Proposal for a Quality Assurance Metrics-Tool: Shifting Convention in QA assessment reports (Self-Study Reports and External Program Review Reports)

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Abstract

Any evaluation/review ought to include, a formula to measure degree of conformity, of the program under review, with the respective standards framework (which of course always presents a set of quality criteria which have a set of elements of proof i.e. quality indicators). We have conducted a corpus analysis on the available program review reports, both internal and external (20 x 2 = 40 reports). These were program review reports undertaken for the purpose of verifying that quality assurance criteria are observed (Self-Study Reports), and that quality standards are assured (External Review Reports) so that an accreditation can be attributed. This was our expectation as a Quality Assurance Agency (QAA). Among the 40 reports, 38 reports adopted a linear qualitative approach to compliance verification, only 2 of them attempted to use a quantitative approach to check compliance levels hence delivering a value judgment in the report stating the degree of quality level attained by the academic program under evaluation/review.

This paper is a report about an action research task undertaken by a practitioner in a QAA while conducting regular work assignment preparing Quality Assurance (QA) assessment reports for the scientific council to issue accreditation decisions about programs undergoing due review process. The scope of the study is limited to addressing a problem faced by a QA practitioner and proposing a model for addressing lack of homogeneity among reports. The expected outcome is that once this reporting and QA model is adopted and implemented, reports thereafter will achieve admissibility, practicality, and actionable homogeneity both from Internal Quality Assurance (IQA) and External Quality Assurance (EQA) perspectives.

Keywords: Quality Assurance, QA System, Self-Study Report, External Review Report, Accreditation Process, Reporting Conventions, QA Metrics-Tool, QA Model, Compliance.

I. Introduction

1. Research Problem

Some program Self-Study Reports (SSR) and their respective External Review Reports (ERR) tend to be too wordy, subjective, and extremely well done but not serviceable for the QAA in terms of granting an accreditation. In the Mauritanian context, the QA effort started only recently in 2021. The first program pilot reviews were undertaken in the years 2022, 2023, and 2024. When we received all the reports of the 20 programs from various national public and private Higher Education Institutions (HEIs), we found that most of them do not address the question of compliance efficiently. Our scientific board found that these reports do not provide enough data to support attribution of an academic accreditation. The reports tended to be qualitative and subjective in nature depending on the reviewers' understanding of quality assurance and relevant standards. 90% of the reports sounded more literary than technical.

This led to lack of sufficient data regarding level of compliance to the set of quality standards and criteria enclosed in the National Standards Booklet for Academic Program Assessment. Likewise, these highly qualitative reports show lack of feedback to help trace compliance or lack thereof to specific quality standards/criteria. Furthermore, both SSR and ERR do exactly the same thing which is verifying quality. None of them tries to ensure quality by addressing levels of compliance, instead; both merely verify existence of quality indicators i.e. elements of prove that certain standards have been met. Extent of overall or partial field-specific compliance is not assessed in a quantitative manner in these 38 reports, only 2 reports tried to use an evaluation scheme leading to a quantitative assessment of attainment levels.

Consequently, all programs using current reporting conventions receive an accreditation that is satisfactory. Academic Accreditations are awarded without any specification regarding level of attainment, or degree of compliance. By doing so, it is clear that at the reaccreditation outcome will be the same as that of the initial accreditation.

2. Statement of the Problem

Most Self-Study Reports and External Review Reports, that we received, were not actionable from the QAA perspective.

3. Research Questions

How can these reports be more effective and user friendly in terms of delivering a precise value judgment on the level of quality attained by the program under review as per given standards? Should the external report use a review approach that ensures quality rather

verifying it? How can our national QAA adopt a new QA metrics tool to shift the convention in QA assessment reports and accreditation process? Should we adopt additional procedures to ensure continuous improvement of the reviewed program by increasing interaction between the HEIs and the QAA afterwards?

4. Methodology

Using a corpus analysis via a set of admissibility parameters to accept or reject the SSR before deploying the external reviewers/evaluators, see Table #4: Admissibility Parameters. As a result, we took a close-up look into the contents of the 40 assessment reports. Thus, we were able to conduct a textual analysis of the reports using key words to find out a statement defining the level of quality attained by the program under review. We were looking for graphs featuring numerical expressions showcasing overall and field-specific level of quality attained by the academic program being reviewed for accreditation. It is after conducting this exercise that I was able to devise the QAMt, which stands for Quality Assurance Metrics Tool. QAMt also brings about a new Model of Quality Assurance by merging two model off the models' map outlined by Harvey and Green as cited by Duarte and Vardasca (2023, p.3).

EERs that showcase percentage of overall and specific quality level attainment, without featuring appreciating the quality level of the indicators were listed but not taken into account as they only verify existence of quality indicators (they do not assure the attained quality level). In this respect ERR showcases the same verification featured by SSR. After defining our metrics tool, we tried to identify similar models in other QAAs, the closest we found was the Indian (National Assessment and Accreditation Council) NAAC accreditation grading model which was featured in a poster during the INQAAHE Conference 2023 Astana (Tripathi and Prasad, 2022).

II. Background and context

1. Context

In recent years, Mauritania started a policy of development and promotion of Quality in HE, in accordance with the guidelines of the National Program for the Development of the Education Sector and the 2030 Strategic Vision for Higher Education. Quality assurance of education and research became paramount priorities in the Mauritanian context.

This policy is clearly reflected in the establishment of the Mauritanian Authority for Quality Assurance in Higher Education (AMAQ-ES), pursuant to Law No. 028-2016 of July 29, 2016, amending certain provisions of the 2010 law relating to higher education and scientific research. Article 8 stipulates that:

> "the system of higher education and scientific research is subject to a regular evaluation concerning its internal and external efficiency and affecting all administrative, pedagogical, scientific research, and institutional governance. This evaluation is carried out by an autonomous structure, under the auspices of the National Council for Higher Education and Scientific Research (NCHESR)" (Ministry of Higher Education, 2016, p.1).

The autonomous structure referred to hitherto i.e. AMAQ-ES is our national Quality Assurance Agency (QAA). AMAQ-ES came into existence as an important added value for higher education and scientific research at a time when Mauritania was entering an era of cutting-edge reforms in the education sector. Our national QAA is now well positioned as one of the essential levers contributing positively to the dynamic for the advancement of HE in Mauritania. AMAQ-ES is expected to do so by consolidating the national evaluation and quality assurance system, and above all by its contribution as a strategic regulatory body (Ministry of Higher Education, 2021).

AMAQ-ES was enacted by decree in 2017, but its actual operation started only in 2021. However, the pilot academic program reviews/evaluations started a year later in October 2022. There were many issues having to do with the heavy process of accreditation consisting of internal and external assessment procedures sanctioned by formal reviews or assessment reports. Such was the complaint that came from the HEIs. However, the main grievance, from the perspective of the QAA was that most assessment reports were not actionable, having no straightforward statement on compliance, and lacking homogeneity.

2. Background

As QA practitioners in QAAs we need reports, whether internal or external, to be actionable from our perspective i.e. helping our scientific council to uphold a sound decision with respect to efficiently attributing an academic accreditation smoothly and unquestionably. Moreover, in the Mauritanian context, the regulation allows HEIs to engage appeal procedure should they find that an accreditation has been unfairly denied. Therefore, it is of utmost importance to the QAA to ensure, with a trustable exactitude, that the decision is unquestionable and that a wrongful attribution also can be avoided. This concern brings about a desire to analyze the problem and propose a solution that caters for this urge to ascertain the decisions taken by QAA scientific board with respect to positive or negative attributions. Hence, the need for a metrics tool that helps shift the convention in QA assessment reports to make them more actionable and the process more robust.

Using a metrics tool to address compliance makes accreditation reliable and continuous improvement more efficient and progressive. "If you cannot measure it, you cannot manage it" as the Famous Edward Deming's adage goes. This statement can be paraphrased for

'fitness of purpose' as follows: If you cannot quantify it, you can NOT ensure/certify/accredit or assure the quality of an academic program and decide on its degree of compliance to relevant set of standards/criteria/quality indicators.

III. Description of the initiative or practice

1. The current academic accreditation process

Our current QA system administers the following process structured in three stages.

Stage 1: Self-assessment procedure (autoévaluation also called évaluation interne) sanctioned by a Self-Study Report (SSR) submitted to the QAA with annexed folders of items of prove (éléments de preuve) such as course description, instructors' CVs etc … corresponding to each assessment field as per the national standards. Once the agency receives this SSR, its dedicated team checks admissibility and sends it over to selected external evaluators team usually composed of three members.

Stage 2: External assessment procedure carried out by the external evaluators or experts deployed by the QAA shall produce an External Review Report (ERR) after conducting a three-day site visit. After two weeks, external reviewers shall submit their report to the QAA.

Stage 3: The QAA submits both reports to an initial screening phase, where QA Officers inside the agency check the admissibility of the report and then calls the scientific committee or council to review the ERR and to issue a outcome attributing or denying an accreditation to the academic program under review. The QA officers found that most reports were not admissible, however since they all stem from a pilot process, admin decided to tick them all off.

Stage 4 (none): After Stage 3, communication stops between the QAA and the HEI until the expiration of the granted accreditation, after 4 years for BA programs and 5 years for Master programs. This was a major finding for this action research, that there is no stage four. The study found that this was a major anomaly, a big whole in our national QAA. Is it the same in the systems of other countries? The scope of the study does cover this dimension.

2. The proposed QA Metrics Tool (QAMt)

The study gave birth to a metrics tool encompassing several substantial components. QAMt (silent t) a QA metrics tool intends to shift conventions in QA reporting and procedures. It consists of the following components:

a) Adopting a new QA model dubbed *QA as Compliance or Criterion-Attainment Model.*

b) Proposes different sets of evaluation descriptors (grading system) 3 for SSR and 6 for

ERR,

c) Proposes a shortened template for both reports drastically reducing time and effort,
d) Using the new descriptors, QAMt proposes a digital compliance checker for both assessments,
e) Adopts quality tiers/levels of accreditation (a special ranking system standards-bound ranking) as per percentage of compliance. With this model it is unlikely for any program to not get accredited because the minimum is set to basic requirements that all are expected to have observed,
f) Introducing a new stage 4 in the accreditation process culminating in a Continuous Improvement Plan (CIP) and a Continuous Improvement Register (CIR) forms to enhance interaction between HEIs and the QAA.

After the adoption of the proposed QA Metrics Tool (QAMt), all components considered, the accreditation process will be structured in four stages. Before the adoption of the new metrics tool and its underlying procedures/components, we need to carry out a revision of the current standards framework, especially its guidelines booklet to officially accommodate the proposed grading system, the reduced SSR and ERR templates, the digitization of the conformity checker both for internal and external evaluations/reviews, and the subsequent (CIP) and (CIR) procedures and forms.

The adoption of any modification in the accreditation process or the national standards framework requires, the approval of the higher council at the ministry level, a long process that is still underway. In other words, the QAMt has not yet been used, but everything is ready and the agency is awaiting ministerial approval to effectively test the whole proposed metrics tool which in itself is the main finding of this study. Therefore, in this study the assumption has not been tested. This lapse can be considered a major limitation in this study, which will be addressed in Phase Two of this action research after official implementation of the proposed metrics tool and its underlying procedures.

3. The newly proposed process

Stage 1: Self-assessment procedure sanctioned by an SSR submitted to the QAA with annexed folders of items of prove such as course description, CVs etc. corresponding to each assessment field as per the national standards framework. This procedure will now be referred to as the Internal Quality Verification IQV procedure as it does not involve efforts to improve quality.

Stage 2: External assessment procedure carried out by the external evaluators or experts deployed by the QAA sanctioned by an ERR. Once the agency receives this report, the QAA's internal team does not need to check admissibility as both reports would have

been generated using the dedicated software (QAMt). This procedure will be referred to as the External Quality Verification (EQV) procedure aiming to focus on the level of compliance per individual criteria within each assessment filed by closely appreciating the quality of each indicator.

Stage 3: The SSR will be directly available to selected external evaluators team who would have been given credentials to access the same platform to access electronic version of the SSR and its annexes. Eventually pursuant to the site visit, the external evaluators/ reviewers will produce their report and state their conclusive statement regarding accreditation or reaccreditation. Afterwards, the QAA calls its scientific committee or council to read and assess ERR's conclusive statement and to issue a verdict attributing or denying an accreditation. Once again, admissibility verification will be phased out as the teams will be guided through the platform. Hence, the problems of lack of homogeneity, wordiness, and literariness of the report shall be efficiently avoided, and the reports become automatically actionable.

Stage 4 (new): Evaluation Follow-up: After the academic program is given an accreditation, HEI's Internal Quality Unit (IQU) produces a Continuous Improvement Plan (CIP) to follow up on the remarks and recommendations resulting from the SSR but especially those resulting from the external review process and the ERR. IQU shall submit the CIP to the QAA which should approve and return to the HEI's IQU which should use it to produce a Continuous Improvement Report (CIR) to be carried on yearly basis till the next round of accreditation. This will be the actual Internal Quality Assurance (IQA) process. The Stage 4 procedure will be termed Internal Quality Assurance process. Stage 4 comes as a practical strategy to solve the problem of discontinued communication between HEIs and the QAA after completion of a given accreditation process.

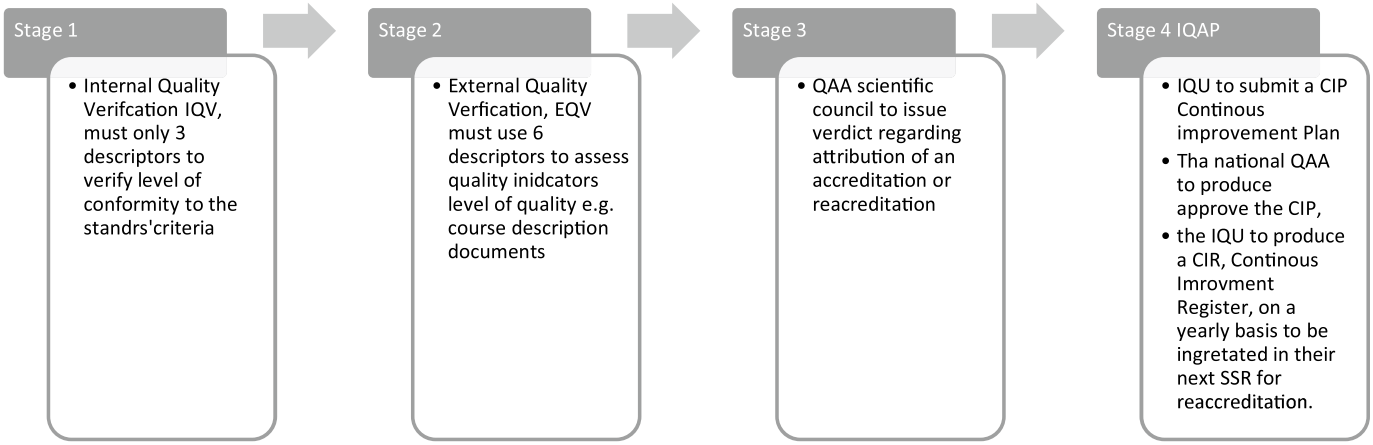

Figure 1: Diagram describing the newly proposed accreditation process

IV. Outcomes or observations

a) The QA reports and follow up procedures need to change in various ways in content and method for checking compliance to national HE QA standards.
b) SSR shall use 3 descriptors to internally assess compliance to the standards through verifying existence lack thereof, or non-applicability of the item of prove/indicator of quality criteria.
c) ERR shall use 6 descriptors to evaluate the quality of the items of prove of the existing criterion/standard which are attached to the SSR report as annexed portfolio. This is of crucial importance because we found out that external reviewers rely only on the site visit to write their report. They do not take time to study some of the annexed portfolio of items of prove attached to the SSR. One of the limitations of our study is that we did not delve into the factors behind external evaluators'/reviewers" lack of interest in completing their task by actually stating an opinion about the quality of the items of prove said to confirm compliance to the standards.
d) A Quality Tiers Scale (levels of accreditation) with suitable quality labels have been identified. This outcome constitutes a major finding that we expect will please both the regulators and the regulated as these Quality Tiers will constitute a stepping stone for increasing competition among HEIs and accelerate the dissemination of quality assurance and continues improvement culture within the HE community.

V. Reflections and implications

1. Self-Study Reports shall use a qualitative approach that only verifies the existent or lack thereof of the quality indicators. Hence the new concept: Verified Quality as per self-study report. Having said the above, the self-study report describes Internal Quality Verification Process rather than the Internal Quality Assurance.

Table 1: Grading system for SSR or IQV

3 Descriptors for a for Self-Study Report for IQV			
The element of prove is either	Available (2 points)	Not available (-1 point)	Not applicable (0 point)

Thus the percentage of compliance or attainment can be calculated as follows:

$$\frac{\text{N available items}}{\text{Total points for all the items}} = \% \text{ of attainment}$$

The Internal Quality Assurance is a different procedure that should take place after the

acquisition of an accreditation. It consists of exploitation both the SSR and the ERR to elaborate a CIP. A major implication of the study that will enforce the proposed shift in paradigm, was the distinction described earlier between SSR as IQV the ERR as EQV.

2. The ERR report shall use a different set of graded 6 descriptors to measure the level of quality assured/attained as per the assured Quality Tiers Scale or levels of accreditation.

Table 2: The grading system for the ERR or EQV

6 Descriptors for a for External Review/Evaluation Report for EQA								
Assessment Field/ Standard/Criterion (F S C)		Weight (to be appreciated by the external reviewer by studying individual items of prove not necessary all)						Acquired points
Item of prove Identification (IP)	Name of Item of IP e.g. Course Description	Does not comply -1	Complies 1 point	Compliant good 2 points	Complaint very good 3 points	Perfect 4 points	Excellent 5 points	Total /15
F1 S1 C1 IP1	Insert text name of the IP							
F1 S1 C1 IP2	Insert text name of the IP							
F1 S1 C2 IP1	Insert text name of the IP							

Likewise using these descriptors can ascertain individual criteria attainment and provide a conclusive statement regarding accreditation attribution. The grading scheme allows us to devise a scale or quality tiers so that an accreditation label can be attributed with a specific level, creating ground for positive competition among departments within the HEI and also among the HEIs.

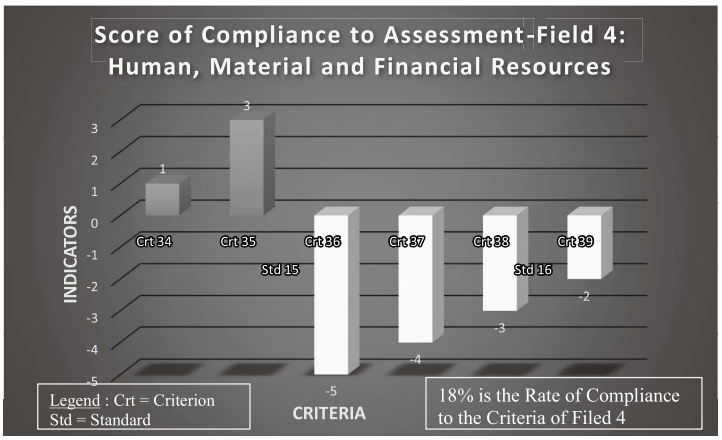

Figure 2: Sample IQV using QAMt for SSR (percentage of compliance)

Legend: This graph is generated by the Compliance Conformity Checker for an SSR. It shows percentage of compliance to assessment-field number 4 titled Human, Material, and Financial Resources in our National Standards Booklet for Program Reviews.

Therefore, the QAMt showcases the overall and field-specific quality compliance levels creating an opportunity for recalibrating and fine tuning the program under review to achieve the next level of compliance or attain the next quality tier/accreditation label at the next round of accreditation.

Table 3: Quality Tier/ Accreditation Label to be obtained from the ERR outcome

% Obtained	Quality Tier/ Accreditation Label
85 – 100	Distinguished Quality
69 – 84	Elaborate Quality
53 – 68	Enhanced Quality
37 – 52	Confirmed Quality
22 – 36	Defined Quality
20 – 21	Basic Quality (in compliance with mandatory requirements such as credit hours' system, pedagogical norms)
Less than 20	Denied accreditation

Source: the scale was inspired from the CAMES Manual on Internal Quality Assurance by Mamdou Sarr' Guideline booklet for IQA. Sarr is a professor from UCAD, Senegal. The pdf was downloaded from www.lecames.org We adapted and added two levels and changed names of labels on the tiers.

3. The distinction between IQV and EQV that this metrics tool calls for consists of drastically reducing the content of SSR report as its function will be merely to verify existence of quality indicators (items or elements of prove that a given criterion is achieved). Therefore, under the new of QA model the SSR will be extremely shortened to 10-15 maximum 20-pages' report, especially when we use the 3-descriptors assessment grid to elaborate a digital tool that automatically yields a report with graphs showing compliance levels (Digital Compliance Checker).

In this manner the whole process of producing a SSR will be reduced to one week. When this report is sent to the national QAA, the next week external reviewers will be deployed for the 3-days' site visit, and will be required to spend two weeks to produce an ERR using the Digital QA Tool (which use the 6-descriptors see Table 2) to assess degree of compliance level showcasing a value-judgment by stating the exact attainment level overall and per assessment-field as per given standards 'framework.

Once the ERR is received by the QAA and an accreditation is attributed showing the attained level of compliance, the HEI's IQA unit is given a week to produce and submit a CIP to the QAA. The CIP will be stored at the QAA till the time of reaccreditation, when the HEI'IQA to submit a CIR (Continuous Improvement Report) as part of its new SSR. From then on, SSR will have to integrate a CIR alongside its 2 or 3 pages' computer

Figure 3: Sample view of digitized standards compliance checker for SSR

Legend: This figure is a snap from the digital Compliance Checker showing how the self-study team at the HEI can directly input the result per criteria by simply ticking one of the three option (yes, no, or not applicable) when they hit submit at the end of each assessment field, the graph will pop-up similar to the one in Figure 2 above.

generated compliance verification report. Afterwards, the second ERR shall have a different set of descriptors to assess compliance by accommodation points for CIP and CIR. This is the paradigm we call for in all models of quality assurance regardless of regional contexts and regardless of adopted QA model or method. As long as there is a standards framework that breaks down standards into criteria and items of prove for each criterion. This metrics tool for QA proposed, herein, uses aspect of both of the following models of QA: a) QA as Excellence, achieving the highest standards and b) QA as Transformation, continuous improvement (Duarte, N.; Vardasca, 2023). Basically our proposed QA model, a true paradigm shift in QA assessment reports blends these two models into one which can be dubbed *QA as Compliance or Criterion-Attainment Model.*

Table 4 Admissibility Parameters

N°	Parameters	Yes (1point)	No (-1)
1	The SS Report includes an outline that follows the rules of the self-assessment guidelines and the national standards framework issued by the national QAAA.	1	
2	The report contains a comprehensive explanation of the methodology adopted by the Self-Study Report to collect and analyze the data necessary for the program's assessment as per the guidelines.		-1
3	The self-assessment process was carried out with a clear work plan and a timeline.	1	
4	The report presents a table with lists of stakeholders interviewed.	1	
5	The assessment includes graphic questionnaires that reflect some of the results of these questionnaires	1	
6	The report includes graphs showing the results of the self-assessment for each field of assessment and overall.	1	
7	The report highlights weaknesses and strengths.		-1
8	The report includes recommendations for continuous improvement, both horizontally and vertically.		-1
9	The self-assessment process complies with the guidelines.	1	
10	The self-assessment process disassembled the evidence from the criteria to count them and track their availability (nonexistent, existent, not applicable) , and assigned quantitative values.		-1
11	The evaluation process included meetings with stakeholders, students, teachers and, support staff.	1	
12	The evaluation process included meetings with stakeholders outside the academic process, particularly employers.	1	
13	Through the self-assessment process, the report achieved a clear result expressing the level of compliance of the program with the quality standards as contained in the national framework, with a quantitative value for each area.	1	
Sub-Total		9/13	-4
Total gained points		9/13	
Percentage		If 51% or above	49% or below
	Self-Study Report	Admissible yes Assessors will be deployed	Inadmissible No external review Self-Study assessment to be redone

VI. Conclusion

This metrics tool calls for a change in the current paradigm of QA worldwide, the Mauritania QAA believes that such an innovative model need to receive some level external recognition before it can be applied in the Mauritanian context. CIP and CIR should officially be adopted by the national council at the ministry level to be added to the quality assurance process as a way to systematically recalibrate adjust and modify academic programs to

ensure compliance and ascendance to the next accreditation level/quality tier on the proposed scale. There are many limitations to this study one is that the study was focused on the Mauritanian context, so it is not clear if the other contexts have realized these nuances. No extensive literature was conducted as this was action research. The only QAA that uses a grading system that seem to be similar to the one proposed here is an Indian Agency called NAAC. We tried to use it, but we found that it does not fully solve the research problem and is not sufficient to cater for our research objectives.

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