TeComp

**Strengthening Teaching Competences
in Higher Education
in Natural and Mathematical Sciences**

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REPORT ON REALIZATION OF THE COURSE *TEACHING AND ACADEMIC WRITING IN ENGLISH FOR NATURAL AND MATHEMATICAL SCIENCES* (*TAWE*)

The realization of the TAWE course was related to two project activities – the preliminary creating of course materials (project activity 2.3) and the course implementation (project activity 3.4.).

General data: In order to increase capacities of teaching staff in natural and mathematical sciences for teaching and academic writing in English and thus provide better options for internationalization of the HEIs, both at the institutional and personal level, the team of 3 teachers from the University of Niš, Faculty of Philosophy, designed an intensive, specialist course entitled *Teaching and Academic Writing in English for Natural and Mathematical Sciences* (*TAWE*).

It has been recognized that it is getting increasingly important for university teaching staff to be not only proficient in English for general purposes and familiar with the discipline-specific terminology in English, but also to gain a range of additional competences in order to be able to teach their courses in English and to publish their research in English. Such competences include the awareness of the specificities of English Medium Instruction (EMI) and the specific English language competences, pedagogical competences, intercultural communicative competences as well as academic writing competences in English.

TAWE course is based on the material carefully designed to cover crucial aspects in teaching academic courses in English and better academic writing in English in the fields of natural and mathematical sciences (the use of class language, instructions for effective lecturing, organizing interactive lectures, the use of teaching tools and visual aids, the forms of academic writing, differences between spoken and written academic genres, etc.), and supplied with a variety of additional materials for self-studying.

The course material was written in the activity 2.3. It was printed as a booklet and distributed to course participants, and also uploaded in the Google classroom dedicated for the course implementation as Teaching and academic writing in English - TAWE.pdf, available at https://classroom.google.com/u/0/w/NDY2OTA0OTc3ODcx/tc/NDY2OTA0OTc4Nzk3, for course participants. A lot of additional material in the form of illustrative videos from open-access reliable and high-quality sources, additional books and articles and a list of useful links was also provided in the Google classroom, at https://classroom.google.com/u/0/w/NDY2OTA0OTc3ODcx/t/all.

The objectives of the course: By receiving appropriate language and methodology tools in the form of a tailor-made course, university and college teachers of natural and mathematical sciences (non-native speakers of English) are helped to build their confidence and skillfulness in delivering lectures in English and how to write academic articles in English in the form appropriate in language and style to the genre of international publications.

The needs analysis prior to the course: Given the very specific target group who was expected to attend *TAWE* course, a needs analysis was conducted prior to the course to fine-tune the course content according to specific subdisciplines and to identify the attendants' opinions of their needs

regarding such a specific course. For that purpose a questionnaire was prepared and distributed to prospective participants at Serbian partner universities via Google Forms. The questionnaire consisted of 22 closed-ended questions and a total of 86 responses was collected in October 2021.

The realization of the course:

Mode of delivery: The course was realized as an online course, using a dedicated Google classroom for materials delivery, course and class communication and course management (https://classroom.google.com/u/0/c/NDY2OTA0OTc3ODcx), while due to a great number of participants ZOOM platform had to be used for online sessions.

Dates: The course is a 24-hour intensive course. It was implemented in the period of March 3rd till March 23rd 2022, as 6 online sessions, each lasting 3 hours. The remaining two sessions were devoted to assessment and feedback (abstract writing and microteaching), which was done as onsite sessions. The dates of the onsite sessions, done in small groups of up to 8 participants, are: University of Niš 11-14th April 2022, University of Belgrade 27th May 2022, University of Novi Sad 28th May 2022, University of Kragujevac 10-11th June 2022, University of Gjirokaster and University of Korce 15-16th June 2022.

Course participants: The total number of course participants who attended the course, as listed in the Google classroom, amounted to 116, 33 male and 83 female, from four Serbian partner universities (University of Niš, University of Belgrade, University of Novi Sad and University of Kragujevac) and two Albanian partner universities (University of Gjirokaster and University of Korca). https://classroom.google.com/u/0/r/NDY2OTA0OTc3ODcx/sort-last-name

Teachers: The course was taught by 3 experienced English language teachers from the Faculty of Philosophy, University of Niš.

Content: The course syllabus is provided in the Google Classroom at https://classroom.google.com/u/0/w/NDY2OTA0OTc3ODcx/t/all.

TAWE course for university teachers of natural and mathematical sciences, as specified by the *TeComp* project requirements, covers two main areas, to build two different, but interrelated kinds of competences – university teaching in an English Medium Instruction (EMI) environment and discipline-specific academic writing in English. The components of *TAWE* include EMI topics, academic writing and focus on English, appropriate in genre, style and medium.

In particular, the theoretical aspects of EMI, academic writing and vocabulary study were kept to a minimum, while the course participants were invited and encouraged to reflect upon, discuss and do many practical activities relating general principles to their academic and professional setting and their work situation. Illustrative videos as well as segments of academic articles from open-access reliable sources were often used, accompanied by guided questions, which promote noticing, reflection, teaching strategies and language study. They were carefully chosen to demonstrate the style differences among natural sciences and mathematical sciences, and for discipline-specific individualization. Special attention is devoted to genre and language

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differences between spoken and written language, i.e., between EMI teaching and writing academic articles in English.

It should be stressed that class interaction, despite the great limitations of the online format, was very important, and the participants were invited to use chat, interactive google documents for writing and discussion in class and occasional discussion during sessions. Both discipline-specific and even personal individualization was enabled through small-group and individual written tasks, submitted via Google classroom. The course promotes self-reflection and self-assessment related to the participants' teaching and academic writing practices, language skills, communication and professional contexts.

The course is not intended to give standardized, general solutions, but to provide guidelines and stimulate self-reflection. This could, hopefully, lead to individual solutions which are most suitable for various particular contexts, depending on institutional policies, local academic contexts, scientific disciplines, as well as the individual characteristics and preferences of the teacher.

Assessment: The final practice/assessment sessions consisted of two segments, where the participants performed two tasks. The first segment was based on the writing of a 200-word abstract on a given topic from the candidates' respectful areas of expertise within 45 minutes. The content and structure of their abstracts was based on the academic writing training sessions and on pre-prepared rubrics. After that they were provided with a peer and a teacher assessment of their writing. In the second segment the candidates delivered a micro lecture on a topic of their choice, related to the course(s) they teach. They handed in lesson plans and they prepared PPT presentations as well as any necessary teaching aid. Following of their microteaching, each candidate was provided with peer and teacher assessments prepared on assessment lists.

Course evaluation: After the TAWE course had been completed, the participants filled out a Google form questionnaire to evaluate the course. A total of 51 participants responded to 13 close-ended questions. Regarding the demographics, the largest number of responses were provided by Assistant and Associate Professors (27.5% and 21.6% respectively) while mostly participants from the University of Niš responded (45.1%). A total of 25.5% of the respondents come from the field of Mathematics. As far as the respondents' expectations from the course are concerned, a total of 70.6% stated they wanted to refresh their general knowledge of English, become more familiar with useful phraseology in English that can be used for teaching in English and interacting with students as well as get advice/instructions how to organize their classes in English. As far as the outcomes are concerned, most of the respondents opted for three outcomes, i.e. 82.4% stated they had a chance to get instructions and materials from the instructors, while 76.5% stated they could improve their English skills and 74.5% that they could practice teaching in English. To the question what they considered most challenging about EMI for them as teachers, most of the respondents opted for organizing interactive tasks (51%), preparing activities for students (49%) and speaking in English (41.2%). Regarding their greatest weaknesses, the respondents chose mostly finding the right word (49%), using proper English grammar (47.1%) and talking continuously without stopping (39.2%). When asked about the positive effects on their confidence in using English, most of the respondents agreed that their reading, listening, speaking and overall use of English had been

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affected either considerably or partly. Their biggest concern about EMI at their institutions and their using EMI was that students would have mixed English language abilities which a total of 68.6% of respondents opted for. A total of 56.9% stated that they were concerned that they would need more time to prepare their lessons. On average, 63% of the respondents stated that the course had a positive effect on their overall confidence in English, their pedagogic skills and their knowledge how to structure their classes. Finally, almost all the participants agreed that each element of the course (e.g. skills, classroom management, competences, etc.) were given sufficient and adequate attention.

Course certificates: The course is officially accredited in the Centre for professional education at the Faculty of Science and Mathematics, University of Niš. At the end of the project the course participants will get the certificates from the Centre. As an accredited course at the Centre, the course can be later delivered after the end of the project.