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PROBLEMS ENCOUNTERED BY THE STUDENTS IN THE IMPLEMENTATION OF OUTCOMES-BASED EDUCATION AT THE MARITIME ACADEMY OF ASIA AND THE PACIFIC

Sanmitra Guha, INDIAN MARITIME UNIVERSITY, India

With the introduction of Outcomes-Based Education (OBE) in the Philippines, a number of educational institutions have implemented OBE as early as 2009 but there is a dearth of reports on the problems met by either the teacher or students in the schools where OBE was initially implemented. The purpose of this study is to gather and document the problems encountered by the students of the Maritime Academy of Asia and the Pacific (MAAP) during the first implementation of OBE in the First semester of the School Year 2013-2014. In this paper, the results of 702 students taking Bachelor of Science in Marine Transportation (BSMT) and Bachelor of Science in Marine Engineering (BSMare) identified the problems they encountered as Assessment, Teaching, Technology, Time, Teacher and Lesson Pacing-Related Problems given in a questionnaire. Furthermore, the data analysis showed that students during the initial OBE implementation agreed or strongly agreed on the following: Better for the instructor to take over the report; The students are not certain which part of the student assessment will include, The teacher prepared examination if there are any; Students’ access time to computers is limited; They (students) do not own their time; and Teacher just watch and listen during the class. The researcher recommends that these problems be looked into for necessary adjustments or policy modifications. Problems must not deter OBE implementers; rather, they should become openings for opportunities to improve the quality of education.

GLOBALIZATION AND ITS EFFECTS ON MARITIME EDUCATION AND TRAINING

Arun K Dev, Newcastle University (Singapore), Singapore

Globalization has changed the world in many ways, and education has not been able to remain untouched in that process. The day is no more like before that every student has to go to the Campus of an overseas university. The overseas university campus can be in the country where the student resides. Similarly, many more academic institutes have grown in almost all developing and underdeveloped countries in South and South East Asia most. These changes have also affected maritime education in all levels like quality of learning and teaching, quality of students’ background, background, quality of teachers, quality of resources, etc. Even the quality of the accreditation process may be questionable. According to the Author’s experiences in the industry, academy and document the problems encountered by the students of the Maritime Academy of Asia and the Pacific (MAAP) during the first implementation of OBE in the First semester of the School Year 2013-2014. In this paper, the results of 702 students taking Bachelor of Science in Marine Transportation (BSMT) and Bachelor of Science in Marine Engineering (BSMare) identified the problems they encountered as Assessment, Teaching, Technology, Time, Teacher and Lesson Pacing-Related Problems given in a questionnaire. Furthermore, the data analysis showed that students during the initial OBE implementation agreed or strongly agreed on the following: Better for the instructor to take over the report; The students are not certain which part of the student assessment will include, The teacher prepared examination if there are any; Students’ access time to computers is limited; They (students) do not own their time; and Teacher just watch and listen during the class. The researcher recommends that these problems be looked into for necessary adjustments or policy modifications. Problems must not deter OBE implementers; rather, they should become openings for opportunities to improve the quality of education.

‘WORKSHOP AND LABORATORY PRACTICES IN NAVAL ARCHITECTURE AND SHIPBUILDING ACADEMIC CURRICULUM’: TEACHING ENHANCEMENT USING IN-HOUSE MODELS AND SHIPTARD INTERNSHIP PROGRAMMES

Dr. Ajay Asok, International Association of Ship Classification Societies, London

Dr, Ajay Asok, International Association of Ship Classification Societies, London

Mr. Vipin Vijayn Surveyor, American Bureau of Shipping, Singapore

The paper presents the barriers associated with the implementation on the use of VLE and CCS in MET and the suggested solutions. Key words: Cloud computing system; E-learning; Maritime education and training; Virtual learning environment

THE E-LAB PROJECT AT UCL

Emu Muk-Pavic, Lucy Collins, UCL, UK

The current emphasis in the use of e-learning and online tools. This provides an additional teaching environment and the opportunity to increase the variety of activities used to achieve learning outcomes. With this in mind, a new learning resource called "E-Lab" was developed and introduced to the ship hydrodynamics module of the Naval Architecture MSc Programme at UCL. "E-Lab" stands for Electronic-Laboratory as it uses web-based material to educate students, providing instruction in a flexible manner with varying time and location autonomies.

The primary aim was two-fold: First, to investigate the advantages and practicality of using E-delivery and specifically, how UCL's online resource 'Moodle' could be better utilised. Second, it was an opportunity to improve practical knowledge and experience, something that has been lacking on current undergraduate courses. As a secondary aim, using e-delivery for a practical experiment introduced a social constructivist and situative learning perspective, where students develop their identity working in a group and actively learn new ideas through collaborative activities and dialogue. Although the Moodle site steers student learning, the experience for the students is one of self-learning and learning together, which is highly conducive to group work and open discussions of the topic.

This paper outlines the format of the E-Lab, the aims and objectives of its implementation, discusses the changes in the approach to learning and teaching that such resources provide an additional teaching environment and the opportunity to increase the variety of activities used to achieve learning outcomes.
MECHANISMS FOR ENSURING THAT EDUCATION PROVIDERS ARE RESPONSIVE TO INDUSTRY REQUIREMENTS

Ariti Sengupta, Deepak Kumar, Indian Maritime University, Visakhapatnam Campus

Importance of the role of shipping and ships can be appreciated from the fact that ships transport about 95% of world’s cargo. As students of Naval Architecture one must be aware of the practical implications one’s design has on the industry and this doesn’t mean only technical suitability of the vessel but also economic viability and habitability. Alas! The students in their course of study remain more or less aloof from economic and aesthetic factors. The main cause of this is no or very less Industry-Institute interaction. Better interaction between Technical institutions and industry is the need of the hour. In the present scenario if a graduate is employed he has to be trained for the first six months in the industry, this causes loss of man hours. If the industry collaborates with the university and trains the students in the final year this would save precious time of the industry and it would get customized employees right out of college. There is a pressing need to have a curriculum in institutes catering directly to the industry needs. This will be advantageous to the industry in a way that the industry will have a workforce already aware about the modus operandi; cutting down the expenditure on training. To the students it will result in better employability. In our main paper we intend to look at various curriculums followed around the world with an emphasis on facts and citing few examples we will suggest some solutions so that Industry can be brought as a force in curriculum development, so as to fulfill the demands of the global shipping market.

KEYWORDS: Shipping, Industry-Institute Interaction, Aesthetic Factors, Curriculum, Economy.

GAMEPLAY APPROACH TO VIRTUAL DESIGN OF GENERAL ARRANGEMENT AND USER TESTING

Markus Ahola, Aalto University, Finland

In this paper we present a new approach to general arrangement design using a novel virtual reality tool developed in Aalto University. The software platform combines elements from 3D modeling, virtual reality, user testing, and gameplay.

The tool enhances the understanding of the consequences of design decisions by providing the designer the ability to observe and conceive ship interiors in real-world scale instead of the limited scale available through a traditional computer screen or a projector. Secondly, the software enables new way of straightforward user testing, in which the designer can actively communicate with the user exploring the virtual ship model. In addition to observing users actions in real time, user behaviour can be recorded systematically for later analysis and repeatability.

The tool is realized as a portable system containing an Oculus Rift headset, a console game controller and custom-made game software enabling importing and manipulating of different CAD formats. The tool is progressively being developed further, with aim to support educational and decision-making processes.

PARA-PROFESSIONAL ENGINEERING PATHWAYS FOR MARITIME ENGINEERING

Mark Symes1, Dave Hume and Giles Thomas1, divina Brown2

Australian Maritime College1, University of Tasmania2, Australia

The Australian Maritime College (AMC) has embarked upon the development of an Associate Degree in Naval Architecture in order to fulfill the industry need for naval architect associates. This paper sets out the development and implementation of an Associate Degree in Naval Architecture for the Australian Industry. Recent reports have described skills shortage in all occupational levels in the maritime industry from tradespeople to engineering paraprofessionals and professionals. Traditionally the primary educational activity in Australian universities’ engineering schools is the education of four-year Bachelor of Engineering graduates to enter practice as Professional Engineers. There are several activities that can address engineer shortages, for example developing engineering pathways for non-traditional entrants into degree programmes, increased support for studying students, and increasing the participation of under-represented groups. This paper describes some of the key features of the engineering pathway program offered at the Australian Maritime College, in particular the two year Associate Degree in Engineering (Naval Architecture) in addressing the perceived shortages in Para-professional in the maritime sector.

TEACHING SEAKEEPING FOR SHIPS AND OFFSHORE STRUCTURES: A DELICATE BALANCE

Arun Kr Dev, Newcastle University (Singapore), Singapore

Seakeeping is traditionally taught for Naval Architecture using mainly ships as examples. Many books are also available in a similar way citing ships as examples. However, in order to cater for students in offshore or Ocean Engineering, a paradigm shift is inevitable. The author teaches Seakeeping Part of the Module Marine Dynamics for Stage 2 students of both streams: Naval Architecture and Offshore Engineering. The available hours are limited, and within this span of time the students of both streams have to be taught basic seakeeping aspects citing examples of both ships and offshore structures. This is rather a challenge. As the same group of students study another Module Marine and Offshore Mechanics, a delicate balance need to be maintained so that both groups of students can have equal understanding of the subsequent module with ease and comfort. The author has now done it for last 5 years and according to him, most of the students finally manage to understand the module quite well. The author thinks that teaching and learning in Stage 2 has been the root of the final success.

12.25-13.25 LUNCH

SKILLS AND ASSESSMENT NECESSARY IN A CO-OPERATIVE EDUCATION MARITIME ENGINEERING PROGRAM

Dave Harte, Mark Symes, Australian Maritime College, University of Tasmania

A challenge that academia face is providing a seamless transition from undergraduate to professional engineer. Co-operative education (co-op) programs endeavour to bridge this divide by ensuring undergraduates experience current industry practices and procedures throughout their undergraduate program, confirming co-op graduates ability to ‘hit the ground running’ upon completion of their undergraduate studies. Success of the co-op type program as a form of Work Integrated Learning (WIL) is reliant on structured and authentic assessment aligned with industry, enabling the development of industry perceived skill sets. The challenge exists to ensure this is maintained within work placements which occur outside the academic institute while still being aligned to the expectations of the academic process. This paper investigates the processes utilised within the National Centre for Maritime Engineering at the Australian Maritime College.

CONFERENCE DETAILS

This 4th International Conference on the Education and Professional Development of Engineers in the Maritime Industry will build on the success of the previous three conferences in 2011, 2012 and 2013, and again bring together representatives of both industry and academia to present and discuss how those engineers of the future who will be the key to the future success of industry will achieve the knowledge, understanding and professional skills which industry needs, both today and in the future. The conference will compare the differences in the requirement and delivery of education, training and professional development in different sectors of the industry and in different countries, seeking to both learn and benefit from such differences. Given the lead time to provide professional engineers, the conference will seek to identify the changes needed now to provide the engineers of the future.
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