Blended Learning Curricula in Methodology for Biology and English Students

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Abstract

Dual specialties in the field of training teachers for the secondary educational context in Bulgaria are attracting a growing number of students due to the increased employment opportunities for the graduates. Current paper is dedicated to the challenges and some practical solutions in designing curricula in methodology for will-be teachers of biology in English at Sofia University. The focus is on the specific solutions, based on the available E-learning System, to encompass the two fields: of science and humanities, as different as biology and a foreign language in methodology disciplines. What is introduced is a set of core and elective disciplines in the field of language teaching methodology, designed with the attempt to build upon the respective disciplines in biology teaching methodology. Three types of activities are presented, related to: introducing new material (face-to-face), practice (self-paced online learning) and assessment. Special attention is paid to the instructions formulated for the blended-learning context and their specifics in the case of each type of activity. Initial student response to the activities is discussed, based on preliminary data of an on-going action research.

1. Context and motivation of introducing Biology and English dual programme

Sofia University dual programme Biology and English was established in 2011 as one of the several such programmes aiming at offering teacher qualification in both fields at Bachelor's Degree level. On completion of the programme, students can take jobs as teachers of both Biology and English. This by itself is a very good opportunity for a young specialist to find a job, especially in the context of increasing demand for young teachers. At the same time, this tackles the demographic issue of the decreasing number of students each year, which leads to a lower number of classes per subject in most of the schools. Thus, many teachers are required to have more than one speciality to cover their minimum load, which is directly addressed by dual specialities in general.

In particular, there is a significant need for language teachers, which makes any combination with a language a potentially improved employability. Furthermore, the student teachers of this speciality may also teach Biology in English, an English for Specific Purposes (ESP) area which is required for specialized Language Teaching Schools or specialized classes at quite a number of secondary schools in Bulgaria, or abroad. In addition, this qualitatively new profile not only would further increase the prospective employment fields, but also broadens the chances for further academic growth and the potential academic or scientific career. To sum up: such a speciality is characterized by interdisciplinary relations and is integral by its nature, which gives a wide variety of opportunities for professional and academic realization of the graduates.

2. Analysis and planning the Methodology of EFLT Module (MEM)

While some of the dual specialities integrate complementary scientific fields, such as Chemistry and Biology or Biology and Geography, the combination of a science with a language do not seem to have much in common when speaking of teaching these at school. Moreover, teaching a foreign language does bear a number of peculiarities, which distinguish it from any other school subject: to mention some - the target language is not the mother tongue, and is viewed as both the means and the goal. Naturally, the greatest challenge of such a dual programme is to find the common grounds to build upon in order to provide coherent and efficient training for the student teachers. This article deals with a practical approach to finding a plausible solution to this challenge, which is divided into three stages: starting from standards, comparing the two sets of curricula, and designing a curriculum based on the analyses of these. The stages are to be used as pillars to ensuring an integral programme with interrelated curricula leading to a high quality, efficient and up to the best practices teacher qualification in more than one field.

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3. Stages of designing a EFLT module of a dual programme

3.1 From standards and best practices to curriculum

Traditional foreign language teaching methodology curricula of the theoretical courses at Sofia University are focused on introducing the methods of foreign language teaching. The programme under discussion faces the challenge to accommodate two sets of curricula: one of biology and one of TEFL. In order to meet the needs of the programme in an efficient way, the methodology and practice parts of the teacher training were compared, based on the standards and good practices, as well as with regards to the requirements of quality teacher training. It is based on the Lifelong Learning Framework of Reference (LLLFR) [1], National Teacher Qualification Requirements (NTQR) [2], EPOSTIL [3], and the respective Methodology of Teaching Biology modules of the programme, as well as a number of other documents and good practices [e.g. 3 – 11]. The Methodology of English Module (MEM) consists of English as a Foreign Language Teaching Methodology (EFLTM) (105 h: 75 Methodology, 30 observation); Audio-Visual Technologies in Language Teaching (45); Observation Practice (45), and Teaching Practice (75). The focus of the article is on the EFLTM, as it is viewed as a core one, defining the scope and range of the others. The goals and objectives of EFLTM were set drawing from the literature and best practices towards meeting the NTQR and LLLFR, and in compliance with the ones presented by the Methodology of Teaching Biology (MTB) courses.

3.2 Matching the curricula of the methodology modules

The resulting curriculum (table 1) is divided into sessions, each one is 5 hours (by 15 weeks of the semester). The common areas with MTB were identified and are marked in italics in the table. It is obvious that common area could be found in most of the topics to be covered. However, a careful choice of examples is required so as to explicate the specifics of subjects such as biology and a foreign language; e.g. a lesson plan may be focussed on a common topic for the two disciplines, such as Environment.

Table 1 EFLTM curriculum: sessions and topics

	Sessions	Topics
1.	Introduction, course goals. Working with the VLE	Introduction to the course. *Introduction to the VLE. Paradigms: learning theories; learning styles.* Paradigms: SLA theories vs Language Learning Theories. The **why** of teaching languages.
2.	Methods in foreign language teaching (FLT) overview.	Introduction to the methods. Comparing the methods, part 1. The **how** of teaching languages. Examples.
3.	Communicative competence	Communicative competence: overview. *Task-based learning. Introducing the glossary.* The **goal** of teaching languages.
4.	Student's role, teacher's role.	Comparing the methods, part 2. *Learner-oriented teaching. Flipped classroom.* The **who** of teaching languages. Examples.
5.	Language teaching profession	*FLT profession: characteristics and standards. How does FLT differ from teaching other subjects? Introducing student teacher's portfolio.*
6.	Teaching skills (CEFR)	Common European Framework of Reference for Languages (CEFR): descriptors and explanation. Language portfolio. Receptive vs Productive skills. The **what** of teaching languages.
7.	Teaching receptive and productive skills	Receptive: understanding - listening and reading. Productive: understanding – writing, speaking (interaction, production). Practice: design an activity.
8.	FLT: linguistic competence	Grammar in FLT. Vocabulary in FLT. Practice: design an activity
9.	FLT: socio-linguistic competence	Pragmatics. Intonation. Received pronunciation (RP). Teaching pronunciation. (Inter)Cultural competence. Practice: a case.
10.	*Designing a course*	*Models. Analyzing, designing FLT, developing in FLT. Introducing templates and blanks to use for lesson planning.*
	Sessions	Topics
11.	*Lesson planning*	*Lesson plan structure, planning. Designing tasks and activities. Goals and instructions. Examples and practice.*

12.	*Learning in the digital age*	Technology in FLT: *affordances and resources. Implementation of available technologies for: communication, information, environment, assessment.* Examples and practice.
13.	*Testing*	Types of assessment. Assessment in FLT. Error correction. *Testing: theoretical issues.* Practice.
14.	*Professional development*	*Participation in professional development courses, groups of interest, networking. Lifelong development for language teachers.*
15.	*E-portfolio (dossier)*	*Focus on instruction in a foreign language when teaching other subjects, e.g. biology. The language of instruction, formulating clear and consistent instructions. Practice – portfolio NQF.*

Each session is presented in the virtual learning environment (VLE) of Sofia University (E-Learning System of Sofia University), based on Moodle. A session typically contains: goals and assessment (in the description), outline of the session: activities, instructions, timing, materials, a place to present the product (if in the VLE), list of resources, list of key terms, bibliography (fig 1). In addition, some of the key resources are given separately, and the forums and assignment modules used for the product are identified and linked to the outline and resources.

Fig. 1 Sample blended-learning session of EFLT Methodology for a dual programme

The assessment is based on a portfolio (dossier), containing: 3 tasks from the classes (30 points), a lesson plan (15 points), and a set of observation forms (15 points). All the blank forms for each one of these are available for download, with respective space and instructions where to be uploaded and discussed. The mark is based on the sum of the points of the portfolio (60), additional 40 points are given for an oral exam at the end of study.

The following scale is used to convert the sum of the points collected as a portfolio into a 6-grade mark (used in Bulgaria to evaluate students' achievements, 6 being the highest): 100 - 81 pts Excellent; 80 – 71 Very Good; 70 – 61 Good; 60 – 51 Pass. Additional requirement is to gain points in each category.

3.3 Stage 3 Blended learning activities in TEFL Methodology

Blended learning [12] in this case is understood as face-to-face classes and web-based content and activities, presented in the VLE. Having into consideration the complex context, three types of activities were identified as key for the design of the curriculum: for new material, practice and assessment. The instructions provided are of crucial importance for the blended-learning setting as they are to be available for both self-paced study online and during the face-to-face classes. The main challenge here is the fact that students have to cope with a large variety of technologies to complete the activities, and to draw upon previous knowledge and skills on subjects from the parallel field taught (in this case – biology). The latter, as motivated above, is a prerequisite to ensure efficiency of such a dual training. The instructions typically include: explanation of the procedure in order the activity to be carried on; materials (with links if available online), e.g. forms, videos, articles, etc.; deadlines, and a hyperlink for uploading the product. In addition, references to similar activities and tasks from the MTB course are provided, when appropriate (fig 2).

Fig. 2 Sample blended learning task in TEFL Methodology

4. Implementation, conclusions and further work

The curriculum presented here, Methodology of Teaching English as a Foreign Language, is especially designed for a binary programme and is currently being run as a core course for the first time. Preliminary feedback shows that students are successful in following the curriculum, and in coping with both the theoretical and practical parts. 20 students are participating in an ongoing research on effectiveness of the course. In order to triangulate the results, additional data are to be collected after the end of the semester (e.g. students' achievements and overall opinion about the course, mentors' opinion on their ability to apply the knowledge gained, and analysis of the use of the environment).

The limitations of this study stem from the fact that it is conducted with students with Bulgarian as a mother tongue, English as the target language, and biology as a second field of study. Further research is expected to provide valuable information regarding the applicability of such integral approach to designing curricula in other dual programmes which include teacher training in a foreign language methodology. In the long term, it is envisioned to provide adequate feedback on such

programmes, working towards their improvement to better meeting the needs of the teacher training on a larger scale, as well as ensuring their quality towards highest standards.

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