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Cahya K. Ratih

INDOPED 3rd General Project Meeting Successfully Conducted



Token of appreciation was given to Mr. Harri Lappalainen, INDOPEP Project Leader

INDOPED 3rd General Meeting was successfully held at Yogyakarta State University (UNY) from 30th November to 2nd December 2016. The first meeting was conducted on Wednesday 30th November in Rectorate Ballroom of UNY. It was opened with welcoming speech from Vice Rector of UNY I Drs. Wardan Suyanto, M.A., Ed.D., lecturer of UNY Prof. Hj. Suwarsih Madya, Ph.D. and Head of INDOPEP Project Mr. Harri Lappalainen. This meeting was attended by 50 participants as representatives of INDOPEP Partners. During the opening session, audience were entertained by traditional dance performance named Tari Ontel.

All Indonesian partners in this meeting had a great chance to share their experiences from piloting of European pedagogical methods and practice that have been piloted during Autumn semester 2016. European partners support Indonesian partner's presentation with their remarks, based on on-line mentoring and visited mentoring.

Presentation session was started with Syarif Hidayathullah State Islamic University and Widya Mandala Catholic University. These two universities presented Gamification model. Continued by Yogyakarta State University that has presented Innovation Camp. There are many more pilots that have been presented such as Learning by Teaching pedagogical method by Bina Nusantara University, Project Hatchery from Syiah Kuala University, Learning by Case from Widya Mandala Catholic University, Project Module by Bina Nusantara University, and the last is Storytelling by Yogyakarta State University.

Each of presenter had 30 to 60 minutes to present and discuss about short overview of the method, how the selected method was piloted, and what lesson they have learned upon the project. They also gave the audience opportunity to asking questions.

On the next day, the meeting continued by discussing lessons learned from the session held the day before. This was to prepare each partner for the next pilots which will be implemented at spring semester in 2017. They considered strategically about what kind of support needed from European partners for successful pilots. The representatives were also updating the piloting plan for all partners and drafting the mentoring plan which European partners will go to Indonesia and study visit which will bring Indonesian partners to go to Europe. This program will be continue with supporting element such as evaluation practices, quality assurance, and dissemination plan.

2nd December 2016 was the final day of meeting. It was continued by discussion on supporting elements for Exploitation of Practices, Project Management, and the upcoming step led by Mr. Lappalainen. For further dissemination of this project, Dr. Abi Sujak, Director of Southeast Asian Ministers of Education Organization Regional Open Learning Center (SEAMEO SEAMOLEC) suggested for conducting Webinar during February 2017 and it was agreed by all partners. Hopefully it could present all piloting model that inspires other teachers, lecturers, and educators, not only for Indonesia, but also in Southeast Asia countries.

“All Indonesian Partner have a great chance to share their experience”



Participant's group photo in the opening ceremony of INDOPEP 3rd general meeting



“The webinar has successfully gathered more than 160 participants from Indonesia and Southeast Asian countries”

INDOPED Project (Modernizing Indonesian Higher Education with Tested European Pedagogical Practices) has taken a broader step. After several join-workshops and a year of implementation of the European pedagogical methods in Indonesian universities, it is the time to present and disseminate the result to larger audiences. SEAMEO Regional Open Learning Center (SEAMOLEC), as the center for open and distance learning in Southeast Asia, pays a great attention and actively supports this project by conducting seminar through video conference in a programme called The 1st INDOPED International Webinar during 20-24 February 2017. This webinar is also part of activities to celebrate SEAMOLEC 20th anniversary, which held on 27th of February 2017. The series of webinar had a strong focus on innovative teaching and learning method including case studies of innovation in practice. The webinar were presented by a range of academics from both Indonesian Universities and European universities. The webinar has successfully gathered more than 160 participants from Indonesia and other Southeast Asian countries. The participants came from education practitioners in any level education institutions.

The first session conducted on 20 February 2017 by presenting Learning by Teaching method as one of the developed method in this project. This method innovated and developed by Turku University Applied Science (TUAS), and

implemented at Bina Nusantara University International, and Catholic University of Widya Mandala Surabaya. This method has become an interesting method for the students. Students from senior year at the universities acting as trainers for their juniors, students working in trainer teams (3-5 student per team) which aim to plan, organize and implement all the trainings independently. They plan and prepare contents of the training, all the materials and tasks for their juniors. Lecturer's role is to guide and give support and feedback for students. This session was presented by Ms. Meiju Keinänen from Turku University Applied Science (TUAS), Mr. Anthony Wijaya from Catholic University of Widya Mandala Surabaya, and Ms. Yanthi Martowidjojo from Bina Nusantara University International shared her experiences along with her students. Most students perceived these strategies to have been quite useful in encouraging self-directed, life- long learning skills as well as deepening the level of understanding on specific concepts.

In the same day, the session continued by discussion regarding Project Hatchery method. Ms. Meiju Keinänen from Turku University Applied Science (TUAS) presented how the concept should be conducted complete with the time schedule and the act and responsibility of teachers, tutors, and students within the concept. Meanwhile, Mr. Handrick Kongdro from Bina Nusantara and Mr. Agus Arif Munnawar from Syahkuala

University shared their experience in implementing this method to their students. From the discussion, session revealed this concept could improve the soft skills of students through group work and multidisciplinary learning environment.

The second day of webinar presented the Project Module method. This session invited Mr. Sakari Koivunen from TUAS, and Mr. Tri A. Budiono from Binus University International. The interesting part from this method is the collaboration between university and company in order to provide the students with real work experience. The experience should enhance student's career and personal development, allowing student to develop knowledge and skills regarding their career choices.

The day 3 of webinar were discussing about Rubrics Assessment, The concept of this method presented by Mr. Erik Hendriks from Inholland university, and the implementation result presented by Ms. Yanthi Martowidjojo from Binus University International. The rubrics can help clarify lecture's expectations and will show students how to meet them, making students accountable for their performance in an easy-to-follow format. The feedback that students received through a grading rubric can help them improve their performance on revised or subsequent work.

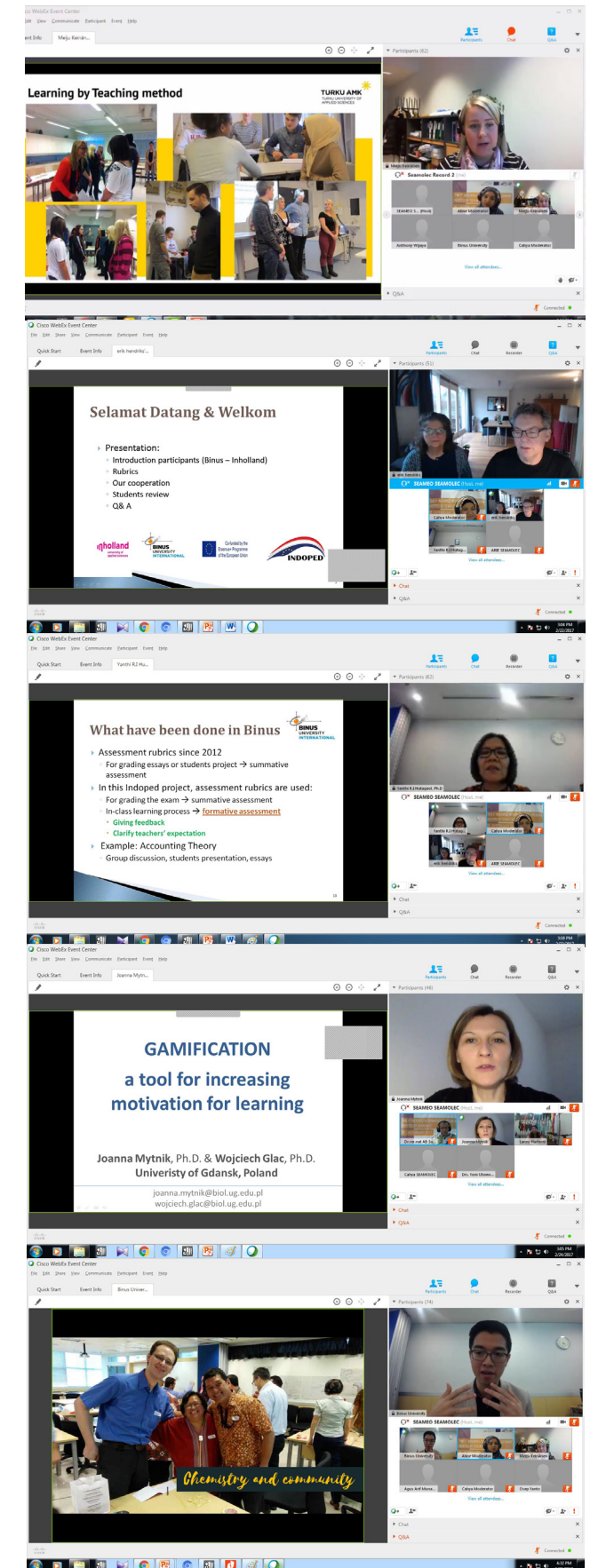


Higher order thinking skill (HOTS) involves the learning of complex judgmental skill such as critical thinking and problem solving. The evaluation for this method could also conducted by using rubric, mastery levels of higher order thinking skills are defined by outlining the criteria.

The followed session was Innovation Camp on Thursday session, this method invited Mr. Jesper Nørskov from BAA and Mr. Tri Sugiarto from Universitas Negeri Yogyakarta. The innovation camp is an intensive idea generation, idea development and innovation method, where students from different educational programmes are working together in interdisciplinary teams in order to solve a specific issue or challenge for a company. The fundament in the platform is “close to practice”. This means, the industry practice, which students must work in, after graduation.

The last day of webinar brought Gamification as the last method to be discussed. Ms. Joanna from University of Gdansk and Ms. Lanny Hartanti from UWM. Gamification is a tool that allows to implement the game elements in a non-game environment as the university to engage and motivate students to learn. It changes the way of thinking about learning, the approach for learning. Gamification enables students to take responsibility for their education, to manage their own learning process and choose the way of learning (strategic approach) and to have satisfaction deriving from progress in learning. It highly increases students' engagement and motivation to acquire knowledge.

Any method of learning should support individuals, teams or the education institution as a whole to build capability that meets student's need. All the presented methods has shown that the lecture role has transformed into facilitators or even colleagues for their students. The lecturers acted as guides, mediators, consultants, instructors, and advocates for the students, helping to effectively connect their community-based knowledge to the classroom learning experiences. At this part, the lecture charged to develop a learning environment that is relevant to and reflective of their student.



Pedagogical Pilots

Syah Kuala University (Unsyiah) involves in INDOPED project with the aims to improve educational system and to modernize Indonesian higher education with tested European pedagogical practices. Amongst 8 methods offered in the INDOPED project,

Unsyiah chooses 3 methods to be applied namely Project Hetchery (PH), Learning by Teaching (LBT) and Project Market Research (PMR). In odd semester 2016/2017, Unsyiah conducted 3 pilot projects under coordinator of Dr. Muhammad Hasan, Dr. Zumaidar and Dr. Agus Arif Munnawar. All teachers piloted PH in odd semester. In even semester 2016/2017, Unsyiah plans to apply PH and other pedagogical methods such as LBT and PMR coordinated by Prof. Samadi, Prof. Usman Kasim and Dr. Cut Dahlia Iskandar. This article will review pedagogical pilots which have been carried out at Unsyiah in odd semester 2016/2017.

Dr. Muhammad Hasan applied PH method with the subject of Integrated PPL-KKN: Practical works and field practices in Aceh Besar. This is mandatory subject at pedagogical faculty with the

main activities to solve related problems and support the society in some villages in Aceh Besar District. The students involved in this PH project come from different study programs. Each group consisted of 10 students with total number of 100 students. The students find the problem in the targeted village and solve the problem by different aspect based on student knowledge. The group of students also gives lecture to villagers for example they are giving some information related to hazardous drugs and their effect on human health, especially children as future generation. Introducing and practicing in recycling and converting un-used materials and waste to an added value product. Involved and collaborated with villagers in religious and social activities: Idul-adha, 1 Muharram celebration, developing database, creating health and clean environment and others.



Activities of PH Project under coordination of Dr. M.Hasan with the subject of Integrated PPL-KKN: Practical works and field practices in Aceh Besar

Dr Zumaidar applied method of PH in the subject of Introduction to Biology. It is the basic courses as a mandatory subject that must be taken by students of the first semester for all departments in the Faculty: Mathematics, Biology, Chemistry, Physics, Pharmacy, and Informatics. This course is divided into nine classes, each class consists of students of different majors 3 combined. Students were divided into 6 groups with one group leader. Each group is a combination of different majors. Lecturer who teaches in this course is a team of 3 people. Constraint of this PH project was to take the first part of one person faculty team that did not last throughout the semester. The solution is the same understanding is needed for all the faculty team in order to carry out PH for one semester. The advantage to implement this method is that students are more active and enthusiastic in the learning process for getting different academic atmosphere than usual.



Activities of PH Project under coordination of Dr. Zumaidar with the subject of Introduction to Biology

Dr. Agus Arief Munnawar applied PH learning method on the subject of Electronic course at the Department of Agricultural Engineering. Electronic course is a mandatory course for 5th semester (3rd grade) students and they were starting this course on September 2016. The PH learning method was applied and subjected to this course in order to improve their problem solving in electronic application, enhance their abilities to present and communicate with stake holder, improves their team works

“The advantage to implement project hatchery method is that students are more active and enthusiastic in the learning process for getting different academic atmosphere than usual”

and interpersonal skills. There are 64 students participated in this course and they were divided into 8 hatcheries form which 1 student was acted as team manager. These hatcheries were formed by teachers with some considerations (cleverness, hard work, public speaking, and lobbying). They were supervised by a total of 5 student tutors who are already participated and taken this course previously. Student tutors were selected as lecturers (3 lecturers) based on their performance and abilities. They were then trained two weeks before the initial course was begun. Moreover, we (lecturers and tutors) basically meet up every two weeks to discuss and describe our PH on-going progress. We perform this course by also involving Soccolatte, a cocoa processing industry as stake-holder. All of these hatcheries attempted to solve problems related to electronic application on our stake-holder. Currently, we are already solved one major problem: that is predicting cocoa beans qualities and fermentation level stages rapidly and non-destructively. We developed and tested our designed instrument to predict moisture and fat content of intact cocoa beans. To date, our PH learning method has significantly improve at least student skill on problem solving, presentation and team works. They are eager to join national competition on innovation technology. Yet, we are still facing some minor problems in applying PH learning method, for instance: there are some students who are still not very active and rather being quietly sitting during PH on lectures. We still have also problems related to transportation, cost and accommodation for students in visiting Soccolatte Industry. Furthermore, we are still applying this PH learning method until end of semester (early February) and probably we will extend our PH to Electronic course II (advanced level) for these same students in next semester starting on February.



Activities of PH Project under coordination of Dr. Agus Arief Munnawar with the subject of Electronic Course.

Evaluation of INDOPED Pilot project at Unsyiah has been conducted by partner both Indonesian and European Universities. Yogyakarta State University (UNY) visited Unsyiah and supervised by Mr. Sudarmaji M.Pd and Herman, M.Pd. During their visit, they interviewed core team, teachers and students to get information about the pedagogical pilot project at Unsyiah.

Harri Lappalainen as coordinator of INDOPED project visited Unsyiah on 10-12 October 2016 to discuss about the PH pilot project at Unsyiah. In Banda Aceh, Harri had several valuable



Visiting of UNY (Universitas Negeri Yogyakarta) Team to Evaluate PH Project at Unsyiah

discussion and meeting with INDOPED core of Unsyiah, teachers and students. Harri also had meeting with vice rector for academic affairs, the head of Unsyiah development curriculum and the team. To give broad ideas of PH method, Harri also presented PH Project to lectures and students of Unsyiah with the number of participants around 100 people.

On 21-22 November 2016, Erik Hendriks from INHOLLAND



Visiting of Heri Lappalainen from TUAS to Evaluate PH Project at Unsyiah

University also visited Unsyiah to discuss about Project Market Research (PMR) at Unsyiah. PMR at Unsyiah will be conducted in even semester 2016/2017. At Unsyiah Erik also gave presentation about How to prepare Entrepreneurs at University to lecturers and students. Erik also had meeting with vice rector of academic affairs and visited lab school.



Visiting of Erik from INHOLLAND University to discuss about PMR Project at Unsyiah



“Project Market Research (PMR) at Unsyiah will be conducted in even semester 2016/2017”

Piloting of the Learning Method Innovation Camp

From November 25 – 27, 2016 the team of Yogyakarta State University conducted an Innovation Camp for 1st and 3rd semester students from 11 different study programs of the Faculty of Languages and Arts.

There were a total of 70 students who voluntarily signed up and took part in the program. The program took place in a natural camp site environment with wooden huts, just beside a river and not far from Merapi volcano. Besides the students, who formed 12 interdisciplinary teams, there were the following people present during the program: one process leader, one process coordinator, six lecturers in the role of facilitators, five observers who accompanied the facilitators, 2 experts and also a jury consisting of five people.

The goal of the Innovation Camp was to present the most possible creative and feasible idea to solve a certain problem. In the case for our Innovation Camp the “challenge” was stated as the following: “How can you create non-monetary incentives for people to reduce, reuse and recycle solid waste in their houses and neighbourhoods in Depok, Sleman, Yogyakarta?” The challenge was proposed by our stakeholder, a staff member of BORDA (= Bremen Overseas Research and Development Association). The jury members were 1) a staff member of the local government, representing the Kecamatan Depok, Sleman (our second stakeholder), 2) two representatives of BORDA as well as 3) two representatives from Yogyakarta State University (Dean of Faculty of Languages and Arts and Head of the International Office).

The program started off with two workshops few days before the actual Innovation Camp began. One workshop was held as a preparatory course for the lecturers, who enrolled themselves to take part as facilitators and another workshop was held as a preparatory class for the students. The workshops were held by team



Gift presentation to the winners of the camp challenge



Activities in the innovation camp involve lots of group works and team building

Arhus, Denmark, who conduct this program on a regular basis at their own university.

On Friday November 25th 2016, after lunch time, the students were taken to the above described premises. There, they were divided into multidisciplinary teams and played some games for team-building purposes. The next morning, the teams were given the challenge and a time frame of 4 hours to come up with their two best ideas. The rules were the same for all: all the teams got the same assignment and the same deadline. So, competition mode was on from the very beginning. After the first presentation, the teams got feedback mainly by the other groups and returned to work until night, when they got a detailed feedback from the fac-

“The goal of the innovation camp was to present the most possible creative and feasible idea to solve”

ilitators in order to improve their findings. The following morning, the teams got the last chance, to present their ideas in front of the facilitators to get some feedback. Just after lunch, the official presentation in front of the jury followed. The jury finally determined 3 winners.

The Camp was quite a success, because everything worked out very well and everybody learned a lot during these two days. Team Arhus did a great job and not only supported us in Yogyakarta by leading the mentioned workshops, but also witnessed the Camp and shared their insights with us. Prior to our own Innovation Camp, our team had already sent two representatives to Europe in September, to be able to observe the Innovation Camp of Arhus, which was held in Poland. The presence of our team members during the Innovation Camp in Europe helped a lot, so that they understood the core of the program and could implement it here at our home university for the first time.

Innovation Camp Pilot in Yogyakarta Helped to Solve Environmental Problems

The Faculty of Languages and Arts is the only faculty in Yogyakarta State University, that is involved in THE INDOPED PROJECT. (Indonesia Innovative Pedagogy). One of the events, that helps the implementation of this pedagogy method, took place in the form of Innovation Camp, held in Kembang Arum village, Turi District, Sleman, on the 25th to 27th of November 2016. One day before the departure to the camp venue, November 24th 2016, the participating students, who are in their 1st and 3rd semester, joined the Workshop on Innovation Camp in order to understand, what they could expect to be doing in the next three days at the camp. The workshop was conducted by Jesper Nørskov and Susanne Østergaard Olsen, the mentors and facilitators from the European partner, Business Academy Aarhus, Denmark, and the goal of the workshop was to help the students to understand the way of thinking in a more structured way by breaking the ideas into three zones, Yellow zone, Green zone, and Red zone. This kind of workshop was also held on the 23rd of November 2016 joined by the facilitators, the lecturers from the faculty, so that they were enabled to help the students solving the problem, the Theme for the Camp. The workshop was held in the Seminar Room of the Dance and Music Laboratory, and it went very well, since the participants seemed to enjoy the problem solving process, that the mentors from Business Academy Aarhus presented to them.

There were 77 students joining the Innovation Camp, who were separated into 12 teams, each containing students from each major in the faculty. They were assisted by the facilitators to solve the real problem existed in Depok regency about the solid waste problems in their houses and neighborhoods. The participants were asked to discuss and to find the innovative solutions of the problems given, and there were three discussion phases assisted by the facilitators, followed by presentation in each phase. Each team had to present their first discussion in front of the other participants, and they got valuable inputs and advices from the other participants, too. They must choose 2 ideas from this phase to solve the problems given, and these were then chosen by the committee to be the challenge. In the second phase of

discussion, they presented their thoughts of the chosen two ideas and were given some feedbacks and inputs from the facilitators. Each team must have one final solution to the problem in the last phase of the discussion, which was presented to the facilitators again, and the students had to be confident of their final idea from this point. At last, they presented their final thoughts of the solution to the problem in front of the judges; who were Dr. Widyastuti Purbani, M.A. (the Dean of the Faculty of Languages and Arts), Dr. Ing. Satoto E. Nayono, M.Eng., M.Sc. (the Head of the Office International Affairs and Partnerships), the representative of Depok regency, and the representatives of BORDA (a Non-Governmental Organization concerns on environmental issues). 3 ideas were chosen by the judges and were considered to be the best three ideas in this competition. This was: 1. Using the Solid Waste as the Learning Media, 2. "Pejuang Uwuh", and 3. The Solid Waste Management through an Online Application.

The Innovation Camp's participants said, that they have got a lot of experiences through this event! For instance, they thought, their communication skills developed, since they had to express their thoughts on the discussion to the other fellow students from other majors, and they were also able to widen their horizons by innovatively discuss the problems given to them. They were able to use the tools given to them by the mentors and facilitators, and they enjoyed working in a more untraditional and innovative way.

There was a bonfire party in the first night of their stay, and this was the moment, where they had to perform their talents by singing or dancing, so this agenda was able to bond them even tighter than before. In this way, they could make new friends out of this event, while leaning to use new pedagogical methods. The mentors from Business Academy Aarhus were very pleased with the way, the Innovation Camp went, and compliments Tri Sugiarto, Svenja Völkert and all the participating facilitators and students and the whole university for a very well planning and implementation of this pilot Innovation Camp.

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There were 77 students joining the Innovation Camp, who were separated into 12 teams, each containing students from each major in the faculty



Group photo of students who joined the innovation camp at Yogyakarta State University

Storytelling in Higher Education Institutions: How to Enrich the Learning Experience in Multidiscipline Areas?

Nuning Catur Sri Wilujeng, Venny Indria Ekowati, Sudarmaji

This study was aimed at 1) investigating the implementation of storytelling in 11 study programs with multidiscipline area, 2) investigating the impact of storytelling based on students' perspective towards their learning process, and 3) determining the sustainability of storytelling learning method into further research. 21 teachers were involved in this study that has been running from 19 September to 23 December 2016 in the Faculty of Languages and Arts, Yogyakarta State University (YSU). 13 teachers implemented the storytelling in languages classes and 8 teachers conducted the study in arts classes. There were 545 students registered in this piloting project. All the subjects were mandatory subject of the running semester based on the Indonesian National Curriculum of Qualification 2014. This learning method of storytelling was a part of Indonesian Innovative Pedagogy (INDOPED) project, initiated by University of Seville, Spain and funded by the Erasmus and Programme of the European Union 2016. To initiate the storytelling piloting in higher education institution, teachers were deliberately registered to this project. This, followed by the intern meeting in the faculty level to inform about the INDOPED project and make acknowledgment that those certain teachers would conducting 1 of 3 methods which YSU plan to implement in the academic year of 2016-2017. There were steps in storytelling's learning process such as 1) workshop for the teacher, 2) teaching practice for the teacher, monitored by the European partner from Seville University, 3) Implementing the method by the teachers, 4) students' turn become the storyteller, 5) evaluation, 6) findings, and 7) sustainability of the storytelling method in the coming semester. 21 teachers implemented the storytelling method in 21 different subject, namely 1) Children

Literature in Indonesian Study Program, 2) Literature's Reading in Indonesian Study Program, 3) Teaching Methodology for Children in English Study Program, 4) Speaking in Professional Contexts in English Study Program, 5) Paragraph Writing in English Language, 6) Basic Reading in English Language, 7) German History, 8) Reading for Beginner in German Language, 9) Listening in French Study Program, 10) Media and IT in French Language Learning, 11) Media and IT in Javanese Language Learning, 12) Fiction Writing in Javanese Language, 13) Javanese for Beginner, 14) Project and Perspective in Fine Arts, 15) Ornament in Fine Arts, 16) Batik I, 17) Leather Craft I, 18) Teaching Plan in Music Study Program, 19) Analysis and Critics in Music Study Program, 20) Evaluation in Dance Study Program, and 21) Tari Nusantara II in Dance Study Program.

During the implementation, teachers inserted storytelling in 15 minutes in each period. This, can be seen from their teaching plan. Twice meetings were held to monitor the running progress of piloting. The implementing of storytelling was documented in the form of video. There were middle and post evaluation during the implementation of storytelling. All the evaluation's item was provided by INDOPED team from European partners.

The study showed that those 21 teachers implemented the storytelling in 21 different subjects towards 11 study programs. Teachers first applied the method. Since there is no single pattern on storytelling implementation then the students performed their storytelling's learning in various model based on their study program. Some product of this implementation can be



The implementation of storytelling in each program put the creativities and activities of the students as the outmost aspects

seen in the mind map of literature review, this mind map would be presented in front of the class; in French study program, students were created an online comic to present their learning media; in music study program story telling helped students to compose a song, then followed by writing the lyrics, the song were being presented in front of the class; in dance study program, storytelling implemented in the creation of dance movement. Therefore students were not only learnt the philosophy of the creation of dance movement but also the symbolic values of the dance; in fine art study program students profit some technic in delivering the storytelling as the foundation of painting and/ or other art crafts. The implementation of storytelling in each study program put the creativities and activities of the students as the outmost aspects. Students were actively engaged in delivering story through storytelling and in presenting their task in front of the class. The final assignment required student to provide a scientific video related to the theme of the subject. Scientific phases were conducted in providing the video, namely interview with an scientist or expert in the study area, conducting some literature review based on their subject. Reference were gathered from books, methods, reputed journals, website, etc.; getting field data, write down the scenario script for the video, and finally prepare the video after having discussion with the teacher. This video would be presented by the students in front of the class, and the best video which was the one with theme-related was declared as the best video. Based on the students self-evaluation sheet which was classified into 3 parts, the students' perspective on storytelling were a) very strong respect different opinions,

perspectives and values showed 43%, b) strong ability to work systematically of 66%, c) strong ability to continue to work despite of 67%, d) strong ability to lead a classroom discussion, e) strong motivation to acquire knowledge, f) strong ability to search information/ knowledge in various sources of 56%, g) strong ability to spot the innovative/ creative process of 61%, h) strong engagement in the learning process, i) strong motivation to acquire knowledge of 58%; j) often cooperate with peers of 59%, k) often have fun while studying of 41%, l) often respect different opinions, perspectives and values, often work well under pressure of 39%; m) good ability to generate creative ideas, o) good ability to the appropriate solution to a problem, n) good ability to evaluate peers work, o) good ability to self-evaluate, p) good ability to take responsibility for someone's' education, q) good ability to use previously acquired knowledge in problem solving situation, r) strong ability to work independently of 52%, s) good analytical skill of 45%; t) good problem solving skill of 54%, u) good rreporting skill of 54%, v) good strategic thinking skill of 53%, and w) good team working skill of 59%. The in code barometer was divided into 3 categories of: 1) individual, 2) interpersonal, and 3) networking.

The sustainability of storytelling method into a classroom action research (CAR). The further studies mainly focus on reduce or eliminating the 3 aspects that still found very poor during the piloting program. Those 3 aspects were 1) respect different opinions, perspectives and values, 2) presentation skills, and 3) ability to generate creatives ideas

Piloting Learning by Teaching (LbT) Method for Physics Study Programme Students

Anthony Wijaya

Learning by Teaching (LbT) method is one of four other innovative methods piloted at Widya Mandala Catholic University Surabaya (WMCUS) during the year 2016 under the INDOPED Project. LbT method was piloted at the Physics Education Study Programme WMCUS to teach a compulsory course called High School Physics IV course, with 2 credits. LbT method was piloted from August to December 2016 with total class meetings of 18 weeks, including Mid and Final Semester Tests.

During the planning and preparation stage WMCUS LbT team, consisting of one teacher, two student tutors and two student assistants, planned every detail of the piloting. There were some adjustments before LbT method was piloted in the course. The adjustments considered some aspects such as the difficulty level of course materials, student learning characteristics and culture, time allocation, and various components of assessment system. There were two periods of LbT piloting: the first half period and the second half period. For the first half period of LbT piloting, several phases were conducted, i.e., (i) orientation phase and learning contract, (ii) tutorial phase, (iii) pre-teaching phase, (iv) team teaching phase, and (v) review phase. In the Orientation Phase and Learning Contract, the students were given an explanation about LbT method and any phases the students had to do in piloting LbT method. The students were also encouraged to understand all benefits they could obtain during piloting the LbT as a new learning method. In regard with the learning contract, there were several things the students and the teacher had to agree with, i.e., student grouping, learning materials distribution, assessment system and the weight of each assessment method. In grouping the students, the teacher considered the heterogeneity aspect with respect to the students' academic abilities. The students were divided into some groups depending on the number of learning objectives and sub-chapters covered in the course materials. Each group was in charge of preparing for one sub-chapter material to teach to other fellow students. On the 1st half period of LbT piloting, the students were given a grace period of 2 weeks for the first 2 groups for doing teaching preparation prior to their teaching schedule.

In the Tutorial Phase each group was given tutorial by one student tutor assigned to assist each group in understanding the learning objectives and preparing the teaching materials including making a lesson plan. The tutorial had to be done outside of the regular class meeting schedule and the time was quite flexible, depending on the agreement between the student tutor and student groups. Tutorial frequencies depended on the needs of the group concerned. The tutorial stage had to be completed before the pre-teaching phase.

In the Pre-Teaching Phase each group performed teaching activities based on the previously made lesson plan in front of the teacher and the student tutors. The pre-teaching phase was used as a quality control by the teacher to ensure the quality of materials and teaching activities performed by each group. After the pre-teaching phase there usually were some feedbacks from the teacher and each group was required to make revision before implementing the teaching activities in front of their fellow students.

In the Team Teaching Phase each group performed teaching activities to fellow students in the class based on the lesson plan prepared beforehand. In the 1st half period of piloting the LbT method, the teacher was in the classroom when each group was carrying out the team teaching, but as much as possible the teacher did not interfere the process of team teaching. However, by the request of all students, there was one situation that forced the teacher to interfere and take over the role of explaining the learning materials. This invited criticism from LbT consultant team from Turku University of Applied Science (TUAS) Finland. Interference should not be done because it can reduce the significance of the LbT process.

In the Review Phase the teacher reviewed all of the materials delivered in the team teaching phase to consolidate and emphasize certain materials considered to be quite difficult. In regard with the assessment system and the weight of each assessment component, below are the details that had been agreed as the Learning Contract: (i) Attendance (5%), (ii) Tutorial



In class activity of Piloting Learning by Teaching Method at Widya Mandala Catholic University Surabaya (WMCUS)

Phase (15%), Tutor Evaluation with rubrics (assessed by Student Tutor for each Student), (iii) Pre-Teaching Phase (15%), Pre-Teaching Evaluation with rubrics (assessed by Teacher and Student Tutor for each team), (iv) Team Teaching Phase (20%), Teaching Evaluation with rubrics (assessed by Teacher and other Team for each team), (v) Self Evaluation with rubrics + Fellow Evaluation with rubrics (combined, assessed by students themselves, 15%), self-evaluation rubric and fellow evaluation rubric were given to all the students during the Interview Session conducted after the Mid Semester Written test, and (vi) Mid Semester Written Test (30%, for each student).

it can be figured out that
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Interview Session was conducted for each team to get feedback on the result of the first period of LbT piloting. In general, LbT Team obtained positive feedback from the students. However, LbT team also got some suggestions for improving the LbT piloting as follows: (i) longer time interval was needed for teaching preparation and to meet the phases set out in the LbT system, (ii) each group needs to use more varied teaching methods so that the classroom atmosphere is not monotonous, (iii) each group should make good teaching preparation to optimize the delivery of learning materials, and (iv) the tutorial process needs improvement

Based on the students' feedbacks/suggestions and LbT consultant team's suggestions, some improvements were made for the 2nd half period of LbT piloting as follows: (i) each team implemented innovative learning method, (ii) team had 3 weeks to prepare for the team teaching including tutorial and pre-teaching, (iii) there was no material reviewed by teacher in the last class meeting, (iv) class meeting was held in the Micro-teaching Room which allowed the application of "no teacher" rule. Micro-teaching room has a control room from which the teacher could monitor the team

performance and no teacher was present in the class, and (v) the assessment weight was changed as follows: Tutorial Phase (10%), Pre-Teaching Phase (20%), Team Teaching Phase (25%), and Mid Semester Written Test (25%).

As a conclusion, after the 2nd half period of LbT piloting was over, it can be figured out that the LbT method can enhance the students' participation and more active activities in the course. The implementation of each stage in the LbT method requires the students' activities in planning, preparing for lesson plans, conducting tutorials and taking important roles in teaching. Teaching experiences of the students of the physics study programme also improved through the implementation of each stage in the LbT method. As seen in the self-assessment, there is improvement with respect to the students' soft skills such as interactivity, teamwork, and presentation skills. However, the students' ability in mastering the learning material does not improve significantly. Improving LbT implementation is required in order to solve the problems of learning material mastery. In addition, the teacher's skill in the course management improves. The use of rubrics in each assessment and stages in the implementation of LbT contributes highly to the improvement of teaching management. Piloting LbT method in other courses is recommended by still accommodating the characteristics of the course and students.

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