Guest Editorial

The second issue of Volume 19 of the World Transactions on Engineering and Technology Education published in 2021, is mostly dedicated to remote teaching, which is no coincidence during the current pandemic. Some of the authors present their experiences in the use of widely available and well-known teaching software, while others focus on their own software and modifications of more elite and less common programs.

Depending on the university and country, the problems discussed are different, and depend on the advancement and technological equipment available. These can range from deficiencies in personal devices for students (Sergey Ignatiev, Andrey Folomkin, Olga Trubetskaya and Olga Moroz of Saint Petersburg Mining University, Russia, and Ivan Shamrov of *A.I. Herzen* Russian State Pedagogical University, Saint Petersburg, Russia), the necessity to encourage students to learn foreign languages in a virtual system (Sofia A. Pushmina, Saint Petersburg Mining University, Saint Petersburg, Russia), to the use of various types of software and virtual systems to transfer knowledge and the use of computer games in teaching.

Authors from the Technical University of Malaysia Malacca, Durian Tunggal, Melaka, Malaysia: Ismail Ibrahim, Mohd S. Md Saad, Ahmad R.M. Noor, Ismail Ibrahim and Ali H.M. Rawi, address the ethical stances of group project leaders. They document their study via numerous surveys and interviews of technical faculty students from their university. The authors observe that it is essential to develop appropriate moral stances among students already at the early stages of their university years, especially in the technical sciences, where ideas and proposals of innovative solutions must be protected.

The findings of a study performed by Mohammad Alkhedher, Majed Alashqar, Younis Slawdeh and Mohammad Uzair of Abu Dhabi University in Abu Dhabi, United Arab Emirates, show the potential of finite element analysis (FEA) in assessing and planning production processes. The authors consider this FEA method to be highly effective in teaching production processes in a period of remote teaching and a lack of conditions to directly observe experiments and technical procedures in person. The potential of practical experiments on an on-line platform facilitates the understanding of technical processes and aids in the practical mastery of one's profession.

The article by Wanwisa Wattanasin, Pinanta Chatwattana and Pallop Piriyasurawong from King Mongkut's University of Technology North Bangkok, Bangkok, Thailand, presents the effects of project-based engineering using a virtual laboratory to improve engineering and innovation skills. This method is a guideline for 21st-Century students, as it enables better and more effective learning of technical thinking, work and problem solving. The aim of this study was to develop a system based on engineering projects, to study students' achievements and to evaluate their skills and innovation in problem solving. The system developed by the authors allows students to correctly deal with unforeseen problems during the project's implementation and acquire the necessary skills in the field of electronics.

The study by Mohammad A. Kuhail, Joao Negreiros and Ahmed Seffah of Zayed University in Abu Dhabi, United Arab Emirates, presents the results of numerous surveys of students subjected to a process of teaching using recurrent thinking. The authors outline their teaching approach, and point out that explanations with a system of simpler tasks were helpful for students from Zayed University who were not familiar with problem-focused thinking and solving complicated problems. The presented teaching method is comprehensive; however, the authors are aware of its potential for modification, which is why they wish to invite teams from other universities to co-operate in developing and testing student abilities, thus verifying and improving the method.

In a series of articles, authors who represent architecture, urban planning and landscape architecture: Magdalena Muszyńska-Łanowy and Lea Kazanecka-Olejnik, both of Wrocław University of Science and Technology (WUST), Poland, and also Maria J. Sołtysik and Mateusz Gerigk, both of Gdańsk University of Technology (GUT), Poland, engage in discussions on numerous aspects of remote teaching, and the scope of usefulness of manual and digital drafting. In turn, representatives of Cracow University of Technology (CUT) from Poland, present the impact of competitions on the development of student competencies (Katarzyna Hodor), and the implementation of the computer game Minecraft and public discussion in teaching (Anna Staniewska and Jacek Konopacki).

Mateusz Gerigk outlines a systemic approach to improving the teaching of architectural drafting to engineers in the 21st Century, which he based on a traditional structure that he believes can be modified. His proposal is intended to develop further the existing teaching model in a transforming environment. The skill of drawing by hand and the quick, sketch-based presentation of one's own idea or technological solution can be useful in many technical fields outside of architecture and urban planning.

Maria J. Sołtysik refers to her study on testing of what students have learned about architectural history. The historical analysis of buildings is essential during such tests, and the author's findings indicate that hand-drawn sketches are more effective for this purpose than written text. Thus, she concludes that this type of drawing should continue to be taught.

Katarzyna Hodor discusses the impact of academic competitions on the development of student competencies necessary for future architectural practice and research work. Considering several national and international events, the author demonstrates the possibility of progressive skills enhancement and other educational benefits arising from extracurricular activities. The specific focus of this article is on additional skills attainment by students with an interest in research work in landscape architecture.

While the possibility of including computer games in teaching architecture is explored by Anna Staniewska and Jacek Konopacki; Sofia A. Pushmina, a language teacher from Saint Petersburg Mining University, presents the benefits of using on-line games in teaching English. This is not an entirely new method, as board games have already been used for this purpose.

Magdalena Muszyńska-Łanowy asks a provocative question about what is more important in teaching future architecture students: technical knowledge or soft skills. She includes cognitive flexibility, analytical and critical thinking, social awareness and the ability to continually self-educate among the latter. Her empirical study that involved testing students of the WUST Faculty of Architecture resulted in surprising conclusions.

Lea Kazanecka-Olejnik interestingly demonstrates her teaching approach to increasing students' awareness of personalisation in single-family housing developments based on the actual needs of future residents. Her wide-ranging study documents three methods of incorporating personalisation in architectural education.

Louis M. Dos Santos of Woosong University in Daejeon, Republic of Korea, explores the motives of young women who have enrolled in technical studies at a regional university in Australia.

A very interesting article was submitted by scholars from the Australian College of Kuwait in Beirut, Lebanon: Mohamad Farhat, Michel Nahas, Nader Ghareeb and Reine El Khoury. The authors present a teaching method incorporating an audience response system. The method is based on active learning, which leads to a greater focus on the learning content among students, positive reactions to participating in classes, during which all student responses are anonymous to other class attendees. Both the instructor and students found a greater motivation to participate in classes and positively responded to nigh-instantaneous feedback. This method can be particularly useful in remote teaching, and can be considered a helpful educational tool in general.

Sanaa Kaddoura from Zayed University in Abu Dhabi, United Arab Emirates, and Fatima Al Husseiny from the Lebanese International University in Beirut, Lebanon, address the issue of teaching students based on the principles of andragogy. Their remote teaching model is intended to develop critical thinking, which is an essential need in the 21st Century.

All the articles in the current issue of the World Transactions on Engineering and Technology Education - Vol. 19, No. 2 - are, as expected, highly interesting. They present and discuss new methods of remote and virtual teaching methods forced by the pandemic. The global efforts undertaken to improve these methods display a wide array of potential improvements and show that this type of teaching shall certainly continue to be practised.

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