

Faculty Understanding of Student Learning Outcomes to Develop Teaching and Learning Activities

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ARTICLE INFO	ABSTRACT
Received: 29 Dec 2024	<p>The study focused on the Subject Learning Outcomes (SLO) in the AY 2022 – 2023. The method is mixed and explores the SLO results and narratives of teachers. Data was generated through the management information system, and a focus group discussion was participated by six faculty. It determined the results of SLO and tested the significant difference in the subject area and grade level in terms of written works, performance tasks, and examinations. It explores teachers' narratives through a focus group discussion of their understanding of SLO in terms of preparation of curriculum, instruction and assessment, reporting and revision of curriculum, and Continuous Quality Improvement (CQI) report. In the results of the SLO, written works and examinations have not been attained while the performance tasks have been attained. In the test of significance, the written works and examination have significant differences however, the performance tasks have no significant difference in the subject area. The test of difference of written works and examinations has no significant difference however, performance tasks have significant differences in grade level. The narratives resulted in a demand for an explanation of the purposes of SLO and training for the CQI report which resulted in a training activity for teaching and learning.</p> <p>Keywords: Learning Outcomes, OBE, Assessment, Teaching and Learning Activities.</p>
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INTRODUCTION

Educational institutions are working on improving the results of their services. The results can be derived from different assessment methods that measure knowledge and skills. Outcomes-based education is a popular concept of assessment that education institutions use to pattern their basis of improvement.

Outcomes-Based Education (OBE) is the educational framework of goals and results. This approach focuses on the learning process and desired results and is explicitly defined and measurable. The purpose of OBE is to ensure that all students achieve these predefined outcomes, hence setting standards that will lead to the enhancement of quality and effectiveness in education. It shifts the focus from traditional educational practices, which are most of the time focused on the inputs, that is, the teaching methodologies and the curriculum content, to what students are expected to learn and demonstrate.

This research was formulated with the data and response in mind when creating the institution's Continuous Quality Improvement (CQI) Report. These factors were considered in the sense of improving the teaching and learning activities of the different subject areas, such as the Arts, Business Technology (BTECH), Character Education (CHED), English, Filipino, Health, Mathematics, Music, Physical Education (PE), and Social Studies (SOCS).

This will specifically answer the following questions:

1. What are the SLO assessments in different subject areas in terms of:
 - 1.1. Written Works?

- 1.2. Performance Tasks?
- 1.3. Examinations?
2. Are there significant differences in the SLO assessments when compared in different subject areas and grade levels in terms of:
 - 2.1. Written Works
 - 2.2. Performance Tasks
 - 2.3. Examinations?
3. What is the understanding of the faculty of the SLO in terms of:
 - 3.1. Preparation of Curriculum?
 - 3.2. Instruction and Assessment?
 - 3.3. Reporting and Revision of Curriculum?
4. What training activities can be proposed to develop the teaching and learning activities using SLO results?

This study aims to analyze the subject learning outcomes (SLO) results in terms of the components such as written works, performance tasks and examination. It will test its difference in the different components. It will identify the understanding of the faculty of the SLO results in relation to the preparation of curriculum, instruction and assessment, and reporting and revision of curriculum. The results will propose training activities to develop teaching and learning activities through the SLO results.

LITERATURE REVIEW/ANALYTICAL FRAMEWORK

Theoretical Framework

In a study by Macayan (2021), the OBE is suggested as a framework for educational research. It is fitting in this study to base the research project on the OBE framework, which is Success for All Philosophy, which is model in principle, premises, and paradigmatic.



Figure 1. OBE's Success for All Philosophy

This model should be used in this study due to its implications for the SLO, which is a by-product of OBE.

Conceptual Framework

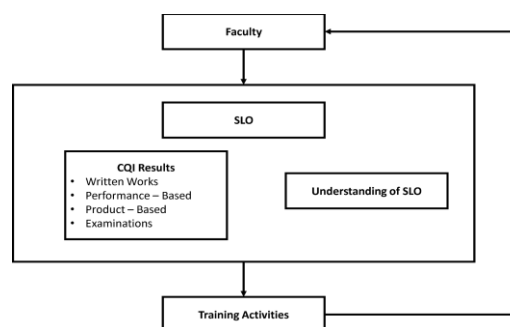


Figure 2. Conceptual Framework

The framework is created starting from the concept of faculty which is related to the concepts of SLO which specifically the CQI results such as written work, performance tasks, and examinations. It also considered the understanding of SLO of the faculty. After processing these concepts, it will result in the training activities for the teaching and learning activities.

Outcomes - Based Education and Assessment

OBE stands for Outcome-Based Education, which is an educational theory structured as part of the educational system and has specific goals and results. OBE focuses on the student's ability to learn and demonstrates his learning experience on what he knows. OBE also encourages a "child-centered approach that emphasizes their skills and competence. Moreover, the goal of this learning system is to ensure that students achieve their desired learning outcomes rather than competing on what the school curriculum is catering to based on the student's level.

The features of OBE are student - centered learning, clear learning outcomes, alignment with the real world skills or global competitiveness, continuous improvement, and flexibility in learning. These are concepts that a quality education is looking for based on the SDG 4.

The impact of OBE on its implementation to education are enhanced learning preparation, focus on future performances on how to apply knowledge to meet the objectives, clarity in learning outcomes, relevance to the real - world, continuous improvement, and quality education. This is present in the study's objectives.

SDG 4: Quality Education

Sustainable Development Goal (SDG) or Global Goal 4, which emphasizes the transformative power of education in promoting a sustainable and equitable world, is a promise to ensure inclusive and equitable quality education for all, and most especially to vulnerable populations, including poor children in rural areas, person with disabilities, indigenous people and refugee children. This objective is a critical motivator for good change.

The UN explains: *"Obtaining a quality education underpins a range of fundamental development drivers. Major progress has been made towards increasing access to education at all levels, particularly for women and girls. Basic literacy skills across the world have improved tremendously, yet bolder efforts are needed to achieve universal education goals for all. For example, the world has achieved equality in primary education between girls and boys, but few countries have achieved that target at all levels of education."*

SDG 4 comprises ten targets that are assessed using eleven indicators. There are seven outcome targets are as follows; free primary education and secondary education; equal access to quality pre-primary education; affordable technical, vocational and higher education; increased number of people with relevant skills for financial success; elimination of all discrimination in education; universal literacy and numeracy; and education for sustainable development and global citizenship. The three aims of implementation are: build and upgrade inclusive and safe schools, expand higher education scholarships for developing nations; and increase the number of qualified teachers in developing countries.

This is related to study due to the fact that quality education should have a standard of assessing the knowledge and skills of the students through the assessment. The result of the assessment will be the SLO report that will be utilized in the CQI report.

CQI in JRU

Continuous Quality Improvement (CQI) is a systematic approach to enhancing the quality of educational services and outcomes. It involves a commitment to ongoing improvement, using data and stakeholder feedback to identify areas of improvement and implement changes that enhance the academic experience and outcomes for students. CQI's two primary commitments are improving an organization's ability to deliver effective, high-quality educational services.

CQI in JRU exist since 2018 where there are 5 parts such as:

- a. Assessment Plan
- b. SLO -PEO Matrix Assessment and Evaluation Plan
- c. CQI Subject Assessment Plan
- d. Summary of SLO Attainment

e. SLO Evaluation and CQI Plan

In JHS, after the pandemic, CQI in JRU is not updated anymore. Teachers were not able to monitor the results of the student's improvement. Results do not directly address the issue of continuous quality improvement (CQI) after the pandemic. The results provide some general information about CQI in education but do not specifically mention the monitoring of student improvement at JRU post-pandemic.

This related literature and studies support the research gaps in the utility of the SLO for the cycle of CQI from preparation, instruction and assessment, and reporting and revision of the curriculum.

RESEARCH METHOD

The study is descriptive - narrative in design. The descriptive of the study was the variable Student Learning Outcomes (SLO) where the identification of the assessment and the comparison is done. The narratives were derived from the focus group discussion done. The narratives were divided into 5 such as the insights of SLO, preparation of curriculum, instruction and assessment, reporting and revision of curriculum, and CQI reports.

This research is done through the JRU research office. The proposal was presented, validated and monitored by the research office and the director. The research project started with the proposal in November 2023. After the approval of the research proposal it underwent different phases such as

a. Data Collection and Extraction

The research requested the data needed from the MIS thru the ITO for the data needed for the research. It was requested through the institution process and supported by the Research Office. Then data collected were the SLO results for the academic year 2022 - 2023.

b. Focus Group Discussion

The focus group discussion conducted by the researchers started by inviting the participants. The participants were asked for their consent in the participation of the FGD. The FGD conducted with 6 participants.

c. Data Analysis

The data analysis conducted by the researchers thru using computer application for quantitative data. For the qualitative data, the researchers analyzed the narratives from the FGD conducted and organized the participants' answers to build themes.

d. Write - Up

The researchers make reports about the results and recommendations for the paper and presentations. The researchers used the IMRAD format in making the report for this project.

This research is evaluation of existing data which is the SLO report from the MIS archive and confirmation through the FGD conducted by the researchers. In a blogpost by Blitzllama (2024), an evaluative research assesses the effectiveness and usability of products and services. It involves gathering user feedback to measure performance and identify areas for improvement.

The data collected are quantitative and qualitative. The quantitative data is from a database from the Management Information System (MIS) of the University. A request from the Information Technology Office (ITO) through the researchers and Research Office was made. The data extracted are results of the SLO of academic year 2022 - 2023 from different subject areas such as Arts, Business Technology (BTECH), Character Education (CHED), English, Filipino, Health, Mathematics, Music, Physical Education (PE), and Social Studies (SOCS). It is also filtered by grade level from grade 7 to 10.

In the qualitative data, a focus group discussion was conducted. The teachers are invited to represent different subject areas. These teachers have taught for the academic year 2022 - 2023. They responded to the FGD and signed a consent form for their participation. The flow of the discussion is as follows:

a. Setting - Up for the FGD

b. Orientation of the Participants

c. Discussion

i. Discussion on the Insights about SLO

ii. Discussion on the Preparation of Curriculum in relation to SLO

iii. Discussion on the Instruction and Assessment in relation to SLO

iv. Discussion on the Reporting and Revision of Curriculum in relation to SLO

v. Discussion on the CQI Report

d. Generalization of the Discussions

The data gathered were analyzed through a computer software for the quantitative data which is MS Excel. In quantitative data, it used descriptive statistics such as percentage, and average. It also uses inferential statistics which is one - way analysis of variance (ANOVA). The ANOVA is used to identify if there is a significant difference among the comparison of the subject area and grade level. In qualitative data analysis, the content analysis was used after the FGD. The generalizations of the participants are the content that was analyzed by the researchers. The content analyzed was used in the proposal of teaching and learning activities.

RESULTS AND DISCUSSION

Assessment of the Student Learning Outcomes

The assessment of SLO is divided into 3 groups such as written works, performance tasks, and examinations. It has 12 subject areas such as Arts, BTECH, CHED, English, Filipino, Health, Math, Music, Science, PE, and SOCS. This report was generated into 4 grading periods of the academic year 2022 - 2023. There are different target percentages in each grading period such as 50%, 60%, 70%, and 80% of the population for 1st, 2nd, 3rd, and 4th grading period respectively attain the mastery level which is 80% rating.

Written Works

The written works activities are quizzes, written assignments, experiments and theme papers. These are the activities that were assessed by the teachers.

Table 1: Written Works Assessment

	1Q	Remar k	2Q	Remar k	3Q	Remar k	4Q	Remar k
Arts	59.37	A	70.09	A	71.26	A	67.13	NA
BTECH	40.37	NA	46.92	NA	63.96	NA	65.35	NA
CHED	66.80	A	68.10	A	84.70	A	85.20	A
English	49.03	NA	42.95	NA	58.58	NA	60.70	NA
Filipino	55.08	A	51.13	NA	61.63	NA	58.38	NA
Health	62.12	A	60.95	A	64.56	NA	73.75	NA
Math	28.38	NA	39.23	NA	38.74	NA	52.66	NA
Music	52.20	A	71.23	A	69.77	NA	69.65	NA
Science	71.23	A	65.64	A	73.73	A	76.13	NA
PE	53.67	A	64.43	A	70.63	A	75.83	NA
SOCS	60.52	A	60.82	A	72.49	A	71.82	NA
Overall	54.43	A	58.32	NA	66.34	NA	68.78	NA

A is Attained and NA is Not Attained

The results of the written works in first quarter there is 72.73% or 8 out 11 subjects attain the target of 50% of students attain the mastery level, in second quarter there is 63.64% or 7 out 11 subjects attain the target of 60% of the students

attain the mastery level, in third quarter there is 45.46% or 5 out of 11 subject attain the target 70% of the students attain the mastery level, and in fourth quarter there is 9.09% or 1 out 11 subject attain the target of 80% of the students attain the mastery level. In general, written works only during the first quarter attain the target.

Performance Tasks

Performance tasks are activities that can be categorized into performance - based and product - based activities. These are the activities that were assessed by the teachers.

Table 2: Performance Tasks Assessment

	1Q	Remark	2Q	Remark	3Q	Remark	4Q	Remark
Arts	92.72	A	93.66	A	92.93	A	95.88	A
BTECH	89.39	A	96.31	A	95.68	A	95.36	A
CHED	95.20	A	93.90	A	96.50	A	96.00	A
English	91.68	A	95.61	A	92.12	A	96.56	A
Filipino	91.73	A	93.05	A	96.33	A	95.98	A
Health	91.24	A	94.03	A	97.20	A	95.58	A
Math	85.63	A	94.89	A	96.13	A	94.60	A
Music	92.42	A	92.35	A	95.93	A	95.07	A
Science	91.64	A	94.96	A	93.13	A	95.37	A
PE	94.43	A	93.50	A	96.74	A	94.92	A
SOCS	91.06	A	94.30	A	94.98	A	95.18	A
Overall	91.56	A	94.23	A	95.51	A	95.50	A

A is Attained and NA is Not Attained

The results of performance tasks in all quarters from first to fourth are attained in all subject areas where all students attained the mastery level. In general, performance tasks, all quarters are attained.

Examinations

The examinations are 2 to 3 examinations in each quarter. The results used are the average of the 2 to 3 examinations in each quarter.

Table 3: Examination

	1Q	Remark	2Q	Remark	3Q	Remark	4Q	Remark
Arts	70.34	A	79.22	A	80.91	A	82.10	A
BTECH	42.23	NA	43.12	NA	58.37	NA	54.81	NA
CHED	65.30	A	54.75	NA	84.75	A	68.07	NA
English	39.21	NA	52.04	NA	54.50	NA	52.59	NA
Filipino	54.47	A	62.28	A	60.02	NA	67.94	NA
Health	67.77	A	76.13	A	71.73	A	68.91	NA
Math	43.65	NA	46.30	NA	44.01	NA	53.92	NA
Music	65.46	A	72.34	A	69.98	NA	79.98	NA
Science	70.20	A	74.52	A	79.84	A	76.47	NA
PE	65.30	A	78.51	A	80.05	A	75.33	NA

	1Q	Remar k	2Q	Remar k	3Q	Remar k	4Q	Remar k
SOCS	57.33	A	66.33	A	74.20	A	65.23	NA
Overall	58.30	A	64.14	A	68.94	NA	67.71	NA

A is Attained and NA is Not Attained

The results of examinations in first quarter there is 72.73% or 8 out 11 subjects attain the target of 50% of students attain the mastery level, in second quarter there is 63.64% or 7 out 11 subjects attain the target of 60% of the students attain the mastery level, in third quarter there is 54.53% or 6 out of 11 subject attain the target 70% of the students attain the mastery level, and in fourth quarter there is 9.09% or 1 out 11 subject attain the target of 80% of the students attain the mastery level. In general, examinations only during the first and second quarter attain the target.

Comparison of Student Learning Outcomes

In the comparison of student learning outcomes, there are 3 divisions such as written works, performance tasks, and examination. The comparison is done by subject are which has 11 subjects and by grade levels which has 4 grade levels.

Written Works

Table 4: Test of Difference of Written Works

	F	p	Decision	Significance
Subject Area	7.63	0.00	Reject H_0	Significant
Grade Level	0.14	0.93	Accept H_0	Not Significant

$$\alpha = 0.05$$

In written works, in the comparison of subject areas a one -way ANOVA revealed that there was a statistically difference in the means of the among the subject areas where $F = 7.63$ and $p = 0.00$. In the comparison of grade levels, a one -n way ANOVA revealed that there was no statistically difference in the means among the grade levels where $F = 0.14$ and $p = 0.93$.

Performance Tasks

Table 5: Test of Difference of Performance Tasks

	F	p	Decision	Significance
Subject Area	0.15	1.00	Accept H_0	Not Significant
Grade Level	7.65	0.00	Reject H_0	Significant

$$\alpha = 0.05$$

In performance tasks, in the comparison of subject areas a one -way ANOVA revealed that there was no statistically difference in the means of the among the subject areas where $F = 0.15$ and $p = 1.00$. In the comparison of grade levels, a one -n way ANOVA revealed that there was a statistically difference in the means among the grade levels where $F = 7.65$ and $p = 0.00$.

Examinations

Table 6: Test of Difference of Examination Assessment

	F	p	Decision	Significance
Subject Area	15.95	0.00	Reject H_0	Significant
Grade Level	0.17	0.91	Accept H_0	Not Significant

$\alpha = 0.05$

In examinations, in the comparison of subject areas a one -way ANOVA revealed that there was a statistically difference in the means of the among the subject areas where $F = 15.95$ and $p = 0.00$. In the comparison of grade levels, a one -n way ANOVA revealed that there was no statistically difference in the means among the grade levels where $F = 0.17$ and $p = 0.91$.

Narratives of Teachers in the Understanding of SLO

The narratives of the teachers resulted in different concepts that were modeled by the flow chart.

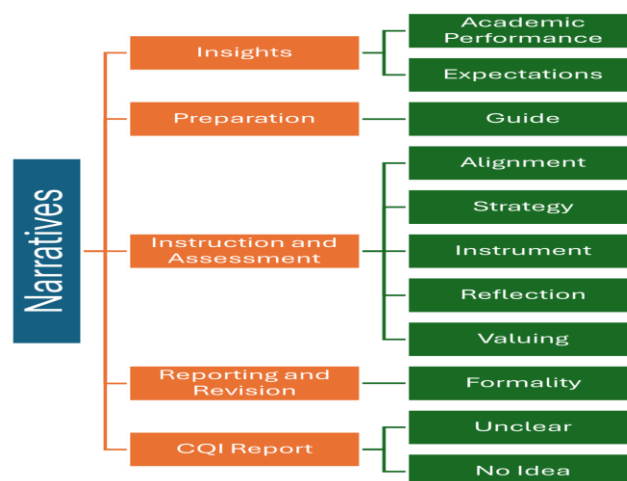


Figure 3. Narratives of Teachers in Understanding of SLO

The narratives of teachers are divided into 5 parts such as insights, preparation of curriculum, instruction and assessment, reporting and revision, and CQI report. These parts have different themes such as academic performance and expectations for insights, alignment, strategy, instrument, reflection and valuing for instruction and assessment, formality for reporting and revision, and unclear and no idea for CQI reports.

The SLO assessment has a great impact on the status of teaching and learning. The results of the assessment of SLO can give interpretation to the teaching and learning activities.

The results can be interpreted to the targets set for each quarter. The targets from 50% to 80% with increment of 10% every quarter is a standard that can be revised that will suit the difficulty of the subject areas and grade level. The subject area has a difficulty that is incremental.

In written works, almost all targets were not attained. This implies that there is a need for revision or removal of the assessment tools or retooling for teachers teaching activities. There are further analyses like checking the instruments (assessment tools), using data analysis like descriptive and inferential statistics, using the learning management system (LMS) results, and training programs for teaching strategies that are tailored to the different subject areas.

In performance tasks, all targets are attained. This implies that the students achieved the targets however, it requires a check of the validity of the performance tasks. Performance tasks should be done that are related to the real world or global competitiveness skills.

In examination, similar to the results of the written works, almost all targets were not attained. This implies that there is a need for the test construction training. Other findings are the standardization of the examinations and the type of examinations varied.

The understanding of teachers on the SLO results have different narratives that makes the sense of SLO important to the development of teaching and learning activities.

In the insight of the teachers, academic performance and expectations turn out to be the narratives that were shared by teachers. In a report done by NWEA (2017), teachers have a great effect on the goal setting for the success of attaining the SLO.

In the preparation of curriculum in relation to SLO, the narrative's theme is a guide in making the curriculum. The preparation phase involves establishing clear, measurable SLOs that align with educational standards and learning goals. Research highlights the importance of well-defined objectives in setting a foundation for effective teaching and learning. For instance, Amrein-Beardsley and Collins (2012) found that SLOs help educators to focus their instructional strategies and resources on targeted outcomes, which enhances the overall planning process. Moreover, setting specific goals during the preparation phase has been shown to increase teachers' confidence and motivation, as they have a clear direction for their instructional efforts (Lachlan-Haché, Cushing, & Bivona, 2012).

In the instruction and assessment, the narratives that surface are alignment of the topics, strategies in teaching, instrumentation of assessment, reflection of activities and valuing. During the instruction and assessment phase, SLOs serve as benchmarks for both teaching practices and student learning. According to Goe, Bell, and Little (2008), SLOs provide a framework for teachers to design lessons that are aligned with desired learning outcomes. This alignment ensures that instructional activities are purposeful and that assessments are directly related to the objectives. Furthermore, the use of SLOs in formative assessments allows for real-time feedback and adjustments, thereby supporting differentiated instruction and improving student achievement (Marzano, 2007).

In the reporting and revision, the narrative that resulted was formality for the process. The final phase involves the reporting of outcomes and the revision of the curriculum based on assessment data. Studies indicate that SLOs facilitate transparent and meaningful reporting by providing specific criteria against which student performance can be measured (Kane, Taylor, Tyler, & Wooten, 2011). This clarity in reporting helps educators to communicate progress to stakeholders, including students, parents, and administrators, thereby fostering a culture of accountability and continuous improvement.

In the CQI report, the narratives were unclear and had no knowledge. The teachers have ambiguity in the CQI concepts, insufficient training and professional development, and inadequate communication. CQI has a disconnect with daily teaching practices and overwhelming administrative tasks. These are the factors that CQI reports are not done or not being prioritized.

In the analysis of the data for this study, the researchers proposed different training activities for teaching and learning. These trainings are divided into 4 parts from SLO targets, preparation of curriculum, instruction and assessment, and reporting and revisions.

Table 7: Matrix of Training for Teaching and Learning Activities

Area	Action	Involvement	Trainings
SLO Targets	Make a discussion and course of action on the targets of Subject Learning Outcomes that will lead to a lead to a training	Academics such as Principal, Department Chairs, and Teachers	Setting Targets using SLO Results
Preparation of Curriculum	After establishing the targets, the preparation of curriculum should be aligned with the results. This is an	Academics such as Principal, Department Chairs, and Teachers	3R: Curriculum Preparation of TLA with SLO Results

Area	Action	Involvement	Trainings
	assessment of retain, revised and remove of TLA.		
Instruction and Assessment	In the monitoring process, the periodic check of the TLA and SLO results should be done. The developmental activities such as rewards activity (attained targets) and support activity (not attained targets).	Academics such as Finance, Principal, Department Chairs, and Teachers	The Rewards and Support Activities for SLO Results.
Reporting and Revision	After the school year, the reporting and revision should be done. The reporting should be periodic in every quarter, and revision should be a recommendation to the CQI report. The data analysis training should be given.	Academics such as Principal, Department Chairs, and Teachers	Periodic Reporting and Revision Rollout of CQI Report and Data Analysis Training
CQI Report	Use all the trainings above mentioned for the CQI Report	Academics such as Principal, Department Chairs, and Teachers	CQI Reporting

These training are suggestions to be done for the whole academic year. This can be done in different methods suggested by Gore (2024):

1. Case Studies
2. Coaching
3. eLearning
4. Instructor - Led Training
5. Interactive Training
6. On - the - Job Training
7. Video - Based Training

CONCLUSIONS

The SLO report is a good tool to identify the progress and status of the teaching and learning process in the educational institution. It is proof of the achievement of the students and teachers. This requires a comprehensive review of this report which is in the CQI report. It should be given a lot of attention to the quantitative data from its raw data such as the creation of the teaching and learning activities, specifically on the assessment tools.

The narratives showed the concepts that the teachers need more training related to SLO report, teaching and learning activities, and data analytics. These trainings should be institutionalized and implemented as part of the academics.

The training for the teachers should be done in 4 phases such as Setting Targets using SLO Results, 3R: Curriculum Preparation of TLA with SLO Results, The Rewards and Support Activities for SLO Results, Periodic Reporting and Revision Rollout of CQI Report with Data Analytics, and CQI Reporting.

This research suggests making a support study on the implementation of the training and checking the results of the SLO in the succeeding academic year. This can be part of the institutionalized work for accreditation and benchmarking purposes.

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