

# Continuous Quality Improvement in Implementation of Equity-based Education

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**Abstract**—The most excellent education systems are those that engage quality and equity in simultaneously. They provide all children chances for a high quality education. Education access, learning process, and outcomes should not be influenced by circumstances outside of the control of individuals, such as gender, ethnicity, birthplace, language, wealth or disability. The aim of the research is to get some information on practices and obstacles in implementing equity in education based on Continuous Quality Improvement cycles in an Islamic Boarding High School in Subang. This paper draws upon qualitative-based research that was organized to describe documents review, observations, and interviews that examines the Plan-Do-Study-Act cycles are able to be applied in improving both quality and equity in education. The result reveals that the school is in good category of quality and equity in education.

**Keywords**—continuous quality improvement; equity-based education; PDSA

## I. INTRODUCTION

As a fundamental human right, quality education strongly influences children's life chances. Education provides knowledge, skills, and interpersonal competences needed for their development, adult life, and contributions to economy and society. But there is a growing attention to the issue in education aside from quality, it is equity. Hopefully, education systems would enable people to achieve educational potential regardless of their own personal or socio-economic background.

This issue, a strong focus on equity in education, is mandated in The Sustainable Development Goals (SDGs) to ensure that the most disadvantaged children and young people have the same opportunities as others. SDG 4 demands an inclusive and equitable quality education for everyone, leaving no one left behind [1].

In practice, equity in education pays off in OECD countries. Most of them succeed in combining high quality and equity and make it as highest performing education system. In such education system, the student majority are able achieve high level skills and knowledge that rely on their ability and drive, more than on their socio-economic background. They proved that equity can and should go hand-in-hand with quality [2].

Educational failure impacts a child's life. The student who leaves school without the relevant skills has fewer life hopes. It can be seen in lower initial and lifetime earnings, more difficulties in adapting to rapidly changing knowledge-based economies, and higher risks of unemployment. This failure also charges high costs on society. Uneducated people restrict economies' ability to grow and innovate. The failure may damage social cohesion, and inflict additional costs to deal with consequences, for instance higher spending on public health, social support, and higher criminality [3]. For all those reasons, improving equity in education should be a high priority in our education agendas.

The evidence prove that equity can hand-in-hand with quality. It contributes to economic growth and social wellbeing. This means that investing in high quality schooling and equal opportunities is the most valueable educational policy.

Departing from introduction's view, this work is done to study how is the PDSA cycle used in achieving equity-based education. The PDSA Cycle (Plan-Do-Study-Act) is a systematic process for gaining valuable learning and knowledge for the continual improvement of a product, process, or service. It is also known as the Deming Wheel, or Deming Cycle, this integrated learning-improvement model was first introduced to Dr. Deming by his mentor, Walter Shewhart of the famous Bell Laboratories in New York [4].

## II. THEORETICAL FRAMEWORK

### A. Continuous Quality Improvement

Continuous quality improvement, or CQI, is a management philosophy that organizations use to reduce waste, increase effectiveness and efficiency, and increase internal (meaning, employees) and external (meaning, customer) satisfaction. It is an ongoing process that evaluates how an organization works and ways to improve its processes [5].

A model of improvement is needed to run the CQI. It is necessarily a method for structuring and working out an improvement project.

The model comprises of two parts. The first part is a three-question that help us to describe what we want to achieve, what we think might make change, and what we are going to

measure to help us understand if change is an improvement. The second part is the PDSA (Plan-Do-Study-Act) cycle. This cycle of testing and learning allows the change to be improved continuously.

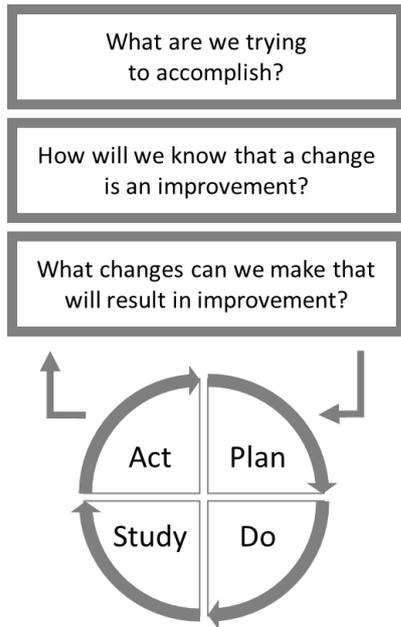


Fig. 1. Model for improvement.

The first three questions of the Model for Improvement will effectively form the framework for the research. **What are we trying to accomplish?** This question means to taking the issue we have been identified and turning it into a goal. **How will we know that a change is an improvement?** This question emphasis on measurement. The measurement allows us to pursue improvements happened over time and help us to identify problems and opportunities. **What changes can we make that will result in improvement?** This question refers to how we start to identify potential changes by using driver diagrams [6].

The second part of the Model for Improvement is likely the engine for developing, testing, and implementing changes. It is done by using PDSA cycles.

The cycle starts with the Plan step. This engages identifying a goal, forming a theory, defining success measurement and bringing a plan into action. These activities are followed by the Do step, in which the pieces of the plan are implemented. Next step is the Study, in which outcomes are observed to test the validity of the plan for indication of progress and success, or failure and chance for improvement. Then come Act step as the close of the cycle, integrating the learning caused by the whole process that can be used to adjust the goal, change methods, and/or reform a theory completely. These four steps can be repeated over and over as part of a never-ending cycle of continual learning and improvement [7].

### B. Equity in Education

Equity in education can be defined in many different ways. OECD in Report No More Failures builds a conceptual

framework, equity in education can be seen through two dimensions: fairness and inclusion [8]. Equity as inclusion means ensuring that all students achieve at least a basic minimum level of skills. Equitable education systems are fair and inclusive and support their students to reach their learning potential without either formally or informally pre-setting obstacles or lowering expectations. Equity as fairness implies that personal or socio-economic background, such as gender, ethnic origin or family background are not barriers to educational success [9].

The quality of children’s education firmly influences the chances of their life. For that reason, schools are able to offer learning experiences that a child may not attain at home, especially if he or she is living in a disadvantaged environment [9]. Schools must provide them with knowledge, skills and interpersonal competences needed for their development, adult life and contributions to economy and society. However notable disparities in educational outcomes still exist in most countries in spite of governments providing high quality education. A large number of students are unsuccessful to reach a minimum stage of education, risking their own future and the progress of their society [10].

The advantages of equity in education are large, since education is correlated with better life, better health, successful parenting and social participation. Fair and inclusive education is one of the most powerful levers available to make society more equitable.

OECD set a reason that fair and inclusive education is important and desirable.

- There is a human rights imperative for people to be able to develop their capacities and participate fully in society. The right to education is recognized, for example, in the United Nations Declaration of the Rights of the Child and in the constitution of most nations.
- The long-term social and financial costs of educational failure are high. Those without the skills to participate socially and economically generate higher costs for health, income support, child welfare and security.

Increased migration poses new challenges for social cohesion in some countries while other countries face long-standing issues of integrating minorities. Fair and inclusive education for migrants and minorities is a key to these challenges. Equity in education enhances social cohesion and trust.

### III. RESEARCH METHODOLOGY

This research applied qualitative-based research that was organized to describe documents review, observations, and interviews that examine the Plan-Do-Study-Act cycles can be worked in improving both quality and equity in education.

This research is conducted in SMAIT As-Syifa Islamic Boarding School, Kabupaten Subang. The data gathered for this work was compiled through a 120-day scan, which was comprised of a combination of literature review, observations, and unstructured individual interviews with school’s

representatives (principal, teachers, and students) that involve in continuous improvement and its impact in equitable education.

The following four questions are used to reach the major objectives:

- How the school set the CQI program to implement equity in education?
- How the school run the CQI program to implement equity in education?

It is hoped that answers to these four questions will depict a clearer portrait of the practice of Continuous Quality Improvement in implementation equity in education.

#### IV. FINDINGS AND DISCUSSION

##### A. School Profile

SMAIT As-Syifa is a high boarding school located on 45.000 m<sup>2</sup> in Subang, with a diverse student from Sabang to Merauke. In academic year 2017/2018, the school has 56 teachers and 779 students with divided classes of boys and girls. Since 2006, as the school established, SMAIT As-Syifa has contributed in quality education by achieving numerous academic achievements in local to national level. In the past three years, the school achieved the highest score of National Exam among the schools in the city. Most graduates are also accepted in many favorite national universities, even some are accepted to study abroad in China, Germany, and Turkey.

Despite these impressive achievements, however, the school still struggle to serve better, particularly in improving equity in education by concerning disadvantage students. To achieve the mission, the school starts to focus on one primary strategies: developing classroom learning system where teachers and students work together to improve.

Teachers using formative assessment concentrate their attention on progress toward learning goals, rather than on the student's absolute level of attainment. Several studies show the value of this approach, noting that low achievers tend to attribute failure to low ability rather than lack of effort, and children develop ideas about their abilities and possibilities early in life [11].

##### B. Starting the CQI Project

After identifying the problem generally, the school forms a teamwork, consists of principal and selected teachers, to set the project's framework more specifically. After several meetings, they focus to provide the three-question of the framework. The three-question is answered as below. **What are we trying to accomplish?** The school is trying to accomplish equitable education by implementing formative assessment in the classroom. They will accomplish this by involving the whole education team to ensure student's academic satisfaction. **How will we know that a change is an improvement?** The school sets key parameters to measure if the change is an improvement by using feedback on student performance and adaptation of instruction to meet identified needs. Data collected by flow sheets. **What changes can we make that will result in improvement?** The school gather ideas of how the

improvement can be driven. This can be done by identifying student's difficulties to implement current strategies, establishing practice strategies, implementing strategies.

When running PDSA cycles in learning activity, teachers focus on chosen standard, break it down to its component parts, and set a goal with their students about what they would like to achieve as it correlate to the sub-standard (e.g., most students will learn how to...). Then the teachers identify and test different instructional approaches to help students achieve the goal. The students are also asked to identify and test different learning strategies they think might be helpful. Each learning cycle runs about five to seven days, throughout teachers collect student data to track their progress toward the goal.

The teachers also gather feedback from students about which instructional strategies were effective, which need to be improved, or which need to be abandoned. Then the data is displayed in the classroom and motivates students not only on their own learning but also to encourage their peers.

From the project described above, the teachers used the following key elements in formative assessment:

- A classroom culture that involves interaction and the use of assessment tools.
- Set of learning goals, and tracking student progress toward those goals.
- Use of varied instruction method to meet diverse students needs.
- Use of varied approaches to the assessment of student understanding.
- Feedback on students performance and adaptation of instruction to meet identified needs.
- Active engagement of students in the learning process.

Those strategies embedded into PDSA cycles continuously until the change is defined as sustaining change. Change is quite difficult but sustaining change is more complex. Once change has been implemented, there is tendency to return to the old system. To overcome this tendency, some sustainability strategies must be introduced, including periodic measurement and feedback, and involvement of senior leadership.

#### V. CONCLUSION

The Model of Improvement is an extremely thorough and reasonable method for educational practitioners to use to improve quality and equity in education hand-in-hand. This research can further an improvement project, refine interference, gain greater improvement, and standardize processes to ensure reliability.

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