

MONITORING AND EVALUATION OF SCHOOL-BASED DATA MANAGEMENT STRATEGIES FOR SCHOOL USE TOWARDS QUALITY ASSURANCE IN SCHOOLS IN NIGERIA

Dr. Terver M. Kwaghbo

Benue State University, Makurdi

Prof. Adejo Okwori

Benue State University, Makurdi

Abstract

Monitoring and evaluation is increasingly becoming an important tool in programme management in the school system. It tracks not only what is being done in a programme but also brings to light whether the programme is making a difference or not. Using data from monitoring and evaluation activities keeps the school system better positioned to appreciate the impact, efficiency and quality of school programmes and the need for future improvements. Through regular monitoring and evaluation visits data are generated to guide, predict and compare outputs with inputs in order to assess the worth of the school programmes or projects. This article looked at the concepts of monitoring and evaluation, data and data management, quality assurance, and the strategies for monitoring and evaluation of school-based data for school use towards quality assurance in the school system.

Key words: *Monitoring, Evaluation, Data management, School-based data, Quality assurance.*

CORRESPONDING AUTHOR

Terver M. Kwaghbo

e-mail: tkwaghbo62@gmail.com

Introduction

Education generally aims at effecting positive change in the learner through quality teaching. The managers and other stakeholders of an educational system normally would want to know how far this goal is achieved. Monitoring and evaluation activities can help the stakeholders keep track of happening, and informed about the progress of a school programme or system. Weiss cited in Khan (2012) defines monitoring and evaluation as the systematic assessment and tracking of the operation and/or outcomes of a programme or policy, compared to a set of explicit or implicit standards as a means of contributing to the improvement or adjustments of the programme or policy. Although monitoring and evaluation (M&E) are usually linked, they are separate concepts and have distinguishing purposes. Monitoring is a continuous process of supervising or checking an activity with the intent to keep things on track and ensure successful implementation of a programme or project. Cashin (2012) submits that monitoring is a systematic collection and analysis of information as projects/programmes progress, aimed at improving the efficiency and effectiveness of a project or organization. According to GAVI (Global Alliance for Vaccines and Immunisation) Project Document (GAVI, 2011), monitoring is the routine tracking and reporting of priority information on a programme's progress in implementation and achievement, its intended output and outcomes. This includes the monitoring of programme inputs and outputs through record keeping and regular reporting systems which is sometimes referred to as "process evaluation". The Higher Education Innovation Fund (2014) posits that monitoring is the collection and analysis of information about a project or programme, undertaken while the project/programme is on-going. Bamberger and Hewitt as cited in Plomp, Huijsman and Kluyfhout (1992, p.65) submit that "monitoring is the internal project activity of providing feedback to management on the progress of the project, the problems it is facing, and the efficiency with which it is being implemented." Monitoring is a basic component of management which aims to assess whether or not resources are being spent according to plan and whether or not the programme is delivering its expected output. The purpose of monitoring is to enable the management and stakeholders to make informed decisions regarding the effectiveness of programmes and the use of resources for quality education.

There are several types of monitoring in monitoring and evaluation (M&E) for assessing quality education. Richard (1988), lists these as compliance monitoring – which seeks to ensure that schools comply with pre-determined standards and norms set and focuses on educational inputs of teachers, textbooks, classrooms, equipment, etc. Diagnostic monitoring focuses on instructional processes in the classroom to ensure that students are learning what they are supposed to learn. Performance monitoring focuses on outputs and emphasis is on academic achievement of the students through testing to see the results of the investments made in education. Others which may be applied to education system include process monitoring, technical monitoring, assumption monitoring, financial monitoring and impact monitoring. Process monitoring informs management and staff on how well the project is being implemented – through the analysis of performance indicators, and what improvement can be brought to it. Performance targets may be set and progress may be checked to ensure that the target is achieved. Technical monitoring is concerned with assessing the strategy that is being used in programme implementation to establish whether it is achieving the desired results. Assumption monitoring involves gathering and analysing data on factors that are external to the programme but which could determine the success or failure of the

programme. Financial monitoring compares expenditures with budgeted amounts and also assesses value for money. Impact monitoring assesses the effect of the programme on the target population based on the pre-determined indicators (Water Affairs and Forestry Department, 2005).

Evaluation is an attempt to appraise the quality or outcome of a programme/project. It is a rigorous and systematic collection and analysis of information on programme activities, characteristics, outcomes and impact to determine its value and its effectiveness. The International Federation of Red Cross and Red Crescent Societies (2011, p. 13) cites OECD (Organization for Economic Cooperation and Development) as defining evaluation as an assessment, as systematic and objective as possible, of an on-going or completed project, programme or policy, its design, implementation or results. The aim is to determine the relevance, and fulfilment of objectives, developmental efficiency, effectiveness, impact and sustainability. An evaluation should provide information that is credible and useful, enabling the incorporation of lessons learned into the decision-making process of both recipients and donors.

Evaluation involves identifying and reflecting upon the effects of what has been done, and judging their worth. Evaluation is an integral part of educational policy-making, planning and implementation; and it is meant to assess the extent to which educational policies, plans, programmes or projects are successfully, effectively and timely implemented. According to the Higher Education Innovation Fund (2014), evaluation is the periodic, retrospective assessment of an organization, project or programme that might be conducted internally or by external independent evaluators.

Evaluation is also of many types including placement, formative, diagnostic, summative, and impact evaluations (Gafoor, 2015; Bassey, 2016). Placement evaluation is done in order to fix the students into the appropriate group or class. It takes the form of pre-test or aptitude test. Formative evaluation seeks to identify the challenges in a programme or learning difficulties with the aim of addressing them. It also tries to assess programme or learning success, for example, weekly tests and terminal examinations. Diagnostic evaluation is usually carried out to find out persistent programme or learning difficulties where they occur. Summative evaluation is carried out at the end of the programme or learning period to find out the extent of achievement of programme objectives. Impact evaluation assesses programme effectiveness in achieving the ultimate goals.

Monitoring and evaluation are mutually reinforcing activities. While monitoring inspects or examines what is being done, evaluation assesses what has been achieved. Sound monitoring should provide much of the data required for evaluating results from the monitoring and evaluation activities, and should form the basis for decision-making on programme performance improvements (OECD, 2011). The World Bank cited in Njeri (2016) posits that both monitoring and evaluation are geared to learning what is being done and how it is being done, by focussing on efficiency, effectiveness and impact.

Data and Data management

Data refers to the facts, ideas or opinions gathered or collected to be analysed and used in order to make decisions. According to Matters (2006), the term 'data' encompasses the trio of input, process and output. Data inputs to education include funding, personnel, teaching resources, facilities, teacher quality and training, and less tangible inputs such as students' intellectual, social and cultural backgrounds. Data outputs in education include grades, test scores, retention rates, tertiary entrance ranks

and student destinations. Situated between the inputs and outputs is a variety of processes during and through which student learning occurs. These processes include the student-teacher interaction, the student-curriculum interaction, and the teacher-curriculum interaction. Data availability is important as data is required to monitor and evaluate the achievement of policy goals. Data is also necessary for evaluating how programmes and projects have performed in order to make robust and evidence-based judgments.

Data management refers to an organisation's handling of information and data for secure, easy access and retrieval. It encompasses a variety of different techniques that facilitate and ensure data control and flow from creation to processing, utilization and deletion. The Business Dictionary (n.d.) defines data management as the administrative process by which the required data is acquired, validated, stored, protected and processed, and by which its accessibility, reliability, and timeliness is ensured to satisfy the needs of the data users. According to Federal Student Aid (2007), data management is the exercise of guidance over management of data assets and the performance of data function. It is the process that ensures availability, usability, integrity, and security of data employed in an enterprise. Techopedia (2018) lists data management tasks to include the creation of data governance policies, analysis and architecture, data management system integration, data security and data source identification, segregation and storage. This implies putting personnel, policies, procedures, and organizational structures in place to make data accurate, consistent, secure, and available in order to accomplish the goals of an organization.

Data management strategy is the process of planning or creating plans for handling the data created, stored, managed, and presented by an organization. It is an information technology (IT) governance process that aims to create and implement a well-planned approach in managing an organization's data assets. According to Techopedia (2018), the key objective behind data management strategy is to develop a business strategy that ensures that data is

- (i) Stored, consumed, and processed in a manner required by the organization.
- (ii) Controlled, monitored, assured and protected using data governance and security processes and policies.
- (iii) Stored, categorized and standardized using defined and known data classification and quality frameworks.

Data management strategy should ultimately help a school system gain the best benefits from its data and data assets. These data can be historical data, reference data or master data (McGilvray & Gwen, 2008). Data on examination results, well-planned lessons, innovative teaching methods, good attendance and punctuality, community participation, learning resources, etc., can be of use in decision-making about quality improvement of teaching and learning and quality assurance.

Quality assurance in education

Quality assurance in education has to do with ensuring standards in education. The concept of quality in education has been addressed differently by different scholars. For example, Hewlett Foundation (2005) views quality education to include activities that increase awareness and accountability for students' learning outcomes and support the development of effective instruction that improves students' learning at low cost. Anderson (2009) considers quality education as what the school does in terms of design

and development that causes behaviour changes in learners. The Federal Government of Nigeria, FGN, (2010) submits that quality education is what the school does well; and what the school should do to improve further; taking into account three broad areas namely outcomes of learners, the quality of provision and the impact of leadership and management. Quality education may be seen as education that meets the minimum standards set for any educational system.

In the light of the foregoing, Ehaowho as cited in Ebong and Efue (2005) submits that quality assurance is the measure of attaining desirable levels of accountability in schools. Standaas cited in Gudo, Oanda and Olel (2011) defines quality assurance as a continuous process by which an institution can guarantee that standards and quality of its educational provisions are being maintained or enhanced. To that end, the EFA (Education for All) Monitoring Report cited in Grima (2008) enumerates some basic determinants of quality assurance in the school system to include the quality and content of instruction and curriculum, the syllabi, pedagogy, support and visionary leadership. Quality assurance can be enhanced through monitoring and evaluation.

Monitoring and Evaluation in the School System

Basically, monitoring and evaluation in the school system aims at achieving the following objectives (Republic of Rwanda, 2009, p. 2; Okwori, 2015):

- (i) To generate accurate information that will be used to assess the impact of a school programme or project.
- (ii) To generate information to assess the quality of a school programme/project.
- (iii) To provide sound data and findings to inform policy decisions.
- (iv) To develop strategy and mechanism to ensure correct dissemination of all critical information among all programme stakeholders including funding agencies, programme implementers, the programme beneficiaries and the general public.
- (v) To ensure that funds allocated to school programmes are judiciously spent and maximum value obtained.
- (vi) To ensure transparency and accountability.

What data needs to be monitored and evaluated in the school system

The following data need to be monitored and evaluated as they set the tone of a school and contribute positively to achieving school goals (Learning Point Associates, 2004, p. 7; Demie, 2013, p. 7; Okwori, 2015):

- (i) School records – whether they are adequate and accurate.
- (ii) School physical environment – safe, clean and beautiful school environment impacts on students' performance.
- (iii) School-community relations – what is the relationship with the host community? How cordial? Can it be improved and sustained?
- (iv) Data on health status of students, school staff and community – can healthy behaviours be adopted to create conducive conditions for health?
- (v) Data on facilities such as toilets – are they adequately available, separate for boys and girls; whether they are regularly cleaned; is water always available?
- (vi) Income generation activities data – is effort continuously made to increase and sustain school income?
- (vii) Students' performance/achievement data – whether the school goals are achieved; any improvement.

- (viii) Class size data – whether classrooms available can accommodate the enrolment figures.
- (ix) Demographic data – to know the school population in terms of gender, ethnicity, or economic status in order to clarify problems and needs.
- (x) Programme data – to determine quality of programmes in the school and for future decision making about educational programmes and curricula.
- (xi) Perception data – to be able to pay attention to the opinions and ideas of the school community about the school's services and impacts.

Embedding the Culture of Monitoring and Evaluation

Monitoring and evaluation (M&E) is part of school supervisory behaviour which has to be strengthened to enhance learning about what works and why/why not; and use this knowledge for decision making. There should be commitment to monitoring and evaluation, and good programme management tools developed for guidance and support in a cost-effective manner.

Within the constraints of adequate funding of school programmes, there is the need for good quality monitoring and evaluation to ensure value for money. The cost of monitoring and evaluation activity should be proportionate to the benefits or returns which can be generated by the school programme/project.

To ensure a robust framework for monitoring and evaluation Lahey (2005) postulates that an important foundation is to establish an enabling environment as an incentive to the delivery of good quality monitoring and evaluation. This is creating the right culture. It entails making monitoring and evaluation an integral part of corporate governance. This will also make it possible for planning for M&E requirements to be done at the early stages of decision making on an initiative.

School-Based Data Monitoring and Evaluation Strategies

Monitoring and evaluation should not be considered as an external activity alone but school-based and part of the school system. The M&E activities should be performed by staff members or an internal evaluator in consultation with an external evaluation consultant. Ryan, Chandler, and Samuels (2007) quote Scriven as advocating that impartiality in conducting such evaluations is logically impossible. School-based evaluation can also help schools take ownership of internal and external performance standards (MacBeath& McGlynn, 2002). Nevo (2002) submits that external evaluation is critical for motivating schools to conduct self-evaluation and actually can legitimize school self-accountability. Nevo further proposed that both external and internal evaluations are needed, and that dialogue be created between the two.

The following strategies or steps have been identified by Kusek and Rist, (2004) and adopted by the International Bank for Reconstruction and Development/The World Bank as critical to monitoring and evaluation:

- (i) Identify and select key indicators to monitor outcomes: Indicators are essential instruments for monitoring and evaluation. They can provide continuous feedback and a wealth of performance information. They help determine what data needs to be collected to assist in assessing the progress of the school programme/project and it is on track to achieving its goals and objectives. The key indicators could include financial resources, human resources, administrative resources, equipment required, student achievement and graduation rates.

- (ii) Set out a baseline data on the key indicators: This relates to establishing performance baselines that can be used at the beginning of the monitoring period. The baselines establish a starting point from which to later monitor and evaluate results. The baseline date will indicate the present level of accomplishment upon which target results will be predicted.
- (iii) Demand for results information: Information on results at each level helps to keep the monitoring process in check towards achievement of results. Results are checked against each level needs to be identified to ensure that they match the expected results at each unit of programme activity.
- (iv) Select result targets: Result targets which are interim steps on the way to longer-term outcomes can be selected by examining baseline indicator levels and desired levels of improvement. For example, what level of funding has achieved what level of programme activity?
- (v) Link outcomes and targets with work plans: This involves step-by-step comparison and analysis of outcomes and targets with the annual or term work plans in order to identify problem areas for necessary review or amendments. Annual work plans help to link inputs with outputs.
- (vi) Evaluate based on targets: This is assessment of results according to the specific goals and objectives set for the programme/project. It aims to define an evaluation function that quantifies how well results meet management preferences.
- (vii) Report and compare findings with standards: Reporting findings looks at ways of analysing and reporting data to help decision makers make the necessary improvements in programmes, projects and policies. The differences in the findings and standards will ginger a feedback that will make for a review or necessary adjustments towards achievement of set goals. (p.23)

Conclusion

Monitoring and evaluation of school-based data has been identified as a necessary activity in improving school programmes/projects. Good quality data is a basis for good decisions. Historical data, reference data and master data are all relevant to improving the teaching-learning activity and consequently ensuring quality in the school system. Continuous monitoring and evaluation of school-based data must be ensured in the school system.

Suggestions

1. The monitoring and evaluation procedures should be clearly delineated in the programme/project design and at the various levels being monitored.
2. Monitoring and evaluation should be a continuous process and should involve all school staff. The process needs to be rigorous in order to generate reliable data that can be accessible and usable by management towards improving the school system for quality assurance and for accountability purposes.
3. Training and support for data gathering and use should be encouraged. Data gathered on school variables must be effectively disseminated and utilized to aid decision-making in schools.
4. Adequate policies should be put in place that specify who is accountable for various aspects of data, including its accuracy, accessibility, consistency, completeness, and updating, storage, and security.

References

- Anderson, C. (2009). What is quality in Education? Retrieved from <http://www.bizmanualz.com/inf/2009/07/15>
- Bassey, B.A. (2016). Evaluation in teaching: Implications for school administration and school learning. In C.C. Uchendu & B.A. Akuegwu (Eds): *Educational management: A guide for practitioners*. Calabar: University of Calabar Press.
- Business Dictionary (n.d.). Data management. BusinessDictionary.com. Retrieved November 15, 2018 from <http://www.businessdictionary.com/definition/data-management.html>
- Cashin, C. (2012). Comparison of the monitoring and evaluation systems of the World Bank and Global Fund. IEG Working Paper 2012/1. Washington D.C.: The World Bank.
- Demie, F. (2013). *Using data to raise achievement, good practice in schools*. London: Lambeth Council.
- Ebong, J.M., & Efue, P.O. (2005). Application of quality assurance in public and private schools in Rivers State. A paper presented at the 29th annual Conference of National Association of Educational Administration and Planning, NAEAP, University of Calabar, Calabar.
- Federal Government of Nigeria, FGN, (2010). *Quality assurance instrument for basic and secondary school education in Nigeria*. Lagos: NERDC.
- Federal Student Aid (2007). Enterprise data management. Retrieved from <https://studentaid.ed.gov/.../>
- Gafoor, K.A. (2015). Types and phases of evaluation in educational practice. *Introduction to educational measurement and evaluation*. DOI: 10.13140/2.1.3801.1680
- There are no sources in the current document. Techopedia (2018). Data management strategy. www.techopedia.com/definition/30194/data
- Water Affairs and Forest Department (2005). Project monitoring and evaluation. Republic of South Africa. <https://evaluateblog.wordpress.com/> /typ...