized that such courses are mainly included into the curriculum of master's programmes – as a diploma project, theses, and either conducted exclusively in a foreign language (English being the most commonly used) or contain extensive parts done in English. Less intensive courses in terms of a foreign language are offered in the level of bachelor's studies when the students are mostly kept focused on content-related modules rather than the study of a foreign language.

The efficiency of CLIL is determined by its integrative nature – it involves using a foreign language in acquiring discipline-based knowledge, when the foreign language serves as the means of mastering a professional discipline. In a broader sense, this teaching method implies any learning activity which employs a foreign language as means of learning a professional discipline meaning that both the language and the discipline are united by a common goal (Marsh, 2002).

The term CLIL was introduced to the science of teaching methods by David Marsh to denote study situations when disciplines or their parts are taught in an “additional”, i.e. foreign language. As D. Marsh defines it, CLIL relates to any educational context focused on two subjects, in which an additional language is used as means of learning a non-language discipline. The goal of this process is simultaneous study of both a professional discipline and a foreign language when the language serves as a tool of learning other subjects, as well as means of developing communicative competence (Coyle et al, 2010).

As many researchers point out, CLIL is centered around four key elements – content, communication, cognition, culture (Dalton-Puffer, 2007; Mehisto et al, 2008); their nexus provides efficiency measured by five basic criteria of studying a foreign language, which include a) acquiring knowledge and developing skills of understanding the content; b) accelerating high cognitive processes; c) communicative interaction; d) enhancing relevant communicative skills; e) shaping cross-cultural competences (Harrop, 2012).

Despite being recognized as one of the most highly-demanded techniques of second language acquisition in many countries, CLIL has only been introduced by a limited number of Russian universities mostly in pilot projects (Baranova et al, 2019; Sidorenko et al, 2018). It has not been included in the curriculum approved by government educational agencies either. Nevertheless, a great number of research and applied

studies devoted to CLIL in Russia (Baturina et al, 2017; Litvishko, Garamyan, 2019; Popova et al, 2018) opens up prospects for its wider implementation in the academic process in the future.

The research of CLIL in Russia is mostly focused on integrating the method in higher education, while there are no studies devoted to developing CLIL-based curriculum in general. The present research describes the results of collaboration between language and professional discipline instructors in Law Department of Pyatigorsk State University which has led to the publication of an innovative textbook “Financial Law: Lectures, Practicum, Bilingual Training Simulator”.

Purpose and objectives of the study

The purpose of the study is to reveal the potential of an innovative type of a textbook – a bilingual textbook on a professional discipline designed in accordance with the principles of CLIL methodology – in developing inter-disciplinary / translanguaging knowledge thus promoting the transfer of knowledge in modern educational environment. To fulfill this purpose, the authors propose to evaluate whether a bilingual textbook developed by them in cooperation with a professional discipline instructor meets the requirements specified for CLIL-based textbooks. Such textbooks open up opportunities for expanding the content-related component both of a foreign language and a professional discipline, which enhances mindset formation and students’ self-realization opportunities, influences their cultural and national identity construction.

Literature review

Having shaped as an independent teaching method in the 1990s, CLIL has attracted the attention of many scholars and teaching professionals worldwide. Studies of CLIL were conducted in several theoretical domains. Earlier studies investigated general principles of CLIL methodology (Coyle, 2006; Lasagabaster, Sierra, 2010; Mehisto, et al 2008) or uncovered country-by-country experience and specifics of implementing CLIL throughout Europe (Breibach, Viebrock, 2012; Ruiz de Zarobe, Lasagabaster, 2010; Sylvén, 2013); more recent works analyse CLIL either in the framework of discourse and linguistic studies (Hilingsmann et al, 2017; Llinares, Morton, 2017; Raitbauer et al, 2018) or as a teaching approach aimed at developing various language and non-language skills (Cañado, Lancaster, 2017; Hughes, Madrid, 2020; Nieto Moreno de Diezmas, 2018; Nikula, Moore, 2019) going beyond European educational agenda (Kewara, Pranjandee, 2018; Turner, 2019; Wu, Lin, 2019).

Regardless of differences in approaches and research objectives, many scholars focus on the importance of establishing specific learning environment which provides for the integration of content and language.

Bilingual teaching of professional disciplines is primarily aimed at learning the discipline, i.e. the professional discipline presents the content which is integrated into the process of learning a foreign language. It is crucial to adapt the content to the needs of existing reality so that students deal with real life situations rather than imaginary objects, which is typical of traditional teaching methods. Reality of study tasks encourages students' cognitive activity urging them to think in real terms, at the same time cognizing the objects in a voluntary and emotional manner.

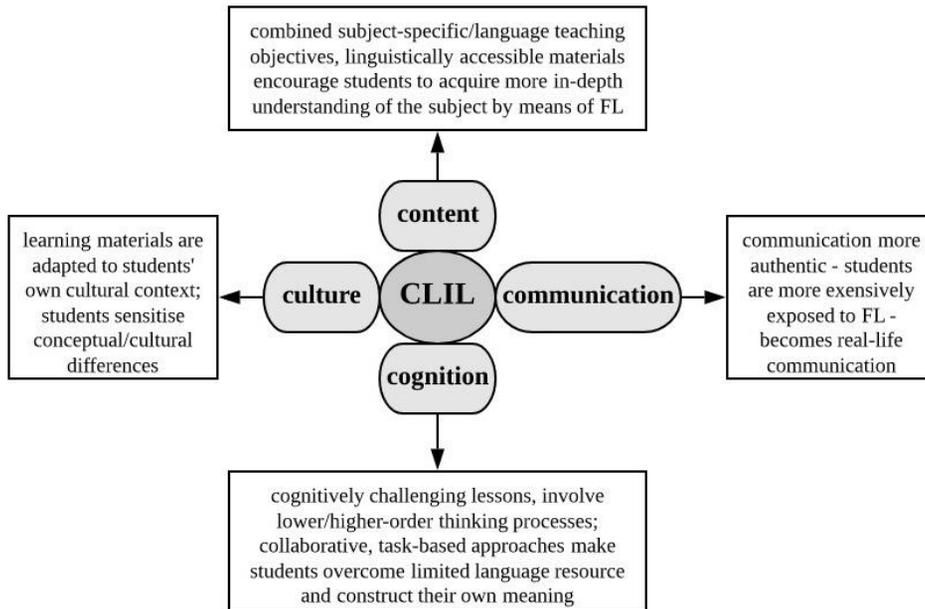
A foreign language is of great importance in teaching a professional discipline. It is employed as a tool-language to observe and describe problem situations, motivate students to exchange opinions, discuss matters of argument which they face while studying a professional discipline.

Designing CLIL-based course materials becomes an issue of paramount importance to fully implement the method in higher education. A number of scholars (Cimermanová, 2020; Czura, 2017; Lucietto, 2009) draw attention to the lack of "appropriate materials that follow dual aims" (Cimermanová, 2020) and support "full integration of objectives related to both content and language" (Czura, 2017). The researchers share the opinion that a CLIL-based textbook should be compliant with certain requirements which if met will contribute to enhancing the efficiency of teaching both a professional discipline and a foreign language thus activating the transfer of knowledge in both areas.

Several scholars proposed criteria to guide teaching professionals in developing course materials following the principles of CLIL methodology, pointing out that it is essential to avoid a major mistake – translating the material of a professional discipline into a foreign language. As A. Czura notes, "translation is not enough" meaning that some instructors mistake "translated versions of regular textbooks written in learners' first language" for CLIL-based textbooks, which eventually becomes "demotivating for learners, who struggle with the content, linguistic demands and cultural complexity of the text" (Czura, 2017).

The conceptual framework of 4Cs – content, communication, cognition, culture – is the methodological background for the design of teaching materials (see Figure 1).

Figure 1. 4Cs of CLIL



Based on the objectives of learning both the content and the language, P. Mehisto (Mehisto, 2012) determines some general and specific requirements to course materials which include (see Table 1):

Table 1. General and specific requirements to CLIL-based learning materials

<i>General requirements</i>	<i>Specific requirements</i>
Should support rather than restrict both students and teachers	Make the learning intentions and process visible to students
Foster the creation of relational links between learning and life	Systematically foster academic language proficiency
Constitute part of a larger context which develops both content knowledge and language skills	Foster learning skills development and learner autonomy
Help students to build and develop their learning skills	Include self, peer and other types of formative assessment
Promote critical and creative thought, discussion and learner autonomy	Seek ways of incorporating authentic language and authentic language use
Avoid bias and stereotypes by building intercultural knowledge	Foster cooperative learning
Develop media literacy	Help create a safe learning environment
Help students to understand their role in the society	Foster critical thinking
Promote responsible behavior of students	Foster cognitive fluency through scaffolding of a) content, b) language, c) learning skills development helping student to reach well beyond what they could do on their own
Develop sense of belonging and engagement	Help to make learning meaningful

Based on CLIL specifics and its multi-faceted objectives, A. Czura (Czura, 2017) proposes her own list of requirements to curriculum design (see Figure 2):

Figure 2. Requirements to CLIL materials

Integration of content and language	Productive skills, communication focus
Extensive vocabulary practice	Judicious use of learners' mother tongue
Enhanced visualization of meaning	Control over cognitive processes
Raising intercultural awareness	Humanising CLIL resources
The development of language learning strategies and study skills	

The requirements to CLIL materials may serve as guidelines not only for the development of the materials themselves but also as the criteria for the evaluation of modern bilingual textbooks' efficiency in teaching both the content and the language knowledge.

Methodology

Evaluating textbooks implies using certain criteria which should be based on methodological considerations derived from the specifics of the method applied. Taking into account previous research on the subject, we draw the example of two models of evaluation – the first proposed for textbooks evaluation designed for teaching a foreign language with focus on developing intercultural communicative competence (Lei, Soontornwipast, 2020); the second is the evaluation checklist compiled by B. López-Medina (López-Medina, 2016) in relation to CLIL textbooks used for teaching at elementary and secondary levels in European schools. Based on these models, we will conduct the evaluation of the textbook developed by the authors to demonstrate the fact that it is drawn up in conformity with CLIL principles and is highly efficient in transferring the knowledge of both content and language.

According to the first model of evaluation, a set of criteria have been worked out based on the results of the interviews conducted with teaching experts and experienced teachers on the validity, impact and practicality of the questionnaire used for providing judgment on Textbook Evaluation Checklist for ICC Development. A number of criteria meet the requirements typically imposed on CLIL-based materials as intercultural communicative competence is considered by scholars as one of the objectives of CLIL (Coyle 2007; Harrop, 2012).

Below we provide the evaluation criteria (see Table 2) which are related to the subject of the present research, namely, integration of content and language (Lei, Soontornwipast, 2020). We intentionally omit some parts of the Evaluation Checklist which to our understanding are irrelevant to the research.

Table 2. Textbook Evaluation Checklist for ICC Development

Contents	Authenticity	15. The content is authentic.
	Organization	16. The content is well organized.
	Newness	17. The content is up-to-date.
	Contextualization	18. The grammar is contextualized.
		19. The lexicon is contextualized.
	Interest	20. The contents of the textbook are interesting.
	Language	21. The language of the textbook (including Chinese) is accurate.
22. The language is authentic.		
Language skills	Integrity	23. The skills are presented integratively.
	Appropriacy	24. The skills presented in the textbook are appropriate to the course.
Cultural topics	Appropriacy	25. The topics are culturally appropriate for the students.
	Diversity	26. There is sufficient variety in the cultural topics.
	Function	27. The topics allow students to think critically.
		28. The textbook can help students identify different cultural norms or values implicit in the language
		29. The textbook contains language components that train students' ability to express their positions against different cultural norms and values.
	Interest	30. The topics are interesting and motivating.
	Relevance	31. The cultural topics are relevant to the students' real life.
	Explicitness	32. The cultural topics are explicitly presented in each unit.

As it is shown in Table 2, Contents is closely linked to the development of Language skills with special emphasis put on Cultural topics. Every subsection is related both to preceding and subsequent subsections, which demonstrates holistic approach to the design of course materials.

The second evaluation model is a more detailed one and combines features of ELT and CLIL. It consists of seven sections and includes requirements which are consistent with the principles of CLIL (sections II-V), i.e. 4Cs – content, communication, cognition, culture. Language requirements are presented in a separate

section – Section VI. Again, we provide only parts of the Checklist (some items are omitted) which in our view are most relevant to making judgment of higher education textbooks (see Table 3).

Table 3. Checklist for CLIL textbooks

II. CONTENT	
16-17.	It covers the contents of the curriculum. Learning outcomes for learning are specified
18-19.	The content is appropriate for the students' age and is relevant to students' experiences
21-22.	It provides support to simplify content (scaffolding). The visual content is functional
23-24.	The activities suggested for practicing the content are varied and enough
25.	There is authentic material at an appropriate level
III. COGNITION	
26.	It allows breaking down tasks / activities to make them more manageable (scaffolding)
28.	The activities are cognitively appropriate for the content
30-33.	Activities activate previous knowledge, they are challenging, motivating, include projects
IV. COMMUNICATION	
34.	It provides support to simplify language (scaffolding)
35-36.	It stresses communicative competence in activities, the activities enable students to use the L2 outside the classroom situations
37.	Activities are developed to encourage teacher-student and student-student communication
V. CULTURE	
39-40.	It relates content to the learners' culture and environment, it guides students in developing cultural awareness
41-43.	The content is relevant to the socio cultural environment, involves culture-specific items, is free from stereotypical images
VI. LANGUAGE	
46.	The language is authentic
48-49.	The number of new words in each module is appropriate to the students' level of L2, there is appropriate sequencing of vocabulary (load and re-entry)
50-51.	It gives practice in guided composition in early stages, presents vocabulary in appropriate contexts and situations
52.	It considers proficiency level of L2

The combination of criteria presented in Table 3 proves the fact that CLIL textbooks are imposed very strict requirements, which demands teaching professionals to reconsider their understanding of CLIL methodology and redesign their teaching materials. As researchers note, teachers should be “creative enough to create own materials to tailor them to meet the learners’ needs, cooperative enough to work with colleagues on planning CLIL lessons and preparing material that fit the set aims” (Cimermanova, 2020).

Results

The textbook developed by the authors in cooperation with the instructor of a professional discipline is titled “Financial Law: Lectures, Practicum, Bilingual Training Simulator”. It is designed in such a way as to give students opportunity to familiarize themselves with two-language study of the professional discipline – Financial Law as well as two approaches to the study of the discipline.

The textbook is comprised of three modules, each module is divided into two parts – the first part is in Russian, the second one is in English. The Russian part contains lecture material supported by visual aids presented in the form of graphs and tables. Students are provided with questions for discussion, project tasks and tests for self-control and self-evaluation. The English part starts with a list of terminology in Russian with English equivalents which students are supposed to learn while studying the material in Russian. It was the intention of the authors to provide students with basic terminology which is familiar to them in their first language so that they could compare and contrast Russian and English professional terminology and learn to use it in professional communication in both languages.

A series of lexical exercises is developed with special emphasis placed on the increasing difficulty of the material. First students are given matching exercises (match the words with their equivalents, definitions), then they learn to combine words and make professional collocations. The next step is to use these collocations in contexts, first written, then in a series of conversation activities. Throughout the module students can consult definitions of terms or expand their vocabulary by looking up new words in Vocabulary Assistant tables which have been designed with dual purpose – both to train new vocabulary and supplement it with authentic terminology taught in the same course in the UK and the USA.

Grammar is also incorporated in the general context. We intentionally avoided teaching grammar separately; instead it is embedded in the form of Grammar Assistant and Professional Communication Activator tables followed by exercises to activate grammar skills.

Texts are short and supported by visual aids so that students with various levels of skills development could feel comfortable while working with them. Besides, relevant terminology is highlighted in the texts

to draw students' attention to thematic vocabulary. Additionally, texts are supported by video or audio materials related to the topic. Links to video and audio materials are provided in the form of QR codes.

Revision, group and individual projects include creative tasks aimed at stimulating the use of the acquired skills in the situations of professional communication. Students may work with word cards (provided in the Appendix) to explain the meaning and the context of words, or prepare short presentations on terms relating to various agencies, government bodies in the sphere of financial law. Such activities are supported by links to Internet resources so that students can develop their research skills.

While doing the tasks, students also learn to deal with real-life issues – they discuss questions related to daily situations, find solutions to minor problems, learn to work with relevant documents, fill in typical written / Internet-generated forms, learn to write application letters. Such tasks develop their practical skills and demonstrate the applicability of the knowledge students acquire in the course of theoretical study.

Special attention is given to the development of students' ability to reproduce the knowledge they obtain while learning the material both in speaking and in writing / visualized form. Again, we used scaffolding techniques to gradually develop the necessary skills. First, we provide the information on various graphic organizers (diagrams, mind maps, timelines) with links to Internet generators. Then students are given tasks to present the material they learn in the visual form. After that they comment on the scheme thus reproducing the knowledge in two ways.

Self-check and self-evaluation activities include tests, word searches, word clouds, games which encourage students not only to revise and activate the material they learn but also creatively apply it to various communicative situations and contexts.

Appendix contains Worksheets on all modules so that teachers who are just getting familiarized themselves with CLIL techniques could use them as tentative models in their classroom activity.

While working on the textbook we were guided by the requirements to CLIL learning materials and evaluation criteria presented above. We believe that such a textbook complies with the majority of requirements specified for higher education textbooks.

Discussions

Since CLIL has not been widely implemented in Russian higher education so far, we believe that development of appropriate textbooks becomes an essential issue for the potential spread of CLIL in the future. Besides lacking textbooks, there is also the shortage of practicing CLIL specialists in our country.

Materials compiled and published in the Russian language for teachers willing to introduce CLIL in academic process are missing either. There are some useful resources in English (Ball et al, 2016) but they should be adapted both to the Russian language and cultural environment to be extensively used in Russian realities of higher education. Positive experience of many European countries may guide Russian educators in the endeavor to promote bilingual education and improve foreign language competence among students.

Conclusion

Acknowledging the fact that modern education demands reconsidering the approaches to textbook design, we may point out that meeting CLIL requirements to textbooks will help to elaborate an innovative study tool which will foster professional and language knowledge, as well as prepare students for advanced professional communication in the future. The experience we have accumulated while teaching English in higher education institutions, allows us to conclude that the proposed textbook is undoubtedly an innovative resource both for learning English and a professional discipline. Its systemic, integral, diversified structure supported by culture-relevant and linguistically accessible materials presented in authentic and accurate language will promote cognitive fluency among students of higher education institutions thus activating the transfer of knowledge. We are convinced that the proposed textbook “Financial Law: Lectures, Practicum, Bilingual Training Simulator” is innovative in its nature due to three main factors. Firstly, this textbook establishes students’ fundamental knowledge, including the holistic world picture of a given professional field, a discipline thesaurus, and interdisciplinary ties clearly manifested by students. Secondly, this textbook is definitely an apparent development of professional communication skills, i.e. it promotes not just interpersonal communication, but professional interaction based on the acquired knowledge of the studied area, at the same time taking into account the cultural characteristics of the participants. Finally, this textbook strengthens students’ meta-knowledge, including creativity and innovation, problem solving and critical thinking, collaboration and communication.

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