

they forget or want to confirm that their selection of supervisor has been recorded.

The program immediately saves the data once a student finishes selecting an academic staff to be his supervisor. The selection process only takes two minutes for each student as it is a very simple program. The students are given three days to use this program to select academic staffs to be their supervisors. After that, list of students' names and their corresponding supervisors that they have selected is posted and can be reached via a link provided in the facebook of the students representative. Academic staffs are informed through e-mail.

The system that is introduced successfully controls the number of students that can be supervised by each academic staff. There is a reduction in the number of academic staff that have no student to supervise and no academic staff that have too many students to supervise. The system also allows every student to select an academic staff to be his supervisor. Before the introduction of this system, a few students were unable to get a supervisor and thus, the coordinator had to assign academic staffs to become their supervisor.

Conclusion

Another system that has been practised in the research methodology and pre-project course is the evaluation of the pre-project on its suitability and scope. Each student is assigned with an evaluator who is an academic staff who is not his supervisor but is an expert in the research area of the project the student will undergo. Every student must meet his evaluator and bring his proposal to the evaluator. The student will present his pre-project to the evaluator and he will be interviewed by the evaluator. Then, the evaluator will write comments and suggestion in a form and submit it to the coordinator. The copy of the filled form is later, forwarded to the supervisors so that actions can be taken to improve the final year project that the student will undergo during the following semester. Students who do not meet the evaluators will fail the research methodology and pre-project course. What is hoped from the two aforementioned systems is to produce good quality projects and reports.

References

- Clement P., "Visual basic tutorial problems" (Online). Retrieve from http://www.eng.auburn.edu/~clemept/Numerical_methods/week-1/vbhelp_guide2011.pdf
- Green M., "Build a UserForm for Excel" (Online). Retrieve from <http://www.fontstuff.com/ebooks/free/fsuserforms.pdf>
- "How to protect VBA code in Excel 2010" (Online). Retrieve from <http://www.exceldigest.com/myblog/2012/09/28/how-to-protect-vba-code-in-excel-2010/>
- "Userform" (Online). Retrieve from <http://www.excel-easy.com/vba/userform.html>
- Mansfield, R, 2010-. Mastering VBA for Microsoft Office 2010 New York: Sybex, c2010.
- Matthew, H, 1997. Teach yourself Visual Basic 5 for Application in 21 day Indianapolis, Ind: SAMS Pub, 1997.

25. SELF-DEVELOPMENT TEACHING MODULE

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Introduction

The new transformation of technical and vocational education has led to changes in the aspect of facilities, curriculum and teaching materials being used in Vocational Colleges. Nowadays, the teaching and learning process at Vocational Colleges is based on module. Due to the absence of standard academic module, novice teachers are required to develop modules for the purpose of teaching and learning and this scenario has created many problems. Novice teachers lack the skills to develop or produce teaching notes. Furthermore, they depend too much on hand-outs or textbooks given by the Ministry of Education as their teaching resources and students exercises. Some teachers take the initiative to utilise the internet as to avoid the need to produce own materials. Therefore, this effort was carried out in view of the strong demand for the development of modules, particularly for Vocational Colleges in order to overcome the issue of lack of standardized teaching materials for technical and vocational subjects taught at the colleges. In addition, the task provided students with the exposure and experiences in developing teaching modules which should give them many advantages as future teachers. Hence, applying the development of teaching module in the assignments of undergraduate education students can enhance their skills in developing modules which is useful especially for those who will be teaching at Vocational Colleges. Consequently, the integration of developing self-development teaching modules as part of the assignments for Faculty of Education undergraduate students has given them the skills they need to become competent technical and vocational teachers.

Teaching Innovation

Thus, the self-development teaching module was implemented as one of the assignments to students of building construction program at Faculty of Education, Universiti Teknologi Malaysia as an effort to expose them to the methods and process of developing teaching modules. The courses involved were Domestic Piping (SEM 1 2014/2015) and Building Services (SEM 2 2014/2015). This assignment was given to the students the first week when the semester started. The students were given 12 weeks to prepare, design, develop and test their modules. The module content was based on discussions with expert teachers and should reflect the syllabus set by the Technical and Vocational Education Division. It was to ensure the validity of the developed content. In developing the modules, students should follow a few learning theories and models such as ADDIE model, Sidek's module construction model, cognitive load theory, Sharifah Alwiyah's module construction model, and Shaharom model. Most self-teaching modules are designed based on the same principles and according to Mayer (1998), the self-teaching module components consist of 8 components. The first component is instructions on how to use the modules, followed by statement of objectives and aims, lists of pre-requisite skills, lists of learning objectives in forms of achievements, pre-diagnostics tests, lists of tools and other sources needed, teaching activities in sequential forms and lastly post-test control.

In addition, this module also possesses a number of criteria to ensure its effectiveness such as having easy and accurate instructions and suitable to be used by students of different levels of achievement. Furthermore it must contain adequate number of exercises with various elements of assessment. The self-development module also must consist of important structures which can ensure systematic and orderly delivery of content. It is developed using a systematic structure consisting of title or subject statements which display the structure of the

curriculum grid module. There is also a manual on how to use the module which gives references on the symbols used, aims of lessons and prerequisites skills and knowledge which are stated clearly. In addition, general teaching objectives are written at the beginning of every unit along with list of equipment and resources that should be used together with the module. References and teaching activities are also included in the module. Various aspects need to be considered during the development of the module since it should be able to give positive impression to potential students. Thus, the module has been developed through several stages before it is suitable to be used by students. The modules should have the following characteristics namely; for designing the modules are complete basic, promote self-learning, concern for individual differences, have statement of objectives, relations, flows and possess optimum knowledge structures, use various media sources and approaches. Furthermore, information in the modules should also provide feedback at different levels of students' progress such as feedback on the immediate reinforcement, feedback on the active participation of students and control strategy for evaluation. The modules went through an evaluation stage whereby their validity and reliability were tested. In addition, all the modules were sent for plagiarism check using the Turnitin software. Finally, students were asked to obtain copyright from UTM. Thus, evaluation of the assignment on Module Development was based on a set of rubrics which assess the modules' quality, content, design and language. Experts' feedback was also being considered in the evaluation process.

Impact

Based on the students' feedback at the end of the semester, the developments of the modules have created positive impact among undergraduate students. This task has trained them to become skillful in producing their own teaching resources. In addition, Vocational College teachers also benefit from the development of the modules since the Department of Technical and Vocational Education only provides syllabus to the teachers. Each teacher prepares his or her own lesson and this scenario has resulted in inconsistencies in the presentation of teaching content among teachers at Vocational Colleges. The practicality and benefits of the modules is proven when the teachers at Vocational Colleges are interested and willing to buy them from the students. In addition, reference discrepancy in the use of resources for teaching can be solved as there are various resources available in the module. The ability to develop teaching modules is a prerequisite among technical and vocational students from Faculty of Education, Universiti Teknologi Malaysia since they will be future teachers at Vocational colleges. There is also the potential to commercialize the teaching modules especially among the high quality ones. Undoubtedly, the use of self-development teaching module promotes uniformity and systematic teaching and learning process. In addition, teachers can take advantage of the training content in the module as a resource to carry out assessment. In addition, there will be no inconsistency problem with the content of the final semester questions prepared by teachers. Furthermore, module development can help fellow teachers who have difficulties to deal with technology as well as those who believe that application of technology in classroom is expensive and unreliable. In conclusion, the skills to develop self-teaching module are beneficial to future teachers in order for them to create quality teaching resources.

References

Ahmad Hozzi H.A.Rahman, Dayangku Fadariah Mat Desa, Rusnani Sirin, Mayandi Sinappan, Mat Desa Mat Rodzi, Salbiah Mohd Som, Zaidi Yazid. (2002). *Kemahiran berfikir dalam pengajaran dan pembelajaran*. Pusat Perkembangan Kurikulum, Kementerian Pendidikan Malaysia. Kuala Lumpur: Perpustakaan Negara Malaysia. 3-34.

Baharuddin Aris, Rio Sumarni Shariffudin dan Manimegalai Subramaniam. (2002). *Reka Bentuk Perisian Multimedia*. Johor: Penerbitan Universiti Teknologi Malaysia.

Ee, Ah Meng. (2002). *Pedagogi III*. Edisi Kedua. Shah Alam: Penerbitan Fajar Bakti Sdn. Bhd.

Ezaityesirah binti Che' Aziz. (2006). *Tahap Kefahaman Pelajar Tentang Konsep Jirim dan Aplikasi dalam kehidupan seharian*. Universiti Teknologi Malaysia: Sarjana Muda.

Ginsburg, H. P. dan Opper, Sykvia. (1990). *Piaget's theory of Intellectual Development*. Third edition. New Jersey: Prentice Hall.

Hand, Brian dan Prain, Vaughan. (2004). *Research Program On Writing For Learning in Science, 1999-2002*. Dim. Hand, Brian, Wallace, C. S., dan Prain, Vaughan. *Writing and Learning in the Science Classroom*. USA: Kluwer Academic Publishers.

Haslinah Muhamad dan Dr. Wan Zah Wan Ali. (2001). *Penggunaan Pengajaran Berasaskan Web (WBI) Dalam Pembelajaran Di Kalangan Pelajar Perakaunan*. Universiti Putera Malaysia: Tesis.

Kundalasingam Rajagopal. (2000). *Gaya Pembelajaran dan Pelbagai Kecerdasan*. Kursus Mengajar Strategi Pembelajaran. Julai 5-7. Skudai: UTM.

26. KNOWLEDGE- DRIVEN AND SOCIAL ENTREPRENEURSHIP BASED CO-CURRICULUM: FROM UITM TO THE WORLD

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Description of the Engaged Initiative/Project and its Uniqueness

We are change makers made up of students and lecturers from University Teknologi MARA, Malaysia. Having taken up the challenge of providing clean water and meeting the community needs of Kampung Ampel, Cambodia we engaged in various social entrepreneurship and fundraising projects and conducted three humanitarian missions to Kampung Ampel, Cambodia within the period of two years. Our aim is to build an enduring relationship with the community in need, while meeting their needs in a sustainable manner. We promote community engagement projects and community based research that will spread awareness of the water crisis in developing countries. This mission has helped us be the voice of people who live on less than a dollar a day and our motto is "Everyone is a change maker."

The Community Networking Unit, UiTM in 2013 and 2014 undertook two international humanitarian missions to Cambodia, the Waqf Telaga Kemboja and Ibadah Qurban and Aqiqah as well as several humanitarian & fundraising projects with the Rohingya refugees and orang Asli. The student initiated missions were in collaboration with MERCY Malaysia and Al-Il'tisam Relief Program (ARP), local NGO's with established record of involvement in various local and international projects. The various projects mobilized university students and academicians, professionals in the field of mechanical engineering, building conservation, education and medical care for the sole purpose of improving the community quality of life and eradicating poverty.

The **innovative** elements in these co curriculum projects are:

- The missions were student initiated and student led, thus leadership and student engagement were par excellence. This meant that students must conduct needs assessments and sufficient research before embarking on the projects.
- The projects were knowledge driven and based on social entrepreneurship. Students and faculty members participated in voluntary humanitarian projects involving water assessment, water management, risk management, education and fund raising. Everyone must network and raise funds and the University provided no financial assistance.
- It was compulsory for all participants to attend induction training