Measurement of School Effectiveness Using Iso 21001:2018 - Management Systems for Educational Organizations (EOMS)

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Abstract

Education has been a major instrument for individuals and national transformation. Education develops manpower needs, thus, educational institutions have to operate efficiently and effectively in safe manner to meet the changing scientific and technological perspectives making the world a global unit. The school is a formal system standardized for teaching and learning to meet national and global goals. School measurement process is an important aspect in determining the inefficacies or efficacies of the system performances in meeting global market needs. The International Standard Organization provided ISO 21001:2018 known as Management Systems for Educational Organizations (EOMS), to manage education for quality results. The standard has ten principles which appeared like a checklist for measurement of school effectiveness. This paper advocates for the use of ISO 21001:2018 principles in measurement of school effectiveness as good stance in achieving quality innovations at various educational levels in Nigeria. Therefore, it is recommended that the principles of ISO 21001:2018 be the benchmark for measurement of school effectiveness. It should be applied as standard procedures for establishment of school. Finally, as a check for proprietors, government and other interested parties to adequately provide quantitative and qualitative staffing, infrastructures and other resources focused on development of the learners amongst others.

Keywords: ISO 21001:2018, Management Systems, Educational Organization, Measurement, School Effectiveness

Introduction

Every nation depends on several factors for development owing to changing natures of world economies leading to global competitiveness. Education sector has

been the major facilitator, meaningfully providing viable resources for all round development. Both in developed or developing countries, education pivots other economic development parameters to accelerate national growth. Education is a strong pillar for global competitiveness resulting from functional educational management systems. Measurement of school effectiveness is important to ascertain that school meets the purpose of education. Presence of science and technological know-how, funding, educational facilities and continuous improvement of human capacities are measures of effective school system evident in highly prioritized educational societies. Educational management systems regulate educational development processes. Through appropriate planned educational management system, many countries have developed the well beings of their people.

The management systems for educational organization (EOMS) ISO 21001:18 is developed by the *i*international standard organization (ISO), *a non-governmental organisation that develops systems management processes since 1947 in Geneva* to provide a common management tool for organizations providing educational products and services capable of meeting learners' and other beneficiaries' requirements (www.iso.org/obp/iu).This standard ensures creation of enabling environment to accomplishing desired education goals through continuous improvement. It also helped to shape characteristics of educational institutions to continually evaluate whether they meet the requirements of the learners and all interested parties and improve on their current performances.

Enaigbe and Igbinoghene (2016) noted that, education is the prerequisite for a successfully engineered national system and is the answer to ignorance and servitude; the gateway to the future and the key to national development. Conceptually, education is the knowledge building process that galvanized all other processes of development socially, religiously, politically, economically amongst others. No society has educational advantages over others without implementing functional educational management systems which help to organize available resources for effective school performance for national development and growth. ISO21001:18 induced realization of individual, national and global education goals through systemic management approach of educational resources and constraints.

Measurement of school effectiveness requires adequate human, material and financial resources to lay strong foundation that will revive all stages of education for lower, medium and higher human capital development. The Federal Government of Nigeria averred on National Policy on Education (FRN, 2014) that government shall:

(I) regulate the establishment of schools, supervise and inspect schools regularly and ensure that all schools follow approved curricula and conform to the National Policy on Education (Section 3, 41).

(ii) put in place a machinery for monitoring and evaluating the implementation of the provisions of the NPE (Section 9,137 c).

These statements reassure the need for measurement and monitoring of compliance with stated national standards vis-a-vis ISO 21001:18 requirements for

any organization that embarks on teaching and learning. Also that quantitative and qualitative curricula and extra curricula and activities be in place and adequately carried out by competent persons to satisfy the needs of the learners and other beneficiaries. These further indicated that measurement of school effectiveness is the key to whatever individuals, nations and world can achieve through education given the required resources. In view of these, Ye (2015) and Tang (2015) in Xie and Zhang (2020) upheld that high quality schools are generally regarded as important means to reach high education attainment. Apparently, no nation that wants to develop can abandon measuring school effectiveness in content and context vis-a-vis laid down international standards.

Quantity and quality educational resources drive a functional system for quality input-output transformation. The various educational resources whether human, material, financial and time coexist and none of these resources can be in isolation in achieving school effectiveness. Gupta and Gupta (2013) upheld that systems approach will make each person involved in education, whether student, parent, teacher or senior official, more fully aware how complex learning situations are and give them a clearer insight into the action required of them at their particular levels of responsibility. They stressed, that if one element is altered, the relationships between it and the other factors are potentially affected. Where resources are consistently in existence, they are greater opportunities for school effectiveness. Also, when in absence becomes constraints (risks) devastating accomplishment of school effectiveness.

Educational resources like availability of quantity and quality trained teaching and non-teaching staff, good welfare packages, motivation, interested parties' participation, high quantity and quality students' rate, students-teacher class ratio, adequate infrastructural facilities, teaching materials, trainings, funds, internal and external quality assurance compliance, policies, change and innovation, socio – economic factors, time management amongst others are opportunities. On the other hand, the dearths of these resources are main constraints or risk factors affecting school effectiveness. In measuring school effectiveness, opportunities and constraints are two determinants providing checks by ISO 21001:18.

Importantly, ISO 21001: 2018 explicated that constraints (risks) embedded on education can be turned into numerous opportunities through continuous improvement approach. These constraints (risks) include poor school facilities, improper students – teacher class ratio, inadequate and untrained teachers and administrators, poor teacher remuneration, funding, political, cultural and other interferences constituting series of crises in education. All interested parties (school, parents, community and government), need to define educational focus and develop strategies to manage these constraints for school effectiveness. Gupta and Gupta (2013) emphasized that all parts of an institution should be considered as a system, since constraints or opportunities cannot exist in isolation. The school needs to employ strategies to turn these constraints into opportunities as working resources

for the school.

Applying the caveats of ISO 21001:18 in measurement of school effectiveness, clearly defined step by step approach to manage these risks into opportunities to eliciting quality in education through the Plan, Do, Check and Act (PDCA) cycle in Deming's conception promotes continuous improvement, otherwise Total Quality Management (TQM)) (Mullins, 2005, Mukhopadhyay,2005, www.Iso.org). The check (measurement/ monitoring) stage is a major driver of quality cycle that ascertained the efficacy of other stages. Measurement as an indispensable part as Deming's 14 principles of Total Quality Management (TQM) undoubtedly emphasized amongst others creating constancy of purpose for improving the product and service, with the aim of becoming competitive and staying in business, and providing jobs (Mukhopadhyay,2005, Mullins,2005), it is necessary to measure efforts always as to further improve.

Measurement in school is important since teaching and learning is a services activity involving direct contact using designed school curriculum. Measurement process ensures that school curriculum is implemented to meet the desired needs of the learners and interested parties, put differently, that the goals of education are met. This conform with Abraham, Nwogu and Igbinedion (2016) assertion that the measurement of a school is achievement of its goals. Achievement of school goals makes measurement relevant. Based on this, this paper considered only the relevance of ISO 21001:18 principles in the measurement of school effectiveness.

The Concept of Measurement of School Effectiveness

The international labour market has made education worldwide to be constantly reviewed to become a productive supplier to the market. This has driven nations to ensure that education products are usable and sustainable to match global competitiveness. At the present time, much emphasis has been placed on paper qualifications and not skills which has affected the quality of educational products.

Izzet (2014) pointed out that if the sanctions imposed to schools are considered from the aspect of costs of students to their families and states, measurement of schools effectiveness and efficacy gains significant value. Through measurement of school effectiveness, the contents of curricular activities not achievable due to numerous factors may be ascertained to meet the needs of learners and interested parties. There are constraints in ascertaining school effectiveness, which affirmed Meador (2019) proposition, that there are many factors beyond any one person's control which varies from school to school that can strip school effectiveness. Thus, it was advised that education has a profound role in society and therefore should be given desirable attention to overcome those challenges. To ensure school effectiveness, all quality assurance processes must be in place to include regular payment of staff personnel. If the people doing the jobs are not there the system fails. The place of human resource is inevitable in organization life and without specialized human resources in the school; educational goals cannot be

realized (Ugwulashi & Mba, 2020).

Private and public partnerships directed towards improving schools to acceptable standard are good measures for achieving schools effectiveness. Izzet (2014) affirmed that effective schools are institutions that provide students with optimum learning environments for their self-realization. There are many factors causing crises in education that according to Engberg and Wolniak (2014) include school educational resources, teacher quality, and academic practices. Other scholars have different versions, but all these factors significantly affect school effectiveness.

The process of measuring school effectiveness starts with garnered resources (constraints/ opportunities). These resources could depict negative or positive outcomes of school effectiveness based on ISO 21001:18 standards. Competence and training are core requirement determining value of measurement. Blevins (2009) and Parri (2006) cited in (Farooq, Chaudhry, Shafiq and Berhanu (2011) noted that defining and measuring the quality of education is not a simple issue and the complexity of this process increases due to the changing values of quality attributes associated with the different stakeholders' view point. Gravells (2016) opined that to help improve the quality of assessment you need to ensure your assessors are maintaining their occupational competence of the subject area they are assessing. Also making sure they are fully competent with your organization's system, policies and procedures, as well as assessment practice in general. In measuring school effectiveness competence is required to enable accurate assessment.

Measurement of school effectiveness involved accountability of educational resources and achievement of outcomes. Onuka (2009) in Babalola and Ayeni (2009) stated that accountability does not end by ensuring that those that are given educational responsibility are held answerable for educational outcomes, or how resources are expended, but how much learning is taking place and how efficient and effective it is. Since ISO 21001:18 defined effectiveness as extent to which planned activities are realized and planned results achieved, measurement process can deduce ineffectiveness or effectiveness depending on school achievement records and continuous improvement approaches adopted.

Scope of Management Systems on Educational Organization (EOMS) ISO 21001:2018

This specified requirements for management system for educational organizations (EOMS) when such an organization:
a)   needs to demonstrate its ability to support the acquisition and development of competence through teaching, learning or research;
b)   aims to enhance satisfaction of learners, other beneficiaries and staff through the effective application of EOMS, including processes for improvement of the system and assurance of conformity to the requirements of learners and other beneficiaries.

All requirements of this document are generic and intended to be applicable

to any organization that uses a **curriculum** to support the development of competence through teaching, learning or research, regardless of the classroom type, size or method of delivery.

ISO 21001; 18 is an operational standard for all educational institutions providing services of teaching and learning. Designated institutions of learning need to apply this standard for measuring effectiveness because it uses curriculum to support the development of competence through teaching, learning and or research. It is curriculum that school use to impart appropriate knowledge to the learners. In compliance to its statutory obligations to quantitatively and qualitatively satisfy the needs of learners and interested parties, academic activities are rigorously in line with designed curriculum. It is applicable to educational organizations within larger organizations whose core business is not education, such as professional training institutes.

This document does not apply to organizations that only produce or manufacture educational products (www.iso.org). ISO 21001:18 thus, provides good stance for measurement of school effectiveness based on enunciated principles.

The Principles of ISO 21001:2018
The ten principles of ISO 21001:18 are:

Analysis of Principles of ISO 21001:18 in Measuring School Effectiveness

S/N	Principles of ISO 21001:18	Outcomes of measured school effectiveness with ISO 21001:18
1	Focus on learners and other beneficiaries	Effective curriculum tailored towards learners class by class and meeting educational needs of interested parties (society). High students performances in internal and external examinations
2	Visionary leadership	Motivated staff. Effective communication. High team play and high school achievement
3	Engagement of people	Available competent and trained personnel. Training programs. Appropriate subject teachers assigned to appropriate classes and duty positions
4	Process approach	Teaching and learning has good attention. Preparedness and readiness of teachers to deliver curriculum and extra curriculum activities. Clinical supervisory practices.
5	Improvement	Funding. Consistency in teaching and learning app roaches. Improved teachers -students' performances. Adequate infrastructural facilities. Training facilities. Committee reviews of school activities, programs and plans. Community and other interested party supports
6	Evidence – based decisions	Facts and skills involvement. Participatory decision making. Decentralization of power

7	Relationship management	Internal and external relationships. Interpersonal skills. Inclusiveness. Team play. Care for all interested parties. Balanced administrative system
8	Social responsibility	Punctual and responsible to learners and interested parties needs. Harmonized and justified school and community responsibilities
9	Accessibility and equity	Openness and fairness, satisfied learners and interested parties equally. Accountability of school resources
10	Ethical conduct in education and data security and protection	Professional conducts amongst staff and interested parties in discharging statutory duties and obligations.

Authors' analysis adapting the ten ISO 21001:18 principles for measurement of school effectiveness

Educational institutions attuned with international standards maintain internal and external measurement, assessment and or evaluation consistencies. ISO 21001:2018 specifically enabled educational institutions to continuously monitor teaching and learning processes, infrastructures, teachers' competence, behaviours and other resources available to achieve educational goals.

Nowadays, measurement of school effectiveness is neither consistent nor compliance with national standards or ISO 21001:18 principles in provisions and management of educational resources. There are deficiencies in human, material and financial resources. There are also wastages of available resources due to improper supervisions, audits and reviews of school reports. School report is an essential requisite for school effectiveness. Educational resources (human, material, financial, time) are wasted by single process failure leading to school ineffectiveness. Corruption and other associated factors are banes in academic institutions affecting school effectiveness.

Based on these assertions, an academic environment deprived of resources is not safe for academic and non academic activities signify school ineffectiveness. While, an academic environment thriving both academic and non academic activities in meeting education goal indicate school effectiveness.

Guidelines for Using ISO 21001:18 in Measurement of School Effectiveness

In applying ISO 21001:18 in measurement of school effectiveness, educational leaderships are expected to understand the following:

I.   School effectiveness context (scope, objectives and goals). This entails understanding how various objectives and school activities need to be achieved

ii.   School goals and personnel needs (resources, allocations and benefits etc). To identify needs and harmonize them to accomplish good results

iii.   Interested parties need and expectation. Society expects much from school requiring educational institutions to turn out sustainable outputs that meet global market,

fundamentally for global competitiveness

iv.   Learners and other beneficiaries' requirements (age, class size, curriculum, personnel competencies, facilities etc) as standard measures for effectiveness

v.   Support provisions involving resources, competence, awareness, communication and documented information (school records)

vi.   Internal and external quality audit consistencies that provides opportunities for understanding special areas of need like staff size,   staff qualifications, learners abilities, training deliveries, funds, facilities etc for continuous improvement

vii.   School leadership effective competence in relationship amongst students, staff, communities and other interested parties. Open communication with school team such that nobody felt intimidated in the process of pursuing group goals

viii.   School culture is requisite for organizational development (OD). Ensuring that school activities are capable of bringing desirable changes in learners and school goals achievement

ix.   Management of school opportunities. Enable that the best come out of them. Leadership to show proper accountability of resources available to school all times

x.   Constraints (depleted or non-existing resources). To be strategically ascertained and creating windows for becoming opportunities for schools goals realization

xi.   Management of technology in measurement. It may require non physical assessment but use of electronic process (internet, computers, phones etc) to upload and get information remotely. Such records need be competently handled and interpreted accurately for appropriate decision making etc.

Importance of ISO 21001:18 for Measurement of School Effectiveness
These include:

I.   An international standard for effective quantity and quality management of resources for achievement of education goals at all levels of educational system.

ii.   Considered the learners and interested parties in education as central focus for existence of school. Effectiveness of any school depends on performances of the school on availability and appropriate use of educational resources. Put differently, meeting the academic needs of learners and society

iii.   Provided tools for monitoring and measurement of organization performances deploying the Plan, Do, Check and Act (PDCA) model for continuous improvement

iv.   Facilitated easy identification, definition and management of risks related factors in educational institutions. It helped reducing all kinds of hazards affecting teaching and learning (fund, facilities, behaviours, staffing, competencies, trainings, etc) leading to poor school performances

v.   Helped to explicate school key performance index (KPIs), like funds, facilities, competences, trainings, visits etc being opportunities for effective performances through proper management of available resources

Strategies for improving measurement of school effectiveness using ISO 21001:18
1.   Training of educational staffers on ISO 21001:18 standards

2.   Carrying out internal supervision to continuously identify and recommend improvement on areas of deficiencies
3.   Inspection and audit visits to schools by Schools Inspectorate Divisions. Responsibility of Ministries of Education, States and Zonal schools boards
4.   Continuous follow up of inspection and audit visits reports, management reviews and provide action plans for continuous improvement
5.   Selection of competent personnel (teaching and non teaching staff, committee members , PTA members etc) for quality results
6.   Provision of safe educational facilities (classroom, library, laboratory, recreational, etc)
7.   Provision of funds for school internal administration
8.   Distribute management review reports of inspection and audit visits to schools to identify areas of weakness and improve on the deficient areas etc.

Conclusion

The Management Systems for Educational Organization (EOMS) is to provide a common management tool for organizations providing educational products and services capable of meeting learners' and other beneficiaries' requirements. This standard ensures creation of enabling environment to accomplishing desired education goals through continuous improvement. It helped to reshape characteristics of educational institutions to continually evaluate whether they meet the requirements of the learners and all interested parties and improve on their current performances. Without established parameters for measurement resources will not be deployed appropriately to meet quantity and quality requirements. It becomes important to measure school effectiveness for quality and global acceptance of its products like other sectors of production and services using other international standards.

Suggestions

The authors suggest the following as ways ISO 21001:18 will help for measurement of school effectiveness amongst others:

i)   school to regularly monitor academic compliance through continuous assessment in meeting the needs of the learners and other education beneficiaries

ii)   school leaderships to regularly determine levels of involvement towards improvement of school performances. Effectiveness is dependent upon leadership ability to harmonize resources to achieve result (Obasi & Asodike, 2007, Okeibunor, 2019)

iii)   school leaderships to ascertain the level of school safety compliance (teaching, learning, welfare, competence of staff, finance, relationships, infrastructures etc)

iv)   educational managers and administrators to be trained on ISO 21001: 18 for proper school administration system

v)   education authorities to ensure that schools meet the criteria of ISO 21001: 18 on competence for all those involved in carrying out teaching and learning activities anywhere

vi)   to be used as reference document for approval of schools and other centres carrying

out teaching and learning tasks. School success is dependent on its foundational base. According to Okeibunor (2019) the value of every workplace is determined by its assets and liabilities. Assets are your strengths and liabilities are your weakness. This summed up that, well established schools are highly effective than poorly established schools.

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