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## CURRICULUM RESOURCES IN NAVIGATION FOR INTERNATIONAL STUDENTS: CHALLENGES AND OPPORTUNITIES

*Nowadays the training of future seafarers for the effective work on board is a key issue for maritime institutions. Thus, these institutions shall develop the curricula, education programs and teaching materials to form seafarers' skills necessary for both safety and communication within mixed crews. The aim of such training is to prepare maritime officers and ratings who apply their professional knowledge and communicate with crewmembers originated from different social, cultural and linguistic backgrounds in a common working environment. It is very important that maritime institutions play a proactive role and develop the efficient education programs which prepare future navigators for their career at sea.*

*In view of the foregoing, Kherson State Maritime Academy (KSMA) is moving to establish international partnerships in its education programs. One of the main purposes for this task is to provide the students (both Ukrainian and foreign) with so necessary technical and cultural experiences. This is determined by many factors, including the need to give students the education which meets the requirements of national (standard of higher education) and international documents (conventions, codes, resolutions). However, it is recognized that it is impossible to achieve all these objectives through a single program or activity. The author of the article studies the features of the educational process at Navigation Department of KSMA, describes the curriculum contents and practical teaching experiences that could be used to create a better environment for international students specializing in navigation. The results of the analysis will be presented in this article. Besides, the difficulties and recommendations of the further improvement of the curriculum, programs and teaching activities developed for international students will also be discussed.*

**Key words:** curriculum, education program, navigation, international students, maritime institution.

**Problem statement.** One of the most significant challenges in teaching international students at the maritime institution is to design and develop education program and learning activities which integrate their background knowledge (as these students obtained secondary education in their home countries) with the standards and requirements of the navigation profession and the education system of Ukraine. The design of such an education program promotes the development of skills by enabling students to perceive, interpret and use their professional information in a real working environment. The training of international students shall not be a simple addition to the established curriculum for the Ukrainian students of maritime institutions. It is necessary to provide conditions for effective teaching and learning of these students. The curriculum for the 1<sup>st</sup> year international students (navigation course) at Kherson State Maritime Academy (KSMA) is a focus of this article as it was designed and implemented with the objective contributing to accomplishment of the strategic aim of KSMA.

**Recent research and publications.** The problems connected with the education of international students have been studied by Ukrainian (O. Bilyk [11], V. Dubychynskyi [12], O. Trostynska [12], N. Ushakova [12; 13]) and foreign researchers (R. Bamberg [1], E.M. Maloney [1], B.B. Pitts [1], N. Razack [9], J. Xie [10], Y. Wang [10] and others).

Most of the researches are focused on the attempts and results of different institutions in designing the progressive education programs. The authors share their own experience of developing such academic programs, discuss the need and efficiency of international collaboration.

Taking into consideration that the mentioned problem has not been fully dissected, it is necessary to outline specific and logical instructions as for the development of education programs and teaching activities which would meet the requirements of the training of international students.

**The purpose of the research** is to study the curriculum contents for international students at Navigation Department of KSMA and describe practical teaching experience that could be used to create a better environment for international students specializing in navigation.

**The main text.** In this paper, the author would like to focus on discussing how the education program for the 1<sup>st</sup> year international students (navigation course) has worked out in 2018–2019. Currently, there are 14 students in the group. All students had completed secondary education before entering the academy. They are mostly of a similar age. The criteria for entrance selection of international students were: 1) English language proficiency; 2) completion of Mathematics test. A short interview was conducted with the applicants. The group contains students from

Nigeria, Cameroon, Iran, India, Egypt. The students from different countries create a unique student environment for their instructors and teachers. The main purpose for the education program for international students is to explore the possibility of establishing an innovative teaching model in navigation education for these students [5; 6; 7].

Therefore, the final curriculum, for the 1<sup>st</sup> year students (navigation course) as well as the syllabus was approved by KSMA. The tables of curriculum content for international students at KSMA in academic year of 2018-2019 are as follows (tables 1, 2). The 1st semester duration – 18 weeks, the 2nd semester – 16 weeks+2 weeks of simulator training.

From these tables above, we can find out that there are altogether 14 courses in two semesters. Among them 6 courses (Higher Mathematics, Physics, World History, Maritime English, Basic Safety Training, Physical Training) are studied in both semesters. The lectures, laboratory lessons, practical lessons are conducted by the academic and teaching staff of KSMA, using the English language as the teaching language medium. This makes the curriculum a unique one as there are students from different countries in the same classroom. And the

teachers of KSMA can improve the cultural diversity in the education program of their academic subjects.

Being one of the teachers involved in teaching of international students, the author would like to discuss some differences that she found out in the international class, which had a huge influence on the students' behaviors and outcomes in the education process.

In Ukraine, every academy/university student, whatever the degree program he/she is engaged in, follows a similar first year curriculum of 'general' subjects. These compulsory subjects are Higher Mathematics, Physics, Philosophy, Information Technologies, History etc. The main goal of these subjects is develop students' skills necessary to succeed in a contemporary world. But the teachers of these subjects shall appropriately adjust the syllabus for these courses according to the different level of the background knowledge of their international students.

In relation to 'Professional' subjects, the students were used to getting all their information from what the teachers said. They seldom searched for necessary information in the Internet, other references and publications or challenged what the teachers said. However, the teachers usually encourage the

Table 1

**1<sup>st</sup> semester curriculum**

No	Academic subjects	Total hours	Lectures	Practical lessons	Laboratory lessons	Self-study	Pass/fail exam	Exam
<i>General Education</i>								
1	Higher Mathematics	210	38	64		108	+	
2	Physics	150	24	30	18	78	+	
3	Material Science	90	20		16	54	+	
4	Information Technologies	90			36	54	+	
5	Philosophy	90	20	16		54		+
6	World History	90	20	12		58	+	
7	Ukrainian Language	90		54		36	+	
<i>Professional Education</i>								
8	Maritime English	75		36		39	+	
9	Basic Safety Training	90	20	16		54	+	
10	Seamanship	90		16		58	+	
11	Physical Training	72		36		36	+	

Table 2

**2<sup>nd</sup> semester curriculum**

No	Academic subjects	Total hours	Lectures	Practical lessons	Laboratory lessons	Self-study	Pass/fail exam	Exam
<i>General Education</i>								
1	Higher Mathematics	150	34	34		82		+
2	Physics	150	16	34	18	82		+
3	Descriptive geometry and engineering graphics	120	16		32	72	+	
4	World History	90	20	12		58		+
<i>Professional Education</i>								
5	Maritime English	75		34		41	+	
6	Basic Safety Training	80	20	16		52		
7	Simulator Training 'Basic Safety Training'	40			40		+	
8	Geography of Shipping	90	16	18		56	+	
9	Physical Training	64		32		32	+	

students to find their own way to solve the problem and, for instance, the students from Nigeria turned out to be more flexible in their learning and doing. Some students felt that they could not actively take part in the class. However, they performed better in their interaction with the other students than individually, for instance, when working in pairs, taking part in a group project, participating in some extra-curricular activities (the Amazing Race, the English club).

Furthermore, the author would like to give some recommendations of the further improvement of the curriculum, programs and teaching activities for international students.

1. It is very useful to provide international students with a detailed subject description which includes the information on the number of credits, objectives, syllabus, teaching pattern, assessment and references. So they could prepare for learning and check the subject information regularly and evaluate whether they had achieved the learning objectives. This is important as international students require clear goals and standards.

2. Team work is another thing that can improve the learning process. The students can work together to solve the problem with the help and under the supervision of the teachers. Then the students not only learn a lot of academic information from team work but also have some positive feelings about the learning process in general. Also, teamwork and cooperation between the teachers of 'general' subjects and 'professional' (navigation) subjects enable them to work effectively in the development of an integrated education program and therefore enhance teaching, learning and assessment of future navigators [8, p. 171].

3. Currently the student-centered approach seems to be the most appropriate one to teaching of international students [2, p. 204]. Though traditional methods such as explanation, practice and comparison are useful to some extent, they are not very effective in arising the students' enthusiasm for study.

4. The teacher shall use authentic and real-life/near-real information. As it is difficult to take the students to real working site area, authentic real-life/near-real information can be rather useful for the students to meet with challenges of a diverse working environment. The information is selected from different resources: maritime accident reports, maritime officers' memoirs, ship's log books, ship's and shipping company's correspondence, maritime journals, the Internet etc. [3, p. 213].

5. International students shall be engaged in a cultural research work. The teacher can suggest some topics to do a deep research by mentoring/guiding his/her students to prepare projects or presentations. Such activity can raise the students' motivation to learn more information about different cultures [2, p. 204].

6. The teachers' task is to select and adapt the learning material and exploit opportunities for learning of international students. For these purposes, the teachers are to use different learning strategies and techniques to make their subject content comprehensible, create proper activities to encourage and motivate the students [4, p. 57].

7. The teachers of 'professional' (navigation) subjects should also be familiarized with the skills the students need at sea and create the tasks which enable them to demonstrate their knowledge as well as skills in order to perform the professional task. Such tasks should be designed as a problem-solving activity, based on a workplace-style scenario [4, p. 58]. Firstly, it motivates students to interact with a purpose to complete the task and get meaningful outcome, and, in addition, the students have an opportunity to improve their professional skills.

Moreover, the author would like to mention that cross-curricular learning activities develop higher-order thinking skills of the students. Upon condition that the curriculum has a cross-curricular format, the teachers of 'general' subjects and 'professional' (navigation) subjects may 'bridge' the disciplines in the effective learning process.

**Conclusions and suggestions.** KSMA is faced with the challenge of providing a navigation education for international students to respond to the increasing diversity of the maritime industry. It has been determined that the content of the curriculum and education program are major strategies to be developed. To improve the interaction between teachers and international students, modern teaching technologies should be adequately adopted both in and out of the class. In relation to the navigation course, it is also recommended that a longitudinal study be carried out approximately half a year after the students complete the 1<sup>st</sup> year program in order to examine the results of students' participating in the program. So, there is still much work to be done in the future to achieve this goal.

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#### **Фролова О. О. Підготовка іноземних студентів із судноводіння: виклики та перспективи**

*Сьогодні підготовка майбутніх моряків до ефективної роботи на борту судна є одним із головних завдань для морських закладів освіти. Отже, ці заклади освіти мають розробити навчальні плани, навчальні програми й навчально-методичні матеріали з метою формування вмій і навичок, необхідних водночас для безпеки та вдалої комунікації в складі змішаного суднового екіпажу. Мета підготовки – навчити майбутніх офіцерів і рядових використовувати свої професійні знання під час виконання своїх обов'язків у спільному робочому середовищі з іншими членами екіпажу, носіями відмінних соціальних, культурних і мовних традицій. Важливо, що морські заклади освіти відіграють провідну роль у розробленні навчальних планів і навчальних програм з підготовки майбутніх судноводіїв до їхньої морської кар'єри.*

*У зв'язку з цим Херсонська державна морська академія (ХДМА) прагне налагодити міжнародні партнерські відносини у сфері освітніх послуг. Одним із аспектів цього завдання є забезпечення студентів (українських та іноземних) таким необхідним технічним і культурним досвідом. Це залежить від багатьох факторів, зокрема потреби в здобутті освіти, яка відповідає національним (стандарт вищої освіти) та міжнародним (конвенції, кодекси, резолюції) вимогам. Зрозуміло, що виконання цього завдання неможливо досягнути шляхом унесення поодиноких змін до навчального плану, програми тощо. Авторка статті вивчає особливості навчального процесу факультету судноводіння ХДМА, описує зміст навчального плану підготовки судноводіїв та аналізує власний практичний досвід, який може бути використаний для покращення навчального середовища для іноземних студентів. Результати цього дослідження подано в статті. Окрім цього, розглянуто труднощі, з якими стикаються іноземні студенти та їхні викладачі, надано рекомендації щодо подальшого оновлення навчального плану, навчальних програм, навчально-методичної діяльності.*

**Ключові слова:** навчальний план, навчальна програма, судноводіння, іноземні студенти, морський заклад освіти.