

# **Redesign of Active Learning with Using Digital Tools to Develop Student Soft Skills**

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## **ABSTRACT**

Use digital tools insight into lecturers' experiences with students' perceptions of active learning approach in new norm education system. This experiences include elements of enjoyment, motivation, satisfaction, engagement, distraction and participation in teaching and learning session. Student reflection data identify best practices for activities and strategies to promote redesign in pedagogical practices for student soft skills performance. This study was conducted among purposive sampling (n=239) using the limited digital tool to apply. Mixed data quantitative and also qualitative analysis in case study shows that active learning method have a positive impact among lecturer and student to integrated with improvement in many or others way. Active learning with new approach after redesign in course can be used as an alternative for teachers in implementation of Teaching and Learning session toward enhancing student's soft skills mastery.

*Keywords: Active Learning, Digital Tools, New Norm, Redesign, Soft Skills, Pedagogical*

## **Introduction**

Active learning is the determination of learning outcomes or outcome learning using certain activities as an intervention. According to the implications of Active Learning (AL) model by local university in Malaysia are tested from the aspect use of planned activities involving students in or outside the classroom actively compared to the implications of the use of existing Teaching and Learning (T&L) activities (Asmawati, 2019). The definition of active learning in the context of this study refers to activities that are planned at the beginning of the teaching session and implemented during the learning process takes place individually or in groups.

Teachers or instructors who also act as facilitators or moderators must plan to provide appropriate input for T&L activities in the classroom. Effective T&L will be able to trigger discussion among students as well as stimulate their thinking to be able to think at a higher level

(Asmawati et al., 2018). Input can be varied depending on the title or chapter being taught. The suitability of the input depends on the wisdom and creativity of the teacher so that the input provided can attract the interest and attention of students. Input will go through a process of transformation as T&L activities take place in the classroom.

Teachers should use a variety of methods and pedagogical techniques appropriate to the learning and the topic being taught so that students can be actively involved. Through this process students can go through actively when there are activities of synthesis analysis, evaluation, comparing differences, testing and validating ideas, constructing concepts, solving problems and decision making. These activities in active learners require interaction between students and teachers as well as students with students. The results of the process will be obtained in the form of folios, reports and papers in written form or views, summaries, ideas in oral form. Students will also be able to perform real actions through demonstrations when the transformation process goes well.

Soft skills are the most important and very significant factor in measuring the marketability and employability of graduates. Thus, graduates need to strengthen soft skills to address the issue of marketability and employability of graduates (Rozita & Langkan, 2018). This current issues in global world for active learning and soft skill elements also discussed in Abdul Talib & Asmawati (2022) which are increased the awareness of teaching staff to conduct a more effective course design to improve soft skills among students.

Soft skills are important skills among educators, especially trainee teachers so that they can adapt quickly and be able to face challenges in the workplace. Meanwhile, the integration between the elements of these soft skills will be able to produce teachers who are smart to communicate, smart to adapt to the environment and able to translate these soft skills to make a meaningful contribution to the school in particular and the world of education in general.

## **Literature review**

### *Learning and soft skills*

Suitability of determining the approach, methods, techniques and strategies that are being applied in teaching and learning session is closely related to curriculum implementer. Academic lecturers not only determine the design and development of elements contained in the subjects but also they act as the assessor and examiner of the learning outcome. The implementation of active learning is one of the elements in 21st Century Learning concept. This research used qualitative methodology with interviews and observation among matriculation students. The data of semi-structured interview were analysed in verbatim while the observation is being done using checklist form. Generally, the finding of this study shows that active learning activities are suitable to be applied especially in etiquette practical at the dining table, event organization, interview session and public speaking. The learning outcome of these activities was also assessed to develop generic skills from students' and lecturers' perspective (Asmawati et al., 2018).

According to Asmawati (2019), construction of results -based educational instruments of general studies courses in the matriculation program curriculum based on Outcome Based Education (OBE). OBE is one of the best approaches to see learning that also facilitates the Teaching and Learning (T&L) sessions of the lecturers. This study aims to build an assessment practice instrument to assess the level of mastery of students' skill elements from self-perception, peers and lecturers. The level of mastery of skill attributes is categorized into five namely (1) very

low; (2) low; (3) simple; (4) high and (5) very high. Outcome-Based Education or OBE courses and programs involve the statement of items for the construction of communication skills, teamwork, information management, lifelong learning and transferable skills. The construct and definition were constructed as a result of structured interviews on five lecturers in the field of specialization. The findings show that the instrument has high validity and high reliability values as well as the measurement scale can be understood by students. Accordingly, the implications of this study enable students to make self-assessment, peer-to-peer and are reinforced by the practice of assessment by lecturers in the matriculation program curriculum.

There have seven soft skills elements; communication skills, teamwork, leadership, critical thinking, problem solving, information management and ethics & morals (Asmawati, 2019). Pre-tests are prepared by the researcher together with the teacher for the subject of General Studies. Pre -tests were given to the study sample only to see the level of students' an existing behavior in the General Studies subject or before the active learning session began. The same techniques and methodologies were also used in the post -test. Therefore, the pre -test can be controlled from influencing the dependent variable that is the level of mastery of soft skills and also the changes in student behavior observed in this study. Justification for the selection of General Studies which is a compulsory subject that must be taken by all candidates

Sequence of Objectives and Learning Outcomes with elements of human skills and objectives of learning outcomes are defined as Ministry of Malaysia Education cited in Asmawati (2019) as:

- Communication skills: Can communicate orally and in writing effectively
- Teamwork: Able to manage time according to a set work schedule
- Leadership: Strive to increase self -confidence and motivation
- Critical thinking: Able to produce assignments creatively and innovatively
- Problem solving: Able to solve problems
- Information management: Able to conduct quantitative and qualitative research scientifically
- Ethics and Morals: Able to conduct research honestly, trustworthy, ethically and flexibly

Level of Mastery of Learning Skills elements of human skills or soft skills elements and learning skills are defined as;

- Communication skills: Ability to listen and communicate orally and non -verbally as well as in writing. Have motivation, initiative, self -confidence and desire to succeed.
- Teamwork: Ability to agree, collaborates, negotiate and can be a team member.
- Leadership: Ability to encourage, guide, support and help to achieve something while having work distribution skills.
- Critical thinking: Ability to identify, analyze, infer and evaluate information or events.
- Problem solving: Ability to use all problem solving skills, have the attitude to succeed as well as the skills to organize and manage time.
- Information management: The ability to acquire and apply knowledge, learn to find and use resources to aid learning, be aware of the importance of skills to meet changing needs as well as acquire a high level of competence.
- Ethics and Morals: The ability to use a variety of skills and be enterprising enhances self-discipline to succeed.

*Digital tools*

The design and development research (DDR) of e-Portfolio studied by Asmawati et al. (2018) is part of the procedure using the ISD Model (instructional system design) by rapid prototype. Mastery the elements of Information and Communication Technology (ICT) skills among lecturers and students should be implemented throughout the lifelong learning (LLL) process. Needs analysis among students and lecturers found that cost -increasing factors were less effective as a major contributor. Accordingly, the design and development of e-Teaching and Learning (e-TnLP) prototypes is one of the alternatives that combines the three types of e-Portfolio.

The implications of this design and development provide cost savings, time, an energy and storage space, especially to the management of the institution, lecturers and students. It turns out that access to this e-Portfolio documents is quite easy and can be accessed regardless of time in various locations by any personnel in need (Asmawati et al., 2018). Curriculum elements focused soft skills only involve communication specialization in information management only. However, this study has not been tested in terms of its effectiveness on the level of mastery of soft skills among teachers and students.

*Research questions*

To approach and explore the experiences among of lecturers and students, two main questions guide the development of this case study research, these are:

- Q1. How to redesign of active learning with using digital tools to develop student soft skills?
- Q2. What effect do redesign of active learning using digital tools have an evaluate for student soft skills development?

**Research methodology**

This research paper is a case study approach in once of college in matriculation program for purposive sampling among student and lecturer. This study also uses a qualitative and quantitative approaches protocol through online survey for student's perception followed by an entrance and exit course online survey form. An observation with check lists also used before and after redesign of active learning using digital tools among matriculation students and lecturer in T&L session. The participants in this surveys and support by an observation were the five lecturers and students are participated in this research. The courses are divided into five classes with totally 339 participants among students.

*Procedures*

- Retest and explains about 4 steps to redesign of active learning with using digital tools to develop student soft skills by qualitative phases with need analysis supports and readiness by lecturers to implementation AL by selected sub topic in T&L session.
- Data collecting and analysis for student's perception of Active Learning Perception among 100 samples.
- Data collecting and analysis for student's entrance and exit course online survey form among 239 samples.
- Check list observation form Before and After Redesign AL based on elements of soft skills.

### Measures

- Procedures for redesign progress in Active Learning Pedagogy based on framework practices in curriculum and teaching, need analysis among 5 lecturers, percentage levels of Readiness Among Lecturer and redesign of all in curriculum and subject context.
- Total means average by student's perception survey context.
- Descriptive Statistics of the Survey Performed for the Students about Entrance - Exit Course.
- Comparison and summary for qualitative phase based on check list observation.

Reliability and validity for qualitative mixed quantitative phase are measures by test and re-test with also triangulation concepts.

### Results

- How to redesign of active learning with using digital tools to develop student soft skills?

There are 4 steps to redesign of active learning with using digital tools to develop student soft skills. First step using digital tools by e-Portfolio and e-Resume to develop student soft skills based on framework practices. Figure 1 below shows the reversion from down to top cone from Concrete Directly Experiences to Demonstration. While the 2<sup>nd</sup> step followed by participate in a hands-on in virtual classroom to Direct Purposeful Experiences among student.

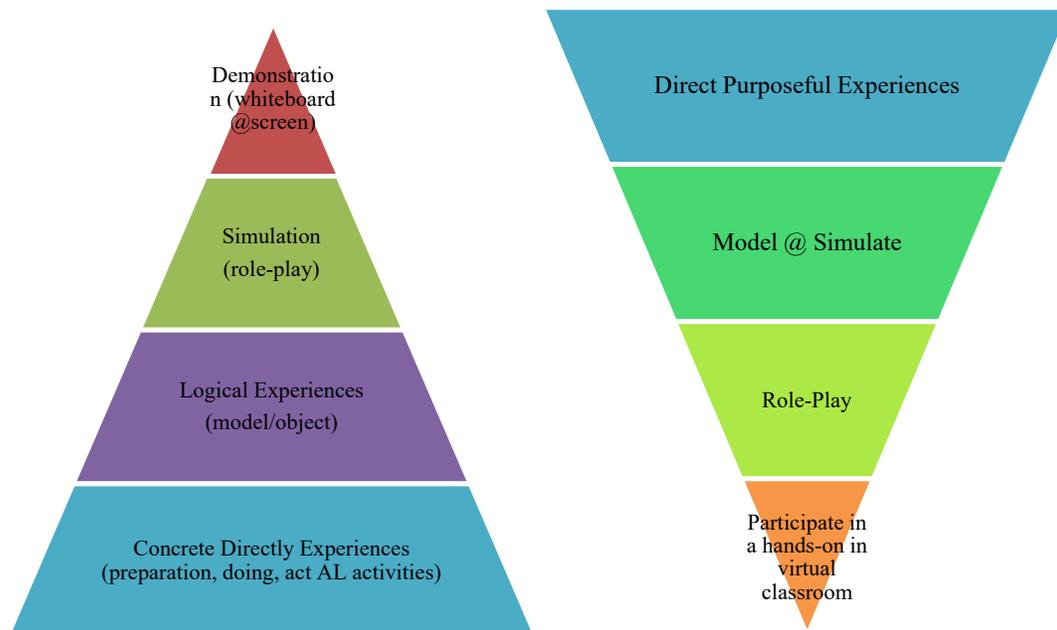


Figure 1. *Redesign Framework Practices for Cone of Experience Theory by Edger Dale, 1969 and Asmawati et al., 2018 in curriculum and teaching*

2<sup>nd</sup> procedures with semi structured an interviews one to one among lecturer between 15 till 30 minute each session for need analysis based on Table 1. All the five lectures are agreed that requirement necessary for design and development with important accepted of Active Learning in Teaching and Learning session.

*Table 1. Needs Analysis for the Redesign and Development of AL Personnel Consent Statement*

Lecturer I: Design & Development Requirements Necessary, an important in language necessary with accepted
Lecturer II: Importance of Design Needs & Development History Necessary Important and also accepted
Lecturer III: Design & Development Requirements Necessary in General Studies Important & Acceptable Interests
Lecturer IV: Design & Development Requirements Necessary in Malay and English Language Importance also Acceptance
Lecturer V: Design & Development Needs Necessary, Significant & Acceptable Interests

3<sup>rd</sup> steps to redesign of active learning with using digital tools to develop student soft skills refers on Percentage Value (%) Achievement Score of Soft Skills Elements Mastery Level Based on Observation Scale by check list guidelines among lectures. This Percentage Value (%) of Achievement Score of Interpretation Description (Skill Mastery Level) in Table 2: Students have elements of soft skills

- 0 - 20%: Very Low (VL);
- 21 - 40%: Low (L);
- 41 - 60%: Medium (M);
- 61 - 80%: Height (H);
- 81 - 100%: Very High (VH)

*Table 2. Comparison of the Levels of Readiness Among Lecturer for Redesign of Active Learning Using Digital Tools with Resume Interactive and E-Portfolio based on revision by Asmawati et al., (2018) & Asmawati, (2019)*

Levels	Motivational (%)		Cognitive (%)		Behavioral and action (%)	
	Before	After	Before	After	Before	After
High	45	55	35	65	40	60
Medium	40	60	30	70	35	65
Low	30	70	25	75	20	80

4<sup>th</sup> steps are redesign of all in curriculum and subject context which is limited scope for only in General Studies Course in Matriculation Program. Curriculum design will determine the arrangement of sections in the curriculum also based on (1) goals, objectives and objectives; (2) content; (3) learning experience; and (4) an assessment approach. The curriculum component in curriculum design emphasizes on what to do, the content of the subjects to be included, teaching strategies, resources and use of activities as well as methods and use of tools to determine curriculum achievement (Abdul Rahim Hamdan, 2007 cited in Asmawati, 2019). The interactive use of resumes and e-portfolios can be extended in the teaching of subtopics in the Matriculation General Studies Course Semester lesson plan.

*Table 3. Comparison Between Unit Components of the Lesson 1 (Communication) and Lesson 2 (Citizenship)*

Unit Components	Lesson 1 (Communication)	Lesson 2 (Citizenship)
Lesson Objectives	✓	✓
Knowledge Source	✓	✓
Problem Solving	✓	✓
Learning Strategy	✓	✓
Assessment	✓	✓

- What effect do redesign of active learning using digital tools have an evaluate for student soft skills development?

### *Quantitative data*

This quantitative data in case study research collected by combination of student's perception of Active Learning Perception among 100 samples with combination of an entrance and exit course online survey form among 239 samples. Based on Figure 2: Students' Perception of Active Learning Approach Experiences refer to instruments yield quantitative data from close-ended questions with ratings for enjoyment, motivation, satisfaction, engagement, distraction and participation. These data are generally analyzed to compare pre-, current and post-tests for min averages frequencies.

All items were rated on a 6-point scale (1 = very strongly disagree; 3 = moderate or neutral and 6 = very strongly agree) where noted with Figure 2 below. Statistics in Figure 2 indicate students' high positive perceptions of active learning approach experiences in engagement for pre- (m = 4), current (m = 4.5) and post-tests (m = 5.5). Means values of lower positive perceptions of active learning approach experiences in participation for pre- (m = 2.5), current (m = 3.5) and post-tests (m = 5). References of each variable are modified by researcher team from Soufiane & Mathla (2018). The study combines the use of a questionnaire for quantitative design and observations with interviews for qualitative approaches to ensure greater validity and reliability, seeking the flexibility (Creswell, 2009) and also cross-validation (Patton, 2002) are the main reasons behind the use of a mixed method in this study.

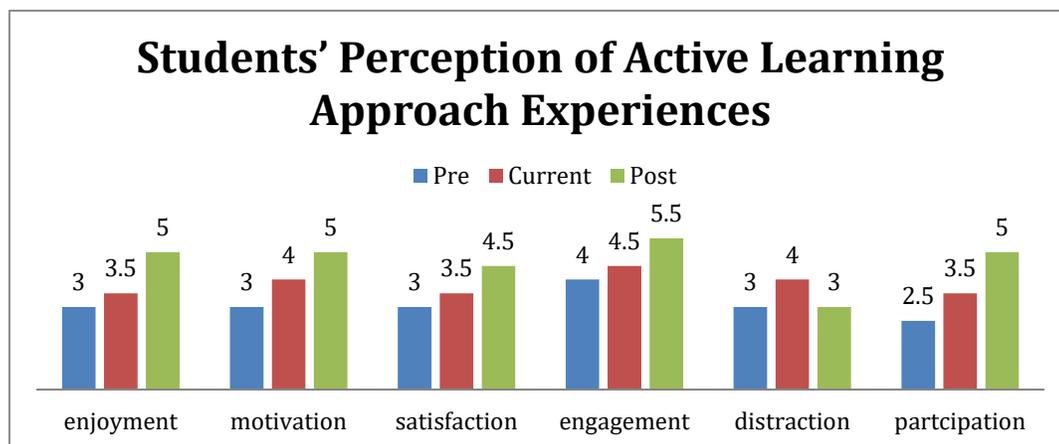


Figure 2. Total Mean Average by Students' Perception (n=100)

Data obtained by online collected from 239 number of students as purposive sampling each tutorial class among five general paper lecturers in one of matriculation college, Malaysia Ministry of Education. The reliability and validity items of the variables were tested and re-tested by Matriculation Division, Malaysia Ministry of Education year by year based on Outcome Based Education (OBE) and Program Learning Outcome (PLO). All the online analysis data in Table 4 are generated by matriculation college system in AppSheet application by an official e-mail.

Table 4. Descriptive Statistics of the Survey Performed for the Students about Entrance - Exit Course

CLO	N	Number of Students According Difference							75th Percentile	Score 75% Students
		Exit – Entrance								
		-3	-2	-1	0	1	2	3		
1	239	0	0	0	0	58	174	181	724	3.76
2	239	0	0	4	8	42	126	193	772	3.79
3	239	0	0	2	4	63	189	174	696	3.72

*Qualitative data*

An evaluates of student learning to measure student engagement as a behavioral indicator using 12 parameters (collaboration, focus, active involvement, opportunity to engage, repeated exposure to material through multiple means, in-class feedback, real-life scenarios, ability to engage, physical movement, stimulation, feeling comfortable to participate and creation of enriching experience) with Active Learning Observation Techniques Application are shown in Table 5.

Table 5. Active Learning Techniques are suggestions in General Studies Courses to apply after redesign

1. Collaboration	Student Learning Communities of practice are meant to invest the participants with ownership and a focus sharing and joint discovery which can be structured or unstructured.
2. Focus	Focuses on a single successful learning experience, on relevant to the current course like autobiographical sketches
3. Active involvement	Students used online services for visual and info graphic (YouTube) to create an information that combines logical personal data and visual presentation in group (Google Meet)
4. Opportunity to engage	Summarize the topic into the sentences that incorporates all who/what/when/were/why/how creatively.
5. Repeated exposure to material through multiple means	Students are given assignments that make use of a given concept in academic and co academics activities personally relevant as participant and their achievement
6. In-class feedback	Write brief notes answering the what/how/why question when analyzing a message or text as outlines and give feedback on their assignment and also evaluate as learning tools.
7. Real-life scenarios	Students discuss in class or online platform (Telegram/WhatsApp) how a topic and concept related to real-life application or innovation product and write about the topics.
8. Ability to engage	Students explain what they are learning and evaluate the fairness, usefulness and quality of resume and portfolio as digital tools.
9. Physical movement	Feel more connected to each other Feel more connected to lecturers (Talbert & Mor-Avi, 2019)
10. Stimulation	Students make a video of themselves performing the assignment; as they will take it more seriously - be more likely to avoid mistakes
11. Feeling comfortable to participate	Group-work evaluation with questionnaire asking how effectiveness in the classroom
12. Creation of enriching experience	Students write a brief short answers and draft in which they can measure to what extend their work full fills an assignment objective to build video resume and e-Portfolio.

(Source modification: Scott-Webber et al. (2014) in Talbert & Mor-Avi (2019) with 226 Active Learning Techniques by IOWA State University)

- *Comparative Analysis of Teamwork Element Observation Data Between Before and After Redesign based on elements of human skills*

Team-work code: inf1/pm (1) /kmph/04

- Students cooperate with each other and are responsive or engage in moderately active group activities.
- Student-oriented activities that give them the opportunity to discuss and express opinions.
- T&L materials can stimulate students to collaborate with each other.
- Readiness of students to begin team work activities at an intermediate level.
- Relationships between students are moderately friendly.
- Students cooperate with each other and are responsive or actively engage in group activities.
- Student-oriented activities that give them the opportunity to discuss and express opinions.
- T&L materials can stimulate students to collaborate with each other.
- Successfully create the readiness of students to start work activities in a team.
- Relationships between students are friendly which is show a sense of mutual respect
- Conducive learning environment-activities run harmoniously and students are active.

Qualitative research methods including learning environment observations and student surveys were employed to collect data same as in this studied. Results indicated that iterative analysis, design and evaluation of the created blended learning (BL) course provided an opportunity for the researchers to find applicable solutions to any real-world problems that the instructor faced in the course. Besides, the design and implementation of BL led the instructor to shift from a passive teaching approach to an active teaching approach and allowed the students to become active and interactive learners through the process of three iterative design cycles (Ahmet & Monica, 2019).

- *Comparative Analysis of Critical Thinking Element Observation Data Between Before and After Redesign AL based on elements of human skills*

Critical thinking code: inf1/pm (2) /kmph/10

- T&L materials used are appropriate to stimulate students to think critically. The activities require students to make reasoning that allows students to make choices, justify answers by justifying answers by giving cause and effect in moderation.
- Various types of questions are posed that are moderately critical in nature that can challenge the minds of students.
- The time given for students to think is sufficient.
- Students show a moderately good response by understanding the concepts and content of the teacher's teaching.
- T&L materials used are appropriate to stimulate students to think critically. The activities require students to make reasoning that allows students to make choices, justify answers by justifying answers by giving cause and effect.
- Various types of critical questions are posed that can challenge the minds of students.
- The time given for students to think is sufficient.
- Students show appropriate responses by understanding the concepts and content of the teacher's teaching.

- *Comparative Analysis of Observation Data of Student Problem Solving Elements Between Before and After Redesign AL based on elements of human skills*

Problem solving code: inf1/pm (3) /kmph/17

- Students can conduct activities, exercises and group discussions to solve problems.
- Students are able to overcome problems that arise in a simple way by giving answers to questions posed, helping weak students, overcoming problems by giving opportunities to students.
- Demonstrates a moderate democratic attitude in accepting opinions and answers with appreciation.
- Students successfully carry out activities, exercises and group discussions to solve problems.
- Students are able to overcome problems that arise wisely by giving answers to questions posed, helping weak students, overcoming problems by giving opportunities to students.
- Demonstrate a democratic attitude in accepting opinions and answers with appreciation.
- The relationship between teachers and students as a whole is at a moderate level by providing opportunities for all students to engage in discussions or answer questions.
- The way teachers and students ask questions and receive answers in a simple way.
- Student responses indicate moderate changes in ethical and moral behavior.
- The relationship between teachers and students actively by providing opportunities for all students to engage in discussions or answer questions.
- The way teachers and students actively ask questions and receive answers.
- Student responses indicate active changes in ethical and moral behavior.

Result based on direct observation of the elements for teamwork, critical thinking, problem solving as well as student ethics and morals, it was found that redesign of AL was able to increase the mastery among students. Observers are the opinion that focused group are able to move compared students' self-learning more actively than students without digital tools applied in T&L. Based on the results of observation using the check list form protocol on the elements of teamwork, critical thinking, problem solving as well as student ethics and morals, it was found that redesign of AL also able to increase the level of development and mastery of students' soft skills.

*Comparative Analysis of Observation Data on Elements of Teamwork, Critical Thinking, Problem Solving and Student Ethics and Morals Between Before and After Redesign AL based on elements of human skills.*

### **Summary of observations**

#### *Before Redesign*

- Students are less an active even if made in the form of simulations, i.e. online forums, discussion, project meeting etc., with moderate response from students. Teachers try to be facilitators but need to use techniques to attract the involvement of all students.

#### *After Redesign*

- Redesign of AL interactive activities e.g. online forum with type discussions are conducted and such methods attract students to be more an active participant in communicating as well

as providing a good interaction throughout the T&L session. Students show an active involvement and are more interested in such activities.

The findings of the overall study show that the level of mastery of soft skills among students can be improved if given design and redevelopment alternatives to AL redesign in new norm approaches. In this regard, AL redesign is not only an innovation in the existing T&L sessions but also can increase the level of mastery of soft skills among students as well as help teachers assess and subsequently evaluate the learning outcomes of soft skills elements applied in the curriculum.

Summary of Overall Observation Data on the Elements of Teamwork, Critical Thinking, Problem Solving as well as Student Ethics and Morals Between Before and After AL Redesign

### **Summary of observations**

#### *Before redesign*

- Students are less an active even if made in the form of simulations, ie online forums etc. Moderate response from students. Teachers try to be facilitators but need to use techniques to attract the involvement of all students.

#### *After Redesign*

- AL activities such as online forum discussions are conducted and such methods attract students to be more active in communicating and provide good interaction throughout the T&L session. Students show active involvement and are more interested in such activities. An evaluation by rubric or score mastery in AL and soft skills

Standards Aspects among Student Engagement T&L for the Overall Soft Skills Elements Criteria with Redesign of Active Learning Using Digital Tools

### **Score description score**

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Score 5 Almost all students are actively involved (90-100%) in learning activities that lead to the achievement of objectives such as discussion or responding to teacher questions/making notes/practical work/making physical movements/teacher instructions.

Almost all students interact actively in various ways such as student with student/student with teacher/student with material.

Almost all students focus on teaching throughout the learning period.

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Score 4 Most students are actively involved (70-89%) in learning activities that lead to the achievement of objectives such as discussion/responding to teacher questions/making notes/practical work/making physical movements/teacher instructions.

Most students interact actively in various ways such as student with student/student with teacher/student with material.

Most students focus on teaching throughout the learning period.

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Score 3 Some students are actively involved (50-69%) in learning activities that lead to the achievement of objectives such as discussion/responding to teacher questions/making notes/practical work/making physical movements/teacher instructions.

Some students actively interact in various ways such as student with student/student with teacher/student with material.

Some students focus on teaching throughout the learning period.

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Score 2 Few students are actively involved (25-49%) in learning activities that lead to the achievement of objectives such as discussion/responding to teacher questions/making notes/practical work/making physical movements/teacher instructions.

Few students actively interact in various ways such as student with student/student with teacher/student with material.

Few students focus on teaching throughout the learning period.

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Score 1 Very few students are actively involved (0-24%) in learning activities that lead to the achievement of objectives such as discussion/responding to teacher questions/making notes/practical work/making physical movements/teacher instructions.

Very few students interact actively in various ways such as student with student/student with teacher/student with material.

Very few students focus on teaching throughout the learning period.

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Percentage Value (%) Achievement Score of Soft Skills Elements Mastery Level Based on Observation Scale with Percentage Value (%) of Achievement Score Interpretation Description (Skill Mastery Level): Students have elements of soft skills

0 - 20%: Very Low (VL)

21 - 40%: Low (L)

41 - 60%: Medium (M)

61 - 80%: Height (H)

81 - 100%: Very High (VH)

Source: Asmawati (2019)

## Discussion

The suitability of determining the approaches, methods, techniques and strategies applied in T&L sessions that are closely related to curriculum implementers have been studied by Asmawati et al. (2018). This research not only determines the design and development research (DDR) study of the elements contained in the subject but also the research team also acts as an assessor and evaluator of learning outcomes or learning outcome. This study implements an active learning approach in active learning is one of the elements contained in the concept of 21st Century Education. This study uses a qualitative methodology through interviews and observations among matriculation students. Semi-structured interview data collection was analyzed verbatim while observational observations used a checklist form. In general, the findings of the study indicate that active learning activities are suitable to be applied in a variety of situations and a variety of T&L topics. The learning outcomes of these activities are also assessed to be able to develop soft skills (generic) from the perspective of lecturers and students (Asmawati et al., 2018). The findings of this past study are relevant for improvement in future follow -up studies including the implementation of this study.

The method is able to improve the quality of teaching lecturers through joint sharing sessions where lecturers can identify students' current level of understanding of critical topics or subtopics, confirm the level of understanding through pre and post-teaching tests and determine the best teaching approach for critical topics or subtopics and specified. Indirectly, the method is able to boost the excellent achievement of students in a subject.

## **Conclusion**

The activity in AL also confirmed the low level of understanding of students for the subtopic through pre-teaching test but the level of understanding can be boosted through the best teaching approach identified through teaching and learning sessions. Those topics and subtopics where digital technology -based teaching methods are highly relevant in today's world of education (Asmawati et al., 2018; Asmawati, 2019).

This study confirmed increases in student engagement over time with active learning in two redesigned classrooms with instruction by an experienced faculty member, but results were inconclusive on whether student engagement in the two ALCs were different. Trends for this instructor, student, and observation data warrant replication or extension studies with larger samples and across other disciplines. Specifically, future studies should explore whether dissimilar ALC design independently impacts the apparent interaction of instructor and student perspectives affecting student engagement.

Soft skills elements identified in this study are technical skills, information technology skills, intellectual skills, interpersonal skills and personal skills through T&L approach can be nurtured in addition to coursework used by teachers in and outside the classroom through continuous improvement while the research context has been expanded by researchers with the initiative to increase the number of soft skills elements to seven elements as well as test the use of active learning fuel on the level of development and mastery of students. There are various elements in soft skills that influence organizational achievement such as communication relationships intrapersonal and interpersonal, self-management and other individuals, mutual emotional understanding as well as high empathy, leadership skills and so on. The findings of the study reviewed also show that soft skills have implications for the achievement of an institution or organization in various fields and should be taken into account given its impact and influence as a whole.

## **Implication**

The researcher suggested that some things to be given consideration that can improve the practice of active learning resigning progress and further master the level mastery of soft skills elements among students such as focus of research topics, extension of research period, different groups of study subjects, different elements and conceptual manuals digital tools likes in e-Portfolio and e-Resume.

The focus of the study topic is not only limited to active learning activities or the use of AL design and development which is specialized not only to the subject of General Studies. Therefore, learning activities for this active can be spread to other subjects. The variety of activities should also be increased in quantity according to the suitability of the time. Even future researchers should consider from the aspect of approaches, techniques or strategies for active T&L. According to Ahmet & Monica (2019), the design and implementation of BL led the instructor to shift from a passive teaching approach to an active teaching approach and allowed the students to become active and interactive learners.

The need to extend the study period until the end of the semester and assessment is reserved for the evaluation of digital education-assisted project papers as opposed to the limited study period and case studies only. The limitations of this study are also limited to the topic of Communication Skills and Citizenship in General Studies, although through document analysis, it

was found that there are various other topics that are relevant, especially for the subject of Business Management. Even an increase in the number of samples and different study locations in addition to designs such as factorial experiments or time series is also suitable for implementation in the future.

Study subjects of equivalent school-leavers such as diploma or foundation candidates are also recommended to follow the study to assess the level mastery for soft skills. The subjects of this study are also suitable to be used as a comparative sample between institutions that use specific modules to assess the elements of soft skills among students and guiders.

The implementation of active learning in the T&L sessions of the Matriculation Program curriculum has a different impact on the level of the elements soft skills mastery among students compared to the existing T&L sessions in schools. The implementation of active learning is able to increase the level of mastery of soft skills before and after the design of AL for the elements of communication skills; critical thinking; problem solving; information management; as well as ethics and morals when compared in contrast to the control group which only mastered it at a lower level.

The group of students who follow the existing AL design is recommended to be given the opportunity to follow the AL redesign so that the assessment and evaluation of the level of mastery of their soft skills elements can be improved. Accordingly, it can be concluded that the use of AL design is not only an innovation of teaching aids for the use of teachers but also able to narrow the gap in learning effects to improve the level of mastery of soft skills of students. As a result, existing active learning and redevelopment design can provide deep benefits improving the skills of teachers and students as well as boosting the performance of self-achievement and institutions.

All pre- and post-teaching test results as well as feedback from lecturers and students on the new teaching methods were discussed in the teaching and learning session. All lecturers agreed that the teaching approach using interactive resumes and e-portfolios is the best for teaching the topic although other teaching methods are still relevant to use. The lecturers are of the view that there should be factors that can attract students to learn the topic and students are happy with the teaching and learning sessions conducted which ultimately help improve their understanding. For examples, collecting currently data between pre- and post-teaching test results to review or retest the T&L sessions in future.

Subtopics involve collaborative learning activities where each group of students has to produce the Lesson Plan that is part of the assessment for the semester examination marks of the matriculation program. The use allows every student to upload relevant materials to be shared with group members and facilitates students to interact with each other in groups.

Table 6. Implication by lecturer and student opinion summaries after redesign in active learning with using digital tools in teaching and learning session to recommendation

Lecturer	Student
Guidance for quality end of product (outcome learning)	Quality end of product by maker
Creativity and innovation among evaluator	Designer and developer digital tools
Teaching time frame management	Learner time frame management
Soft skills developer and evaluator	Soft skills mastery among career candidates in future
Material and tools costing by instructor	Paperless concept, economical and green environmental

Overall, the findings of the study can drive the improvement of redesign in active learning approaches and more activities also with new digital tools in portfolio, resume or video maker. An innovation in teaching tools among lecturer is not only competence by one side but also able in provide benefits in improving soft skills among student performance in learning process. In this case study shows that active learning method have a positive impact among lecturer and student to integrated with improvement in many or others way. Active learning with new approach after redesign in course can be used as an alternative for teachers in implementation of Teaching and Learning session toward enhancing student's soft skills mastery.

### **Suggestions for further research and improvement**

An interactive resume and e-portfolio method an able to create fun for students, encourage students to interact with lecturers and other friends as well as the teaching method is flexible that can be used before the class starts, during the class and after the class ends. Although there are some disadvantages to the interactive resume and e-portfolio but it can be overcome through an innovative teaching approach.

- Findings from digital resumes to interactive resumes and Virtual Augmented Reality Resume (VARr) in future.
- Generate portfolios manually to e-portfolios as mobile application or digital tools.
- Compare studies within Malaysia soft skills between international research scope and fields.
- Google application as open source to other application like Microsoft and Apple application to applied in T&L session.

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