



Student Learning Perception toward Inbound and Outbound Student Exchange Mobility in Science Education

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Abstract: Higher Education Institutions (HEIs) become important key factors for producing qualified graduates and supporting creativity and innovation. The Merdeka Belajar Kampus Merdeka (MBKM) program strive to link and match between higher education graduates is not only with the business world and the industrial world but also with rapidly changing future. The research subjects were outbound and inbound student exchange. Qualitative data is used to determine the students perceptions in learning activities at Science Education Study Program. Learning activities by inbound student at UNEJ used as making material in power point slides (ppt) for group presentations, discussing material and analyzing videos. In UNNES, outbound students get project assignments, progress and presentation in virtual meeting. Outbound students to UM are divided into several small groups to prepare papers, power points (ppt slide), video presentations and discussion through Sipejar.

Keywords: learning perception, student exchange and student mobility.

Abstrak: Perguruan Tinggi menjadi faktor kunci penting dalam menghasilkan lulusan yang berkualitas yang kreatif dan inovatif. Program Merdeka Belajar Kampus Merdeka (MBKM) yang bertujuan untuk link and match antara lulusan perguruan tinggi tidak hanya dengan dunia usaha dan dunia industri tetapi juga masa depan yang cepat berubah. Subyek penelitian adalah mahasiswa outbound dan inbound student exchange di Program Studi Pendidikan IPA Universitas Jember. Data kualitatif dianalisa untuk mengetahui persepsi mahasiswa dalam kegiatan pembelajaran. Kegiatan pembelajaran mahasiswa inbound di UNEJ menggunakan metode pembuatan materi pada slide power point (ppt) secara kelompok melakukan presentasi, diskusi dan analisis video. Mahasiswa Outbound di UNNES mendapatkan tugas proyek, perkembangan rancangan proyek dan presentasi melalui tatap muka virtual. Mahasiswa outbound ke UM dibagi menjadi beberapa kelompok kecil, membuat makalah, power point (ppt) dan video presentasi. Sesi diskusi di UM melalui Sipejar dan tugas dikumpulkan melalui link google drive.

Kata kunci: persepsi belajar, pertukaran pelajar dan mobilitas siswa.

▪ INTRODUCTION

Indonesia's advanced and sustainable development must be supported by the creativity and innovation of human resources. Higher Education Institutions (HEIs) become the key important factors responsible for producing qualified graduates (Purwanti, 2021). Link and match between higher education graduates is not only with the business world and the industrial world but also with a future that is rapidly changing (Astuti et. al., 2020) (Kemendikbud, 2020). The Merdeka Belajar Kampus Merdeka (MBKM) program is a new policy from the Minister of Education and Culture that has been implemented by universities. The main points of the MBKM policy are trying to reform the Higher Education System such as new study programs, the

accreditation system (Simatupang & Yuhertiana, 2021). HEIs legal entities and the right to study three semesters outside the study program and outside Higher Education. The MKBM activity programs include humanitarian projects, internships, independent project studies, teaching assistance in education unit, research, entrepreneurial activities, thematic village building and student exchange (Nurtjahyani, 2021). The success key of implementing the MBKM Policy is the existence of an adaptive curriculum in autonomous and flexible higher education institutions to form an innovative learning culture and be able to adapt to the times (Kemendikbud, 2020).

Students who are currently studying in higher education institutions must be prepared to become real learners who are skilled, flexible and tenacious (agile learners). The MBKM Policy launched by the Minister of Education and Culture is a framework to prepare students to become strong scholars, relevant to the needs of the times, and ready to become leaders with a high national spirit. Regulation of Education and Culture Minister number 3 in 2020 concerning National Standards for Higher Education, namely Universities are required to give students the right to voluntarily (Sudirtha et. al., 2021). First, they can take credits outside of higher education for 2 semesters or the equivalent of 40 credits and second, can take credits in different study programs in the same university as much as 1 semester is equivalent to 20 credits (Makarim, 2020). The objectives of the MBKM policy as stated in the University of Jember guidelines are to prepare graduates as future leaders of the nation who have superior and personality including soft skills and hard skills according to the needs of the times.

The implementation of this MBKM policy coincided with the Covid-19 pandemic. As is known, the Covid-19 pandemic has changed the way of life and habits of humans almost all over the world, where people have to practice social distancing (Ahmad et. al., 2021). This impact is also felt in the field of education where education is carried out virtually by utilizing internet technology so that all activities can continue to run smoothly (Andari et. al., 2021). Student management, from recruitment, placement, development, evaluation, to student graduation, is carried out online.

Bachelor students of Science Education UNEJ participated in a student exchange for the first time. In accordance with the objectives of the University of Jember, student exchanges are expected to prepare graduates as future leaders of the nation who have superior and personality including soft skills and hard skills according to the needs of the times. Student exchanges that were usually done face-to-face are now done online. Student exchanges are carried out to respect the diversity of cultures, religions, views; able to work together with others and have social concern for the environment and society (Fatima et. al., 2021). Outbound and inbound mobility programs such as exchange programs are one of the many strategies implemented at universities to develop graduates' intercultural skills and knowledge. Student exchange programmes have been one of many strategies used by policy makers in government and universities to equip young people to be effective in an increasingly national interconnected economy and society (Daly & Barker, 2010).

In general, student exchange activities are organized by two or more universities where one of the universities is the "host" or destination university and the other is the college that sends students to study at the university (Daly, 2011). It is possible that the university that acts as the "host" also sends its students to study at partner universities. This depends on the agreement determined by the universities involved. The selection

process inbound and outbound student learning exchanges are carried out according to the flowchart provided by the campus. Then inbound students who pass the selection will get a student identification number (NIM) from the intended campus. The academic system of outbound students does not need to attend and study at the home university in the same courses taken at partner campuses (Daly & Barker, 2010).

▪ **METHOD**

Research Design

This research was carried out bachelor degree in Science Education Study Program, Faculty of Teacher Training and Education, University of Jember (Ahmad et. al., 2021). This research is a qualitative descriptive study to determine the perception of student exchange MBKM in the even semester 2021. The research subjects were outbound and inbound student exchange students of the Science Education Study Program at the University of Jember. Qualitative method is an activity to examine a problem using scientific methods in a systematic, orderly, and consistent manner to find and develop and test the truth of a problem or knowledge in order to find a solution or solution to the problem. Qualitative data is used to determine the perceptions of MBKM students regarding the learning activities of the Biophysics course in the bachelor Science Education Study Program. The type of research used by the researcher is a case study. The case study was chosen because the focus raised has its own uniqueness or uniqueness.

Participants

There were 6 participants of inbound students from Semarang University (UNNES) to Jember University (UNEJ), 2 participants of outbound students from UNEJ to UNNES and 2 participants of outbound students from UNEJ to State University of Malang (UM).

Instrument

Data collection techniques used are interviews, observation and documentation (Andari et. al., 2021) . Data collection was carried out by giving questionnaire consisting of six qualitative question items to 10 participants of student exchange class (Nirwana & Rochman, 2018). The parameters studied were the initial perceptions of students about the Ministry of Education and Culture student exchange, perceptions about administration, perceptions about the Learning Management System (LMS), perceptions about the lecture system, comparisons of the advantages of lectures at UNEJ, and the difficulties faced during lectures.

Data analysis

The data analysis technique used Miles & Huberman model. According to Miles and Huberman (1994), analysis can be define as consisting as three current flows of activity that is data reduction, data display, and conclusion drawing/verification(Andari et. al., 2021).

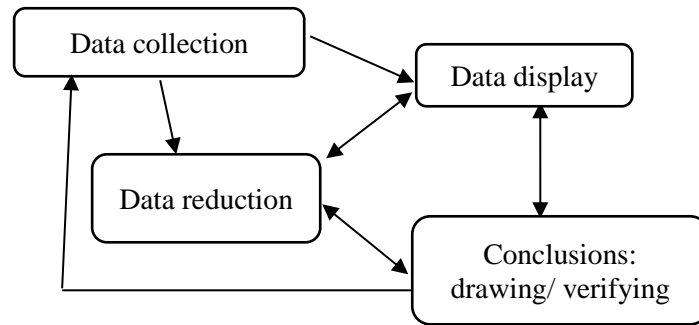


Figure 1. Miles & huberman model

After collected the data, the researcher performed data reduction by filtering the relevant data according to the research focus. At this stage the data becomes simpler and then grouped according to the focus of the study. Displays the data contains the deixis, not only as generally but specifically and clearly. The data group is coded so that it is easily recognized. The data are accompanied by descriptions that contain a more detailed explanation of the data displayed. In the last, the validity was checked by triangulation and then a pattern will be formed regarding the research findings.

▪ **RESULT AND DISSCUSSION**

This part discussed about learning perception at students mobility at Jember University (UNEJ), Semarang University (UNNES) and State University of Malang (UM).

Learning perception in inbound mobility at UNEJ Jember

Student inbound mobility come UNNES and take course in UNEJ. In the beginning, UNEJ campus administration is the entire management process, starting from controlling, managing and regulating various ways or efforts so that university goals can be implemented. The MBKM registration process for outbound students is well-systemized and easy. Students filled out biodata on the sister.unej.ac.id/merdekabelajar page. A few days later inbound student received an email to be able to enter the integrated information system or SISTER page. Then they were asked to fill out the study plan card (KRS). They take a biophysics course in this course.

Inbound students from UNNES take Biophysics courses consisting of 3 credits. The three credits were carried out in 16 meetings. In the 16 meetings, 14 of them were face-to-face via zoom. Each meeting, one group presents one material that has been divided and after that the material is reviewed by the lecturer, for their duties each student who does not present summarizes the day's material and is immediately collected on the same day. This system is different from at UNNES that usually the assignments for each meeting are collected about a week after or one day before the next meeting. This Biophysics course is taught by 3 lecturers, the exam is conducted by each lecturer. For the final assignment, there is a video analysis project task, this task is also done in groups so that it is not too heavy.

The learning activities are not much different both at UNNES and UNEJ, both from group divisions, presentations, discussions, and other tasks. The method used is also the same as making material in power point slide (ppt slide) for group presentations and discussing about the material presented. It is also more or less the same as analyzing existing videos. However, if the course at UNNES is usually after the material is delivered, the task is not a resume but working on the questions in e-learning and usually when you have made ppt slide and presentations are not accompanied by making papers.

Difficulties encountered while attending lectures at UNEJ

One of the problems found was the difficulties faced while attending lectures at other campuses. These difficulties include at the beginning of registration or during administration before entering, UNNES students have registered but are still confused about taking the KRS at SISTER because there is no guide listed. So that UNNES students are only assisted by UNNES lecturers who have informed UNEJ again and the process required is quite long. So inbound students take classes already in the second week. I think it's best to create a group for inbound students from other universities so it's easy to coordinate.

One of the efforts to improve the performance of lecturers in the field of education and teaching has been carried out by online learning training and Learning Management System (LMS) (Sudiana, 2016), lecturer assistance and evaluation of teaching performance (Dumiyati & Yusuf, 2021). In addition, there are other difficulties, namely inbound students must adapt to SISTER which is often referred to as MMP or UNEJ SISTER first. Often inbound students are absent late and sometimes do not follow the discussion. There is a sudden change of schedule that sometimes clashes with other schedules. The solution that can be given to this difficulty is with clear coordination from UNEJ to UNNES students so that there is no miscommunication, and UNEJ can provide proper guidance on the use of SISTER to minimize sudden schedule changes (Sudiana, 2016).

Lesson review

Inbound student from UNNES took Biophysics course. In this Lesson the student analyzed videos on youtube about material regarding biophysics. One such analysis is the biological interaction of ionizing radiation with cells. Biological molecules that undergo ionization or excitation will undergo proliferation when interacting with ionizing radiation. Direct damage to ionization will lead to the formation of free radicals in the body. Free radicals will interact with cell molecules causing cell recovery or cell molecules damage. Biological stages occur biological responses in the form of cell death that can extend to the scale of tissues, organs and cause death (Hidayat et. al., 2020).

This ionizing radiation consists of x-ray, alpha beta and gamma radiation. Ionizing radiation results from radioactive activity, as follows:

$$A = A_0 \left[\frac{1}{2} \right]^{\frac{t}{T}}$$

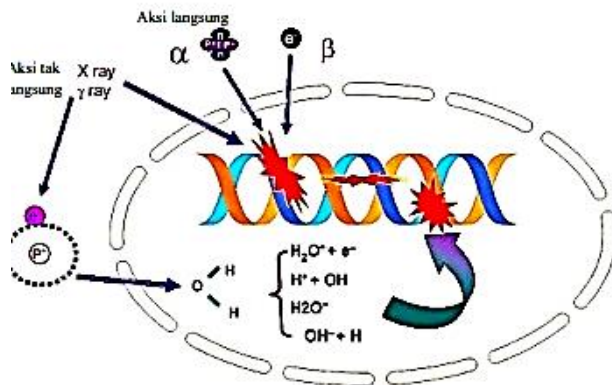


Figure 2. Effects of radiation on DNA damage (Hidayat *et. al.*, 2020)

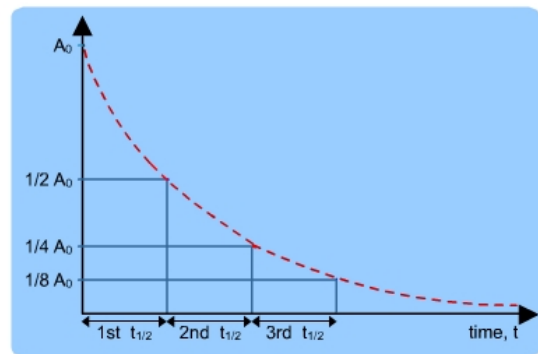


Figure 3. Radiation activity (www.s-cool.co.uk)

Where A is activities of radiation, T is time period and t was half time of decay. Energy radiation (E) comparable with planck’s constant (h) and frequency (f). The amount energy of ionizing radiation produced from nuclear is:

$$E = hf$$

Learning perception in outbound mobility to UNNES Semarang

Students who leave campus to take the lecture process at other universities are called outbound students (Daly, 2011). Outbound students from the University of Jember (UNEJ) take the Science Media and Teaching Aid course consisting of 2 credits at the State University of Semarang (UNNES). A total of 2 credits are carried out in the form of face-to-face in 14 meetings. In the 14 meetings, the lecturers did not always do face-to-face virtual. If the student has received the project assignment, the lecturer will only ask about the progress of the task on whatsapp grub. However, if the deadline for submitting assignments is approaching, the lecturer will conduct a virtual face-to-face and students will be appointed to present the progress of their respective assignments. At the first meeting, the lecturer makes a lecture contract with all students, explaining what are the achievements and tasks that must be completed during the next semester.

The process of learning activities at UNNES online through the zoom application, which is limited to only 40 minutes. If within 40 minutes the lecturer has not finished completing his explanation, it will be continued through the whatsapp group. The Science Media and Teaching Aid course itself is taught by two lecturers, where in student study activities are carried out in the form of theory and project assignments. The theory will be given first by the lecturer, then after the lecturer has finished explaining the theory, the lecturer will give project assignments.

The project assignment is a final assignment in lieu of the final semester exam. So, in the Media and Science Teaching Aids course, there is no mid-semester exam (UTS) and final semester exam (UAS). If calculated for one semester students get project assignments four times. The project tasks are making interactive PPT, making herbarium and insectarium, explaining material using scratch application media, and making teaching aids on the material in junior high school.

Every virtual face-to-face meeting at UNEJ is held during the lecture hours that have been determined using a zoom meeting. So, the zoom used is unlimited which makes lecturers and students more flexible in conducting the lecture process. The presentation of the material provided by the lecturer will also be clearer and this will greatly help students' understanding in understanding the material. In terms of assignments, at the University of Jember (UNEJ), various assignments are given, such as individual assignments, group assignments, quizzes, and project assignments. If a course consists of 2 credits, then 2 lecturers will be taught. When the lecturer has given the project assignment, there will be no exam. It is the same as at UNNES. It can be seen that the portion of tasks given at UNEJ is more and heavier than the portion of tasks given at UNNES. Sometimes during the lecture process, UNEJ lecturers will check the attendance of each student. When the lecturer explains his explanation, the lecturer will also provide questions that must be answered by students. Students who can answer will get active scores, while students who do not answer or passively get scores tend to be less. This proves that the competition in obtaining scores at UNEJ is higher than at UNNES.

Participating in the Ministry of Education and Culture student exchange program, student know the difference between the two systems, both in terms of the origin campus and the destination campus. There are several advantages of the lecture system at UNEJ, such as the LMS, face-to-face meetings, and assignments (Dumiyati & Yusuf, 2021). The LMS in UNEJ namely MMP is superior to the one at UNNES. This is because the system for accessing UNEJ e-learning is more attractive and the features it has are more complete. Not only that, the University of Jember also provides a mobile application for its LMS in the form of SFS (Sister for Student) where with this application students can easily view class schedules and also see the number of student attendance at each meeting. In addition, with the mobile application, students don't have to worry about attendance if the MMP server on the web is down periodically because we can use the barcode feature (Sudiana, 2016). Other advantages are also found in face-to-face meetings during class where UNEJ will conduct virtual class by zoom during class hours so that there are no limitations related to the delivery of material by lecturers. Meanwhile, the virtual class at UNNES only lasts 40 minutes by zoom.

Difficulties encountered while attending lectures at UNNES Semarang

The MBKM program give a chance the students look forward to, because it can add insight into lectures on other campuses, it can also add relationships and information related to lectures on other campuses. However, in this program, of course, there are still difficulties experienced by students when doing lectures at other campus.

These difficulties include frequent schedule changes at the home campus (University of Jember) which cannot be negotiated. This makes students who take outbound lectures to the State University of Semarang (UNNES) have to do two lectures at once using a double device and can reduce the level of student focus. This is exacerbated by sometimes areas of the house experiencing poor signal or even experiencing blackouts which make the student less focused during lectures because they have to look for signals and look for alternative areas where blackouts do not occur because they have to supply power to the two devices used.

The difficulties faced by outbound students are assignments that are sometimes different from the Jember university system, which requires Jember university students to adapt to the assignments given by UNNES, in this case where at UNNES they provide IT-based assignments that have not been studied by UNEJ students so that UNEJ students have to learn from the beginning. , but this was helped a little by the explanation from the lecturer who always gave directions. In addition, the systematic writing of the report which is slightly different makes UNEJ students feel a little confused.

The various difficulties faced by outbound students, there are several solutions, including in addition to students making exchanges, UNEJ lecturers can also make exchanges to the UNNES, so that lecturers can also understand the lecture schedule at UNNES which is expected to not happen again at any time so that it does not require students do two lectures at once. In addition, the solution that can be given to writing different systematic reports is that the same format can be given so that the collected reports are the same, aligned and do not cause confusion to the outbound students.

Learning perception outbound mobility to UM Malang

There are students from UNEJ taking the lecture process at the State University of Malang (UM). Lecturers must be able to balance the learning system and technology that is increasingly improving. They must be able to creative from the conventional to contemporary learning. Combining learning methods with technology is to help students to understand that education and technology must be suitable to construct learning activities in pandemic era (Astuti et. al., 2020).

The Outbound student takes the Science Education Assessment course which consists of 3 credits. The course consists of 16 meetings, but lecturers rarely do virtual face-to-face. The lecture system is that students are divided into several small groups, then these groups will prepare papers, power points (ppt), and video presentations. During the course hours, the off-duty group will conduct discussions and question and answer sessions in the classroom, moderated by the group on duty. After the discussion time is up, each group will make a note of the activity of each member of each group which will be collected on the google drive link.

Groups that are not on duty will also get paper assignments, so that every week students will get assignments. After the discussion and question and answer session is complete, the lecturer will conduct a virtual face-to-face via google meet to evaluate the results of the discussion. However, this virtual face-to-face is only about 3 to 4 times in one semester. Thus, most lecturers do not go in to see the extent of students' understanding of the material. Lecturers who are unable to attend the lecture can see students' understanding of the learning journal assignment. So after the completion of lecture hours, students will get an assignment to make a study journal. The learning journal contains a summary of the material, learning progress, and difficulties faced by students in understanding the material. All assignments given will be collected on the google drive link provided. So that lecturers can access the assignment. In this Science Education Assessment course there is no project assignment so the lecturer gives the final semester exam (UAS) assignment.

The lecture system when compared to UNEJ is that at the beginning of the meeting, a lecture contract will be held which explains the materials and tasks that must

be completed by students in the next semester. At the next meeting, there will be group divisions and the distribution of material that must be presented by each group later in each meeting. So, during lecture hours, the group in charge will make a presentation via zoom, and after the presentation is complete it will be followed by a question and answer session. Due to the absence of project assignments, the lecturer gave the mid-semester exam (UTS) and the final semester exam (UAS). It can be concluded that the Science Education Assessment course at UM and UNEJ is the same weight. This can be seen from the portion of assignments given by UM lecturers to students and the value of activity that has been obtained through question and answer discussion sessions and group minutes.

The advantages of lectures at the University of Jember compared to the State University of Malang lie in the LMS, and the lecture system (virtual class). The LMS at the University of Jember is superior because it has many features and the appearance in it is more organized so that it is more attractive to both SISTER and MMP. In addition, the University of Jember also provides a mobile application for students to access class schedules, scan barcodes, score milestones, choose courses, etc. Then, for the lecture system itself, the University of Jember at each meeting will conduct a virtual class by zoom during the start of the course hours until it ends so that lecturers and students are not limited by time and conditions to be active and understand the material from the ongoing courses. Meanwhile, at the State University of Malang, face-to-face meetings (virtual class) are rarely held. The meetings occurred three times for 30 minutes by google meet where the lecturer reviewed the material that had been studied during the course. Regarding the course hours themselves, students made a presentation and also a discussion which was then carried out in the discussion forum in the UM e-learning, namely SIPEJAR. Then, after having a discussion, each student is required to make a study journal which at Unej itself also has tasks such as a study journal, only the name is resume task. So, from these two things we can conclude that the University of Jember has several advantages which the University of Malang does not have and vice versa.

Difficulties encountered while attending lectures in UM Malang

In addition to difficulties related to changing schedules, the next difficulty is related to lecture material, this occurs in the "Science Education Assessment" lecture where there is a task that requires first understanding the "Bloom Taxonomy" material that UM students have studied in the previous semester, but UNEJ students have not received these lessons, thus making a little behind and study individually. However, this matter was slightly resolved with a brief explanation regarding "Bloom's Taxonomy" by the lecturer. The difficulties that occur in the next lecture are related to student evaluation, where in the lecture there is the task of making a learning journal which contains important notes on the material, learning progress, and difficulties encountered in learning activities. However, there is no solution to the difficulties faced by students in these learning activities.

These difficulties include frequent schedule changes at the home campus (University of Jember) which cannot be negotiated. This makes students who take outbound lectures to the State University of Malang (UM) have to do two lectures at once using a double device and can reduce the level of student focus. This is exacerbated by sometimes areas of the house experiencing poor signal or even

experiencing blackouts which make the student less focused during lectures because they have to look for signals and look for alternative areas where blackouts do not occur because they have to supply power to the two devices used.

The various difficulties faced by outbound students, there are several solutions including other than students who make exchanges, UNEJ lecturers can also make exchanges to the UM, so that lecturers can also understand the lecture schedule at UM which is expected to not happen again at any time so that it does not require students do two lectures at once. In addition, the solution that can be given to the problem of lecture material is the holding of material synchronization between lecturers, both UM lecturers and UNEJ lecturers, so that there is no lag behind other university students, because they have not received the material. Evaluations can also be given by lecturers to students during meetings with Google Meet after discussions between students on the Sipejar portal that has been provided.

Opinion of Expert

Student exchange will enrich the student learning experience. Students can feel the difference in learning methods at the campus of origin and destination. Inbound and outbound learning in the pandemic era will be faced with clashing lecture hours, student collaboration between universities, signal problems, LMS differences, learning methods and others. Student exchange will make students more mature, independent and find knowledge in a meaningful way. This is in accordance with the vision of learning in MBKM to provide challenges and opportunities to develop innovation, creativity, capacity, personality, and student requirement, as well as improving independence in exploring knowledge through realities and field dynamics (Sudirtha et.al., 2021). The student exchange program will get solve real problems ability, social interaction, collaboration, self-management, performance demands, targets and achievements. Implemented student exchange will shape the hard and soft skills of students to be strong (Daly, 2010).

▪ **CONCLUSION**

Learning activities by inbound student at UNEJ used as making material in power point slides (ppt) for group presentations, discussing material and analyzing videos. In UNNES, outbound students get project assignments, progress and presentation in virtual meeting. Outbound students, to UM are divided into several small groups to prepare papers, power points (ppt slide), video presentations and discussion through Sipejar, then tasks collected on the google drive link.

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