

Meeting Minutes
Internationalised Master Degree Education in Nanoelectronics in Asian Universities
Project 573828-EPP-1-2016-1-BG-EPPKA2-CBHE-JP
Project Meeting
14-16 October 2019
University of Malaya, Malaysia

Participants:

See the file list of participants.pdf

Agenda

Monday 14, October 2019

10h00-10h15 Welcome and opening the meeting (dean/rector)
10h15-12h30 WP4, QA Final peer review of the e-learning courses. Accreditation of innovated curricula (All).

Lunch

14h00-17h30 WP4, QA Final peer review of the e-learning courses. Accreditation of innovated curricula (All).

Tuesday 15, October 2019

09h00-12h30 WP5, Exploitation. Reports on the pilot test and plans for field trial. How each partner country university will use the courses of other partners from EU and from other partner countries (All)

Lunch

14h00-17h30 WP5, Exploitation. Reports on the pilot test and plans for field trial. How each partner country university will use the courses of other partners from EU and from other partner countries (All)

Wednesday 16, October 2019

09h00-10h30 WP5, Exploitation. Results from the pilot test. Analysis of answers in the questionnaire in Google. Danilo Demarchi

10h30-12h30 WP6. Dissemination in each of the participating Partner countries (All)

Lunch

14h00-16h00 WP7, Management. ToDo list and planning of next meetings

Minutes of the Meeting

Monday 14, October 2019

10h00-10h15 Welcome and opening the meeting - Prof. Yong (head of International relationship office Director) and Prof. Yvonne (vice chancellor of University of Malaya)

Ramesh opened the meeting and introduces Prof. Yong (head of International relationship office) and Prof. Yvonne (vice chancellor of University of Malaya) then greeting with presentation of University of Malaya. Prof. Yvonne (vice chancellor of University of Malaya) gave a welcome speech. After that Prof. Yong (head of International relationship office) made a presentation for University of Malaya and their research, bachelor courses, research clusters, rates of world rates of university, annual performance, citation impact, undergraduate program (double degree), masters programmes, international academic staff. Both university managers expressed the satisfaction of the management of the University of Malaya with the project results and the collaboration with other Asian and European universities. The University expects to have in the future opportunity for more mobility of students and teachers.



10h30-18h00 WP4, QA Final peer review of the e-learning courses. Accreditation of curricula and recognition of new courses (All).

All courses in the learning environment are definitely ready and improved after the last evaluation and according to the remarks in the survey during the pilot test as follows:

- quizzes added to all courses/modules,
- video-lectures or additional text explanations added to parts with only PowerPoint presentations,
- forums added to make the courses more interactive and to allow the students to communicate with the teachers and other students
- PowerPoint presentations downloadable to allow students to make notes
- some pdf files with lecture notes added to courses for which the students asked them,

- links to videos in YouTube with films or animations added to the courses where students wanted to have more demonstrations.

After a detailed discussion, the conclusion was that in all countries the procedure for accreditation is similar. The entire curriculum for BSc, MSc or PhD is accredited by national body, appointed by the Ministry of Education and the higher education institutions are also accredited to deliver corresponding diploma. There is no accreditation of a single course. For the new courses in already accredited curricula there are internal procedures at each university and they are also similar. The department/institute develops the syllabus and the course and it is evaluated, discussed and approved at faculty/university level.

Tuesday 15, October 2019

09h00-12h30 WP5, Exploitation. Reports on the pilot test and plans for field trial. How each partner country university will use the courses of other partners from EU and from other partner countries (All)

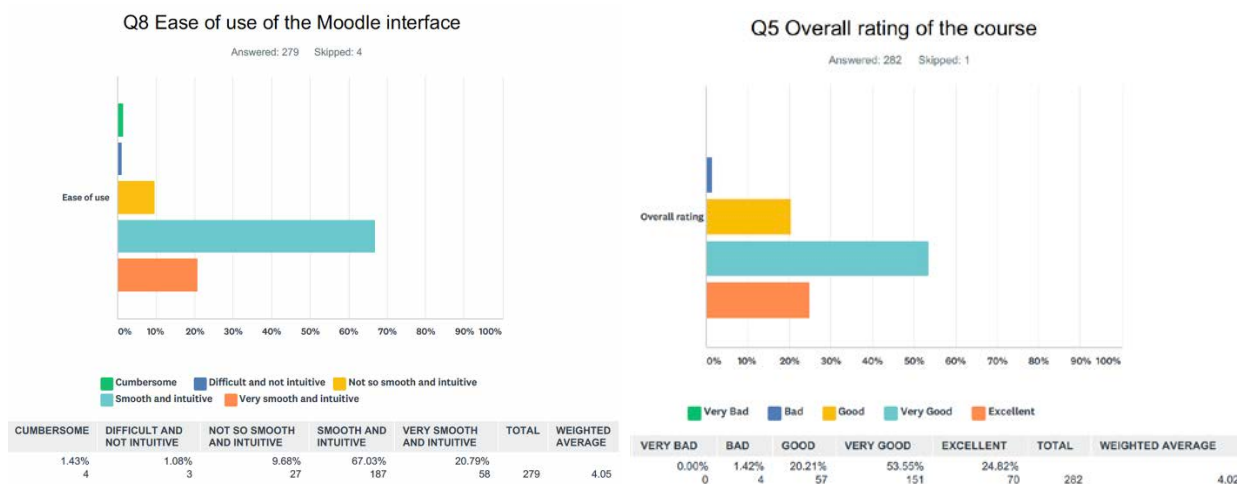
The coordinator paid the licence for using Monkey survey for the partner countries and the number of participants is already unlimited. It was necessary to use this software because in China the Google products are not available.

There was virtual meeting with Jack Barokas because the Israeli partners could not come to Malaysia. The status of the implementation of the courses and the exploitation of project results was discussed. As a Moodle administrator Jack explained to the partners from Norway that have some problems with uploading one of their courses that in Moodle large videos can not be installed. It is better to split them on smaller modules.

Danilo made an overview of the results in the survey for students' satisfaction of the new e-learning materials and presents the statistics of the answers.

14h00-17h30 WP5, Exploitation. Reports on the pilot test and plans for field trial. How each partner country university will use the courses of other partners from EU and from other partner countries (All)

273 students followed the courses during the pilot test! There were questions for evaluation usability of the learning environment and the quality of the courses.



The results can be summarised using their opinions:

What the students appreciated most is:

- flexibility to learn when and where the student cant and wants to;
- access to courses provided by other universities and foreign professors ‘from all over the world’;
- collaboratively developed courses delivered by different teachers with different competences;
- good graphical presentations of complex phenomena;
- useful examples for using the laboratory equipment;
- quizzes for self-evaluation after each module for motivation and self-confidence;

“I like the idea that it is possible to *learn the course at my own pace and under the optimal conditions for me.*”

“In my opinion this mode of learning has the great advantage of giving you *access of a lot of information from different institutes all over the world* and this is a great opportunity to share knowledge.”

“According to my experience online courses are really useful because they allow *students who live far from the university to attend lessons at home*. Furthermore it is possible to *attend lessons with other professors, from other universities* as in this case, to deepen or clarify some topics.”

“I appreciated that *several professors held the course*: it made me think that *every professor was competent in his own explained part making the course very complete.*”

“This method of following the lessons is very nice since *it is possible to organize yourself in the best way according to your personal commitments*. Moreover, in the NanoEI site there is a *large number of very interesting courses that could be a deepening of what has already been studied* or even an unknown topic that you want to learn, so from this point of view it can only be a positive point. In many courses there are also *lessons explained by different teachers, making it clear that each of them explains their part of competence making the course infallible*. Another point is the willingness to supply material and *test yourself with quizzes.*”

“It’s very stimulating test yourself *doing quiz immediately after the video-lesson*: so it’s possible to consolidate the knowledge just learned.”

“*Examples shown in the different slides are very useful*, especially the ones used for LTSpice, which allow to easily interface with the software.”

“I think is quite useful for a student, because, in addition to the two extra courses that I chose to attend, *there were different other courses that could be chosen and all of them were interesting in their field of application.*”

Suggestions for improvement:

- to add quizzes added to all courses/modules,
- to add video-lectures or additional text explanations t to course modules with only PowerPoint presentations,
- forums to be added to make the courses more interactive and to allow the students to communicate with the teachers and other students
- PowerPoint presentations to be downloadable to allow students to make notes
- some pdf files with lecture notes to be added to courses for which the students asked them,
- links to videos in YouTube with films or animations added to the courses where students wanted to have more demonstrations.

Students’ opinions:

“Disadvantage: *no direct interaction with a teacher*, so it is more difficult to get feedback on your progress.”

“If there was a *forum for question and answer* for queries it will be better”

“It could be useful *to add some videos* regarding biochemical processes (for example about transcription and translation of DNA), because it's easier to "see" some phenomena instead of reading them.”

“What I didn't like was the last chapter, the one about the research case study. I didn't like it because *the slides weren't available* so I couldn't write on them and I think it's easier to follow the teacher if you have on your hands the same slides the teacher is talking on.”

“The online system sometimes has problems and can't function properly. Better *if we have PDF in case if no internet.*”

Wednesday 16, October 2019

09h00-10h30

WP5, Exploitation. Planning the field trial

Plan for the implementation of courses

| | Institution | Course | Delivery period |
|----|--------------------|------------------------------------|------------------------|
| 1. | UTAR | Graphene nanoelectronics | Jan – April 2020 |
| 2. | UTAR | Carbon nano tubes and applications | May-Jul 2010 |
| 3. | UM | Materials characterisation | Sep-Dec 2019 |
| 4. | UM | Nano materials and nanotechnology | Sep-Dec 2019 |
| 5. | TAU | Advanced nano-electronic devices | Sep 2019-Jan 2020 |
| 6. | BIU | Sensing at the nanoscale | Feb-Jun 2020 |
| 7. | Polito | Bio-nano electronics | Feb-Jun 2020 |

| | | | |
|-----|-----------------|--------------------------------------------------------------------------------|----------------|
| 8. | MU | Socio- ethical and environmental aspects of nanotechnology/electronics | Apr-Jun 2010 |
| 9. | BIU | Microelectronics | Feb-Jun 2020 |
| 10. | TAU | VLSI design | Feb-Jun 2020 |
| 11. | USN | MEMS design | Jan-Jun 2020 |
| 12. | USN | Sensor interface | Aug-Dec 2019 |
| 13. | TUS | Nanoelectronics for ICT | Feb –Jun 2020 |
| 14. | TUS | Design of nanoscale MOS ICs | Oct – Dec 2019 |
| 15. | TUS | Nanomaterials for electronics | Feb –Jun 2020 |
| 16. | CTBU | Top-down ASIC design flow | Feb –Jun 2020 |
| 17. | NIIT University | Introduction to nano-electronics: science & technology basics | Aug-Dec 2019 |
| 18. | NIIT University | Nanoelectronics systems | Feb-Jun 2020 |
| 19. | NCNST | Nano electronic materials | Feb –Jun 2020 |
| 20. | NCNST | Nanotechnology for solar energy utilization | Feb –Jun 2020 |
| 21. | NCNST | Functional nanostructure: synthesis, characterizations and device applications | Feb –Jun 2020 |
| 22. | Polito | Memristor Technology for Cognitive Computing | Sep 2019 |
| 23. | MU | Raw materials for nanoelectronics | Feb-Jun 2020 |
| 24. | TAU | Fabrication methodologies for micro- and nanosystems | Seb-Oct 2019 |
| 25. | TAU | Entrepreneurship | Feb-Jun 2020 |
| 26. | TAU | Integrated analogue circuits design | Seb-Oct 2019 |
| 27. | CTBU | Biosensing microsystems | Feb –Jun 2020 |

10h30-12h30 WP6. Dissemination in each of the participating Partner countries (All)

Discussion about the dissemination of the results among the different Universities. Importance of sharing the courses in the Partner Countries for involving other Professors in the work and increasing the number of students participating to the courses.

Decision: To sign memoranda of understanding with other universities, with enterprises and other organisations for the further use of the courses by larger audience (Slavka - to send to the partners a template of the memorandum)

14h00-16h00 WP7, Management. ToDo list and planning of the last meeting

Slavka made an overview of the tasks and the status of the project. She asked for third time Giordana to send the monitoring report from December 2018 and there is no answer from Mrs. Bruno. The partners discussed that we received the evaluation of the Interim report 9 months later and now we are waiting for the monitoring report 11th month.

Management issues discussion.

- Status of VAT/GST exemption documents

The solution for GST in India – to provide a declaration from the management of the university with an expert letter. For China CBHE does not agree to accept such letters.

- Collection of documents from all partners for the tendering procedures for purchase of equipment.
- Check of the status of final purchase of equipment: all the partners purchased the equipment

ToDo list

- Next and last meeting in Chongqing on 29/06 – 01/07/2020
- To provide copies of documents for tendering procedure(s), invoices and proofs of payment for the equipment;
- All partners to send to Slavka in written form the information on:
 - Accreditation procedures at the university/country
 - Recognition of partners' courses
 - Collaborative development or use of courses
 - Pedagogical innovation in the new courses
 - Long term impact beyond academia, ... which relate on world of work, high schools
 - How each university developed the courses in its best field
 - Partners to explain that they developed courses in their field of expertise
 - The others can use their courses, e.g. bio-technology for sensors,
- Teacher training – to teach the other teachers at your universities how to use the environment for teaching and how to develop new courses.
- To sign memoranda of understanding with other universities, with enterprises and other organisations for the further use of the courses by larger audience (Slavka - to send to the partners a template of the memorandum)
- To perform the field trial and to ask students to participate in the survey;
- To disseminate the project activities and results to other universities, high schools and larger audience.

