Addressing The Independent Learning Curriculum (Kurikulum Merdeka Belajar) as a Form of Positive Disruption to Empower the Community

by Purnama Tedjokoesoemo

Addressing The Independent Learning Curriculum (Kurikulum Merdeka Belajar) as a Form of Positive Disruption to Empower the Community

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Abstract: The emergence of COVID-19 in early 2020 demands strategic policies to accelerate. The strategic policy in education was responded to by the Independent Learning Curriculum (Kurikulum Merdeka Belajar), which is commonly known as virtual learning. Virtual learning has become a challenge to implement community service as one of the threefold missions of higher education. Rumah Langit is a learning house that serves the pre-prosperous children in Rusunawa Urip Sumoharjo Surabaya. This object is the pilot project to study the implementation of community service with Independent Learning Curriculum for final project students' of interior design programs. The research was conducted in a qualitative method to learn the implementation of the design thinking method used in design development. The study showed that high flexibility in the final project stage may not be any different to previous final projects in older curriculum. However, this curriculum forces students to sharpen soft skills rather than mere design skills. The output not only focuses on solving the interior problems but also to equip the community. Therefore, the Independent Learning Curriculum can be said as a positive disruption that offers acceleration and bridging the needs of education and industry that has been requested for a long time.

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1 INTRODUCTION

Disruption is the impact of the industrial revolution 4.0 that affected almost all fields, including in the field of science and technology (IPTEK) and higher education. The industrial revolution 4.0 demands speed and accuracy so that the use of various applications of advanced technology, artificial intelligence (AI), the internet of Things (IoT), advanced robotics, and 3D technology can no longer be avoided (Adiyanto, 2019).

In an effort to respond to changes that occur in society and education (namely Industry 4.0, Society 5.0, Gen Z, IAPS 4.0, and International Accreditation), it is deemed necessary to immediately make changes to the curriculum (Universitas Kristen Petra, n.d.). Apart from those reasons mentioned, the emergence of COVID-19 in early 2020 accelerated this change for it demands strategic policies to adapt the use of advanced technology and flexibility in learning without being limited by space and time. This strategic policy in education was then responded to by the Independent Learning Curriculum (Kurikulum Merdeka Belajar) nationally in November 2020.

The Independent Learning Curriculum, as initiated by its name, provides independence for students to learn with high flexibility. The objective is to create a link and match, not only with the world of industry and the world of work but also with a rapidly changing future. In higher education, this curriculum has come as a disruption to how students may achieve their bachelor degree. This curriculum enables students to learn 3 semesters off campus in forms of student exchange, internship, teaching assistance in education units, research, humanitarian project, entrepreneurial activities, independent project, and or thematic real work lecture (Direktorat Jenderal Pendidikan Tinggi Kementerian Pendidikan dan Kebudayaan, 2020).

Conventional assessment was challenged. The conventional graduation assessment by just and only thesis was seen as obsolete. The obsolete assessment was seen as keeping the gap between education and work life. The conventional final project assessment of interior design students assessed their understanding of the problem, sensitivity to see the phenomenon, and solution offered. However, the empathize stage often became an assumption since most of their time was spent on campus. Unfortunately this causes most final project works to end up as discourse.

Therefore, new assessment tools and education based on outcome is seen as necessary. This paper may highlight the final project of interior design students who took the humanitarian project path as their choice of learning. This path will be further addressed as community engagement in this paper. The proposal on aspects to assess in this path is expected as an initial offer.

This research was conducted to observe the first year implementation of the Community Engagement program as a final year project of interior design students in the academic year of 2020/2021. The study was carried out in the Rumah Langit Community, a learning house that serves kindergarten to junior high school students from pre-prosperous families in Rusunawa Urip Sumoharjo Surabaya, that is run by Yayasan Generasi Peduli. Since COVID 19 pandemic outbreak, activities and capacities at Rumah Langit have been significantly limited, while learning assistance is still very much needed. Regular volunteer activities were stopped as part of health protocol implementation. However, re-arrangement of the layout and supporting furniture has not been done properly. Coordinator of Rumah Langit took separator as the only approach needed. Whereas, on market separators were not space friendly and storage systems to make sure variation of activities were still not properly provided. Therefore a better design approach is expected to come from deeper understanding and on site observation run through community engagement path in design thinking method.

2 METHODS

This research is conducted in a qualitative method with a deep observation approach. The observation was aimed to analyse each stage of the design thinking process and what potential aspects to be set as assessment tools to measure the success of this activity (community engagement) in coming years.

In depth observation of design thinking methodology was seen as a logical approach to understand the journey and reasoning for each activity held and each object designed in order to engage and empower a community. Dorst (2011) formulate the reasoning principles that are commonly found to solve a problem (see Table 1).

Table 1: Basic Reasoning Patterns.

What (thing)	How (working principle)	Leads to Result (observed)	Situation called as
v	v	v	Basic
v	v	?	Deduction
v	?	v	Induction

However, oftentimes, in design and other productive professions, the equation changes. In that, the end now is not a statement of fact (observed result), but the attainment of a certain 'value' (Dorst, 2011). The condition often met by designers is they are required to create a design that operates with a known working principle, and within a set scenario of value creation. But a more complex situation occurs when designers were put at the start of the problem solving process by only knowing the end value expected. So the challenge is to figure out 'what' to create, while there is no known or chosen 'working principle' that can be trusted to lead to the desired value (Dorst, 2011).

This is the situation met at the Rumah Langit Community Engagement program as the first humanitarian project adopting the Independent Learning Curriculum in our campus. Approaching humanitarian action through design is dependent on deriving insights about the end user, and on understanding the relationship between multiple stakeholders, and how they influence each other and the objectives they are striving towards. The goal of this research was to improve understanding; and to determine the purpose of design within humanitarian action (Nielsen, 2017). This has become the base on why design thinking may come as a relevant research approach for this learning project.

Design Thinking is a design methodology that provides a solution-based approach to solving problems. It's extremely useful in tackling complex problems that are ill-defined or unknown, by understanding the human needs involved, by re-framing the problem in human-centric ways, by creating many ideas in brainstorming sessions, and by adopting a hands-on approach in prototyping and testing (Dam & Siang, 2021).
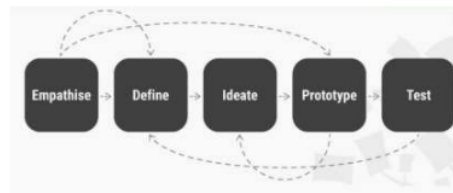

Figure 1: Design Thinking Diagram (Dam & Siang, 2021)

The design thinking approach used in this research is the 5 stages of design thinking. The following are the design thinking stages, methods, and objectives that will be carried out in this research:

Table 2: Design Thinking Methodology Applied in This Research.

Design Thinking Method	Intended Activity	Aim
Empathize	● On site observation and informal internship ● In depth interview	Understanding and formulation of site, potentials, problems, needs, activities
Define	● Affinity Diagram ● Concept making	Problem statement and programmatic conceptual
Ideate	● Brainstorming ● Schematic Design ● FGD	Initiate interior and product design, busy art box
Prototype	● Model experiment ● Construction test	Real product prototype ready to function
Test	● Functional test ● Aesthetic test	Product acceptability and ease of use Evaluation formula for further development

This research observed 2 interior design final students as a pilot project in their effort to complete the Community Engagement program. Community

Engagement students will carry out their activities in 2 stages of activities, namely redesign and creative activity training. Redesign will be carried out simultaneously with the design thinking stage by providing virtual assistance with in charge supervisors.

Field coordination was done in a hybrid method while Focus Group Discussion (FGD) will be carried out offline. On-site FGD will involve 2 active site coordinators and 5 permitted children while doing tutorial activity. These are the maximum numbers of allowed participants. The participants of FGD will be the remaining active volunteers in Rumah Langit consisting of one coordinator from Generasi Peduli, one main volunteer who is also occupant of rusunawa, and 5 children from age range of 4th grade to junior high school. The remaining active volunteers represents volunteers in general, the volunteer whom also live in rusunawa also represent building manager as per assigned by the chairman of the household, and the 5 children in higher stage of age were selected by the Generasi Peduli and Rumah Langit as they are well articulated and communicate well on their opinion. Their role during FGD will be as per usually done by which they will act and respond to furniture and design casually and freely before discussion were conducted. In the second stage, by using data gained from FGD creative activity training will be carried out in the form of on-site workshops with the recognition of health protocols.

3   COMMUNITY ENGAGEMENT

The challenge faced by universities in curriculum development in the Industrial 4.0 era is to produce graduates with new literacy abilities, namely data literacy, technological literacy, and human literacy who have a noble orientation. The curriculum, known as Independent Learning Curriculum (Kurikulum Merdeka Belajar) is intended to realize an autonomous and flexible learning process in higher education so as to create a learning culture that is innovative, non-restrictive, in accordance with the needs of students. This policy also aims to increase link and match with the business world and industry (Suryaman, 2020).

Community engagement pedagogy is one approach that combines learning goals and community service in ways that can enhance both student growth and the common good. Typically, community engagement is incorporated into a course or series of courses by way of a project that has both learning and community action goals. This gives students experiential opportunities to learn in real world contexts and develop skills of community engagement, while affording community partners opportunities to address significant needs (Bandy, 2016).

Kerissa Heffernan (in Bandy, 2016) states there are six general models of community engagement teaching, those are:

- Discipline-Based Model
- Problem-Based Model
- Capstone Course Model
- Service Internship Model
- Action Research Model
- Directed Study Additional/Extra Credit Model

In this final project, the community engagement scheme shifted from problem based model into service internship model. Problem based model was the scheme often used in pre design studios conducted in service learning based. According to Kerissa Heffernan (in Bandy, 2016), this scheme expect students to relate with the community much as "consultants" working for a "client." Students work with community members to understand a particular community problem or need. Problem based model presumes that the students have or will develop capacities with which to help communities solve a problem. In this model, students commonly will act as giver due to restricted time for empathizing methods and more in design development by focusing only on design problems.

Meanwhile, the service internship model proposed for final year implementation in community engagement path, offered deeper understanding and possibility to expand students' skill that by the end of the program was expected to empower the community they served. This approach asks students to work in a community setting (ideally as many as 10 to 20 hours a week). As in traditional internships, students are charged with producing a body of work that is of value to the community or site. However, unlike traditional internships, service internships have on-going faculty-guided reflection to challenge the students to analyze their new experiences using discipline-based theories. Service internships focus on reciprocity: the idea that the community and the student benefit equally from the experience (Bandy, 2016).

4 RUMAH LANGIT

Rumah Langit is a learning house program in one of the flats in the center of Surabaya, namely Rusunawa Urip Sumoharjo Surabaya. This flat is inhabited by pre prosperous families. Rumah Langit uses one of the flat units to carry out free all-day tutorials led by a coordinator and volunteers from the Yayasan Generasi Peduli. This tutoring accommodates activities for kindergarten to junior high school students.

Until early of 2020, Rumah Langit operated with approximately 42 children. Unfortunately, the COVID 19 pandemic has significantly limited activities and capacities at Rumah Langit, while learning assistance is still very much needed and even more so when schools go online. In addition to functioning as a place of learning, Rumah Langit also functions as a forum for children's activities, which is currently not optimal because it only accommodates learning activities and does not accommodate the development of other interests, especially in the art, that are quite desirable.

In regards to COVID 19 conditions, the implementation of the threefold missions of higher education, especially community service, has been challenged since it generally requires direct interaction. Virtual learning also becomes a challenge, especially for the pre-prosperous who have limited space, access to knowledge, and access to cyberspace.

Figure 2: Rumah Langit Situation.

5 RESULT AND DISCUSSION

Community Engagement is designed to focus on human literacy which has a noble orientation. This path is carried out continuously for 2 semesters at the 1 last year off campus opportunity. At community engagement final projects, students are required to engage in a community and make a project that will empower the community and enable it to support itself even when the final project has finished.

The result to be discussed in this paper will be described by stages of design thinking methodology they carried out in. However, by the time this paper was written, the design thinking process may have just finished the prototype stage and entered the early test stage. Therefore, the discussion on the design thinking stage and how each stage is conducted will be carried out until the prototype stage at the construction test only.

5.1 Empathize

The first stage of the design thinking process is to gain an empathic understanding of the problem we are trying to solve. Empathy is crucial to a human-centered design process as empathy allows designers to set aside their own assumptions to gain insight into users and their needs (Dam & Siang, 2021).

This stage was conducted the longest as initial understanding of community engagement models expected is different from usual community engagement implemented in service learning classes done previously. Understanding (sense-making) and purpose are central in design thinking (Nielsen, 2017). As students are given more flexibility in time and attendance, the community engagement model is expected to shift from problem based model to service internship model.

Initial discussion with management of Rumah Langit and Generasi Peduli was done virtually. Project overview, community profile, and facilities needed were communicated. To gain deeper insight of the occupants needs and the community potentials, direct observation, interviews, and field measurements are still necessary to be done directly.

Figure 3:Observation in Rumah Langit.

This stage is crucial to be conducted physically and directly, since dealing with a community, we may encounter many possibilities of implied needs. In this stage students were forced to practice communication skills, sensitive to capture surroundings potentials, to be selective of information received from virtual meetings, and to be open for other possible change of plans. Information received from virtual meetings with Generasi Peduli consisted of brief explanations or Rumah Langit, activities involving volunteers under Generasi Peduli, their need of acrylic separator to protect the children and volunteers, and arrangement of contacts for further observation and design activity needed. In order to gain those insights and datas, students got their hands on volunteering for a few meetings.

First meeting on site was done by having an interview with the chairman of the household, Rumah Langit coordinator, PIC from Generasi Peduli for Rumah Langit, and a few residence representatives. The students were expecting to find potentials in residence to be invited for collaboration for their learning house. Unfortunately, adults' responses were lacking, as well as the chairman of the household support was minimal and returned all data requested to be achieved from Rumah Langit coordinator only. However, at this stage, the students found that children in Rumah Langit were very enthusiastic. Apart from academic learning conducted routinely in Rumah Langit, the children also developed very well in art (see figure 4).

Contrary to previous service learning or final projects that mostly deliver conceptual design with less human centric design due to time constraint in group interaction, community engagement done in Independent Learning Curriculum for final year students provide enough time to lengthen the empathize stage and to conduct in depth interaction individually. During the empathic stage, the students found that Rumah Langit not only needed just any acrylic separator, but also a storage system as well as play and learn objects.

Figure 4:Few Art Activities Done in Rumah Langit.

To collect data of building orientation, needs, building regulation especially in interior related works, and gain insight of design preference on site through interview, casual discussion, and routine interaction from zero was the hardest part for the students. To shift from project based paradigms that focus only to deliver a conceptual design to meet the needs of a community, into service internship that require closeness to blend in the community and be able to deliver a design that gives the community an opportunity to grow independently post program is such a game changer.

In this stage, the challenge to shift paradigm was not only faced by the students but also by the supervisors, not to mention lack of adult community member support that making the community involvement usual plan is no longer possible. Therefore, frequent communication and to discuss closely with the final project coordinator, who holds the mapping of curriculum transformation for particular subjects, is found to be necessary. At this stage, service internship sessions are used to observe, interview, and collect data as well. Supervisors are assigned to broaden how students will view community service that is engaging and empowering, not just to give. Hence, at this stage, populist communication skills can be assessed. By the end of this stage, students were able to arrange data collection, but yet define the problem and conceptual problem solving.

5.2 Define

Define stage is when we put together the information gathered during the empathize stage. In stage, analysis and synthesis were made to define the core problems that will be presented as a problem statement in a human-centred manner (Dam & Siang, 2021).

Problem seeking method used in this research is by using affinity diagrams. Scattered on site data was compiled and analyzed with affinity diagrams to gain the bigger picture of current problems, potential occurring problems, needs, determine goals, and state the main problem to be solved within a given time frame. The affinity diagram was then presented in table. The conclusion of this table should be a problem statement.
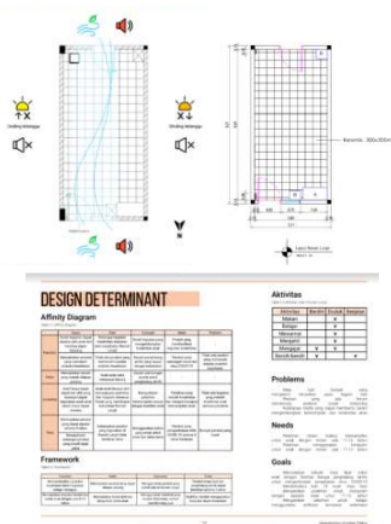

Figure 5: Example of Data Analysis.

Through analysing the collected data and mapping them in an affinity diagram, students understand the potentials and shortcomings at Rumah Langit to define their needs, problem to face, and programming their needs in interior related matters and activities. Design approaches were made with consideration of environmental condition, user characteristic, and estimation of usage duration.

From mapping the data, facts, expectation, needs, site condition, timeframe, and economic value for realisation and maintenance in an affinity diagram, the students are then able to state the problem in Rumah Langit to solve. The facts are Rumah Langit

learning house serves children with a wide range of age, the children have interest in arts, mostly have kinesthetic ability, they are able to play independently in groups of 2-3 in usual context pre-pandemic, and the facility has a very limited space available. However, any facility tends to face problems of durability due to usage by different excites children. Volunteering activity was expected to happen even ini limited batch of children.

By those facts, Rumah Langit not only needed just any acrylic separator, but an acrylic separator that was compact, enabled interaction, and easy to store. Rumah Langit also needed renovation on existing damaged folding tables to accommodate tutoring activities and skill development, storage for folding tables, storage system for teaching materials and tools, and art training, and also a play and learn objects. The programmatic concept brought then was to make use of a vertical plane so that it won't obstruct teaching and learning activity, and to incorporate a simple Montessori method into the design. Due to lack of adults' responses, the community to engage and empower will focus on the children and the volunteers.

Define stage is closely related to emphasize stage. So, these 2 stages are possible to be assessed altogether by assessing their communication skill and sharpness of analysis. These two points may need a supervisor's accuracy in reading the data and confirmation.

5.3 Ideate

At this stage, ideas are generated as much as possible. There are hundreds of ideation techniques, brainstorming sessions are typically used to stimulate free thinking, out of the box ideas, and to expand the problem space. It is important to get as many ideas or problem solutions as possible at the beginning of the Ideation phase (Dam & Siang, 2021).

Figure 6: Example of Ideation Stage.

Brainstorming, mood board discussion, and schematic designs were discussed online with supervisors. Each student made 5 design alternatives, brought them for discussion with supervisors, and got them selected into top 3 (figure 6). Selected design alternatives were then delivered in FGD mode with volunteers coordinator and some students in Rumah Langit to gain broad insight and suggestions.

First FGD carried out by showing design renders in casual discussions while carrying out activities as usual to get an honest opinion on design interest, material selections, activities to cater. After the first FGD, selected design or designs will be developed for another 3 alternatives to be discussed with tutor regarding design, brought to wood and materials laboratorium regarding realisation possibility, and selected 1 to be made the 1:1 mock up.

Figure 7: Example of Renders Brought in Discussion.

The second FGD was conducted in free discussion by putting a mock up in the middle of the group to observe their interest, trial for usage, possibility of product ease of use understanding, and testing of the ergonomic body movements on complaints and what was expected (figure 8). The activities made at the mock up voluntarily or directed were documented for further analysis as well as any inputs or jokes on potential problems.

Figure 8: Trial with 1:1 Mock Up.

In this stage as well, students were looping back to empathize and define phases as new data such as renovation permits and work restrictions were informed. Students also did a test on possible art activity that children of Rumah Langit were interested in and possible to be combined with the storage design later on that may bring additional economic benefits. The activity chosen was macrame making. The storage design will be done vertically, flexible to assemble in various combinations as per needed for tutorial activities, and incorporate simple montessori in it (figure 8).

Figure 9 : Macrame Making Activity.

At this stage, students did their discussion with the supervisors virtually and visitation to Rumah Langit was lessened. In exchange, they were required to think of the production stage and budgeting that often missed out on the on campus learning process. Discussion with supervisors mainly to ensure each needs were met, schematic design alternatives were well understood, and to give advice on possible realisation to enter prototype stage. Assessment at the ideation stage is proposed to be combined with the prototype stage.

5.4   Prototype

After ideation design alternatives were chosen, the next step was to test the 1:1 prototype on construction durability. This is an experimental phase, and the aim is to identify the best possible solution for each of the problems identified during the first three stages. The solutions are implemented within the prototypes to be further investigated and examined. By the end of this stage, the design team will have a better idea of the constraints inherent to the product and the problems that are present, and have a clearer view of how real users would behave, think, and feel when interacting with the end product (Dam & Siang, 2021).

The prototype was made with a hybrid method between student designers and furniture contractors. Direct meetings were conducted to explain the design, discussion, and agreement on the working process (figure 10). Virtual updates were sent by the contractors to the students simultaneously (figure 11). Update on working progress delivered to supervisors virtually. Prototype was then tested before it went into the finishing stage and delivered to Rumah Langit to be re-examined, evaluated, and repaired for any minor adjustment before finals (figure 12). After the prototype is coated and finished, designers should test the joints and

configuration before shipping to Rumah Langit for further testing (figure 13).

Figure 10: Direct Meeting and Updates Videos

Figure 11: Virtual Updates Through Videos

Figure 12: Prototype Ergonomic and Construction Test
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Figure 13: Joint, Finishing, and Configuration Test.

At this point, discussion with supervisors may only be to share progress. Students are encouraged to explore workshops, the construction market, and lead the production process. Visitation to Rumah Langit was done as the prototype was ready to be tested.

Ideate and prototype assessment shall look deeper into suitability of design with location, ease of use, and design capabilities to become the answers to the needs on site. However, the test stage (that hasn't been done yet by the time this paper is produced) shall put user's feedback and willingness of designers to adjust their design to meet the needs seriously by giving it higher credits than just as evaluation for future design. In the community engagement path, the "future" is now and the spirit of engagement is shown by immediate wise action.

These stages were often skipped in the previous curriculum which then cut students' opportunity to experience the full range of design thinking process. Oftentimes, in the previous curriculum, the final project studio was finished at prototype stage as technical drawing ready to produce or as far as the first stage prototype due to limitation of time and administrative reasons.

Unfortunately, due to time constraints, by the time this paper was written, the stages were not yet finished to be conducted and reviewed. Up to prototyping stage, the interaction between the final year students and Rumah Langit community was still up to design realisation. The engagement was still limited to achieving the final products. The empowering itself was still unable to be investigated. Ideally, it will take another minimum of one semester to really judge whether the engagement was really empowering. Therefore it is good to have a third party that actually runs the community to maintain what has been designed, when the community engagement is done for the final year project. In this context Generasi Peduli has run the Rumah Langit learning house before the community engagement students came to learn. Hopefully whatever the design and training incorporated in it will keep running after the program ends.

6 CONCLUSIONS

The community engagement program conducted in accordance with the Independent Learning Curriculum (Kurikulum Merdeka Belajar) has brought significant shifting in understanding community engagement for students and lecturers. With one year off campus provided in the new curriculum, as well as expectations of human literacy implementation and emphasis to bridge academic to real life experiences, accelerated learning processes were forced to be enabled.

The practice of first community engagement for the final year project with service internship model was still far from perfect. It was lacking in collaboration with the community and understanding of empowerment from the students and supervisors. The students and supervisors were still anxious by the requested outcome of empowerment that opened for intangible outcomes, but the assessment scoring system still called for products of interior elements. To ensure better practice of this path, new assessment aspects are needed.

Independent Learning Curriculum may not offer a whole new method for design students, or for any other skill based programs, to learn and practice their skill, as well as to graduate. However, this curriculum may disrupt the long stable threefold missions of higher education. It may force acceleration in teaching and learning, as it will also call for collaboration in applying research and community service. Since this curriculum is still newly launched, there are still so many rooms for improvements on the field particularly in assessment aspects.

In terms of assessment, some aspects are needed to be reviewed. Conventional assessment with singular instruments may not be suitable to facilitate a wider range of learning paths. Suggested stopping points to review and their assessment aspects are as per follows:

Table 3: Assessment Points Proposal.

Stage	Output	Assessment Points
Empathize	Understanding and formulation of site	• Communication skill • Sharpness of analysis • Presentation
Define	Problem statement and programmatic conceptual	
Ideate	Design alternatives, mock up	• Design suitability • Ease of use • Solutive design
Prototype	1:1 prototype	
Test	Product acceptability	• Users' respond • Users' understanding of design • Feedback action

Nevertheless, this research was just made to observe the first batch of final projects using the Independent Learning Curriculum (Kurikulum Merdeka Belajar) in practicing community engagement. There are still rooms for improvements and study to be done in the coming years and other fields of study to complete and enrich the assessment instruments. With many possible paths and flexibility given, it is possible to have no definite key to assess every variation of situation. There also needs to be examined on how students may differ to approach the community when they mix the path of learning for each semester or stay in one path for consecutive semesters.

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