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Organization And Supervision Of Inventions And Innovations At The Basic Level Of Education In Nigeria

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Introduction

Educational management is inextricably linked with inventions and innovations. It will not be a mistake to say that effective management equates with productive inventions and innovations. Improving the quality of education and achieving better results should be the priority of educational management. This being the case, it should be the concern of management to meet the needs of the learners and to deal with global economic challenges. To this end, management skills such as organisation and supervision that deals with inventions and innovations are very important. Often times problems arise when inventions are resisted because they appear to be revolutionary and threatening instead of being evolutionary and natural. It is therefore difficult to introduce inventions and innovations in education. This is because the school system is strong in the generation and sustenance of its policies. Believe in continuity is stronger than in inventions of new ideas. This posses a lot of challenges to the school administrator and his followers, concerning how to organise the implementation of inventions and innovations. Effective organisation and supervision is therefore very important. There is no gain saying in the fact that proper organisation is required in the process of achieving educational objectives. Therefore the process of introducing inventions and innovations should be effectively organised and supervised to ensure effective implementation.

Over the years, due to advances in science and technology, our educational system have undergone and witnessed many challenges. This called for inventions and innovations in the way we teach, call for curriculum review, improved performance, standards and quality. We are also influenced by the needs of the world around us. Today, students have significantly different needs from those of previous generations. This calls for inventions and innovations in our approaches to teaching and learning. It is therefore the aim of this paper to highlight the importance of organisation and supervision for effective implementation of inventions and innovation at the basic level of our educational system.

Achuonye (2003) stated that, education functions as an agent for the maintenance of social status-quo in the society, through the transmission of modern ideas, modern strategies of doing things, modern attitudes values and creativity, compatible with derived direction of change. This shows that the scope of inventions and innovations is for reaching and touching every aspect of our educational system. It should be borne in mind that the scope of education is very vast in the area of content, purposes and process. All the aspects of the educational system are therefore subject to inventions and innovations from time to time.
The Concept of Inventions and Innovations

Inventions and innovations are closely related even though they differ from each other. Invention is the creation of new ways or process of doing things or in industries, creating new products. Invention has influenced how people work in educational institutions or organisations. It has influenced teaching methodologies. It is related to innovation which is derived from a Latin word ‘innovatus’ meaning altered or make a change, because invention influenced the way of doing things. Once it is introduced, established and accepted it becomes an innovation.

Innovation is therefore any new or novel way of doing things in the school organisation that leads to the achievement of school goals. Therefore inventions and innovations in education mean, a change made in an established way of doing things in the field of education.

Inventions and innovations and the process of managing it, is one of the most critical and persuasive task facing the school administrator. Fadipe and Adepoju (2006), are of the opinion that since the society is undergoing a profound structural revolution, characterized by multiple basic changes in all spheres of human endeavour, whether economic, social, cultural, and political institutions, the new forms that will emerge will be shaped in considerable part by the administrator’s skill in managing inventions and innovation. For Adepoju and Olaniyi (1999), educational inventions and innovations can be equated to the introduction of new ideas, methods and techniques or strategies into the educational system so as to improve both internal and external efficiency in the arrangement of the system and more development. Inventions and innovations, reflects the recognition of new ways of organizing work in areas of staff development, or positive action to involve staff in order to make the achievement of activities in the school organisation, a collective resource for innovation. Therefore, for a successful implementation of invention and innovation to take place therefore, the school administrator must create an organisational setting in which the staff feel empowered to be creative, and in which authority is shared among the staff so that the staff will feel free, to experiment and take risks. Also the school administrator that encourages risk taking, has the challenge of supervising the activities of the staff, to ensure that goals are achieved. This is the main objective of this paper.

Areas of Educational Inventions and Innovations

In education inventions and innovations often occur in the under listed areas among others:

1. Curriculum Content

Curriculum is the sum total of all the experiences provided in the school for the achievement of educational objectives. Oyekan (1997) as cited in Fadipe and Adepoju, (2006:85), referred to curriculum as “planned actions for instruction”. It is also referred to as the life programme of the school and an enterprise in guided living of the young and elders. The content includes all the programme studied, subjects offered and topics covered in the syllabus. The content of the curriculum designed for any level of Nigerian education is guided by the expectations of the governments and the needs of the society. The fact that modern technology, inventions and innovations can render the curriculum outdated demands that there should be periodic review for the introduction of inventions and innovations. The curriculum should be flexible to accommodate change. It therefore means that a systematic approach should be used in the introduction of innovation and that is through effective organisation and supervision.
2. Purpose

The aims and goals of education in Nigeria are usually reflected in the National Policy on education. The aims change, based on societal needs. For example from the production of individuals who are job seekers and who will work in the industries to produce individuals who are job creators, who will build industries and are self reliant, creative and individuals who participate in every facet of learning. Inventions and innovations are introduced for the purpose of satisfying economic wants resulting in increased productivity. This requires effective organisation and supervision to ensure that our system not only adapt to new conditions but also create new condition which the aims emphasize.

3. Process

This is the method or the way of doing things. It is the approach adopted to explain a subject matter to the learner. It is the approach in which teaching is organised and instructional materials presented. For Fadipe and Adepoju (2006:86) “it is the plan or means employed by the teacher to effectively impart or explain the subject matter to his pupils/learners”. There may be need to introduce invention and innovation in the teaching learning process. This has to be stressed by the teacher. For example Achuonye (2007:4) stated that “global trend is a shift from teacher to learner: from passive learning to interactive/participatory learning from walled classroom to visual classroom on-line learning (e-learning), and from maintenance learning to innovative learning”. The list is lengthy and unending with more inventions in Information and Communication Technology (ICT). For effective organisation and supervision of inventions and innovation there is need to involve all the stakeholders informing them of the areas of inventions and innovations just as the aims for the changes should be well stated.

Organizing Inventions and Innovations, at the Basic Level

Basic level of education in Nigeria according to Federal Republic of Nigeria FRN(2004) shall be 9-year duration comprising 6-years of primary education and 3-years of junior secondary education. This is education given to children from 6-11 years plus. FRN (2004:14) stated “that since the rest of education system is built upon it, the primary level is the key to success or failure of the whole system”. This explains why the writer feels that particular attention should be given to this level in the area of organising and supervising inventions and innovations.

Organizing is a process that a school administrator uses to establish a structure of working relationships which allows members of the school organization to interact and co-operate to achieve the goals of teaching and learning. In the school it involves grouping people into departments according to their areas of specialization and the type of duty they perform. The school head/principal is the executive head of the school organization. He is the coordinator whose duty is to organise activities in such a way that things work out smoothly, quickly and effectively. The school Head/Principal/Administrator must see to it that he directs the affairs of individuals working in the school in such a way that the goals of teaching and learning will be achieved. The administrators’ function is to plan, organise, supervise, control and evaluate the activities of the staff in the school. He also decides how best the activities of the different individuals working in the various departments can best be coordinated to achieve results. Therefore for him to succeed in his duties he needs to establish good working relationships with his subordinates, and be able to inspire, motivate, and work co-operatively with his staff to achieve educational goals. The school administrator is the organizer, supervisor and
implementer of inventions and innovations in education. He should organize both human and material resources. He is responsible for organising inventions and innovations and directing it to the appropriate unit or department were the specialists are, for it to be effectively implemented. The administrator is responsible for assigning duties to the specialist staff and organizes the material resources that are necessary to enhance the implementation of inventions, to enhance students learning.

To facilitate the organization of inventions and innovations therefore requires designing and facilitating programmes that will help individuals and teams to develop enhanced self awareness and knowledge about the new skills, activities and processes. Sue and Derek (2000) stated that inventions and innovations involves three key elements:

1. Technology that is the way invention and innovation is achieved.
2. Politics- that is the recognition that, invention and innovation involves a combination of power (interest groups) and influence.
3. Culture- that is the school norms which condition the likely acceptance of inventions and innovations.

It is the duty of the school administrator to enhance collaboration and cooperation both within the school system and outside the school organisation to be able to achieve result. Collegial administration should be the style to adopt because it is more conducive to the implementation of innovation and change. The organisational structure of the school should be designed in such a way that it promotes stability and growth. The structure needs to be flexible enough to adapt to the changing world; yet, the school should be secure enough to accommodate inventions and innovations without being destabilized by them. The result of organizing gives rise to an organizational structure which is a formal system of assigning jobs and reporting relationships that can co-ordinate and motivate staff so that they work together to achieve the goals of teaching and learning. It also determines how best the resources in the school organization that can be used to achieve the goals of education. The administrator should organize a committee based on subject specialization, so that they can contribute meaningfully to suggestions for instructional inventions and innovations for instructional improvements. To ensure effective implementation of inventions and innovations, a free flow of information amongst the staff should be encouraged by the administrator.

**Values of Organization of Inventions and Innovations**

A well organized program helps the organizational members to adjust to changes. These benefits are very important because social changes today take place with increasing speed and affect the lives of many people. Good organization will help members to understand these innovations and provide the skills for adjusting to them. It will encourage the beneficiaries to continue to learn. Innovation brings in new methods and ideas, which culminate to progress. Harward (2009) stated that organization of innovations and inventions helps the school organization to:

- Enhance organizational effectiveness
- Clarify the organisational mission values and strategic vision.
– Critically examine their effectiveness in actualizing their stated mission.
– Develop new initiatives in a constantly changing global environment.
– Adapt to every changing environment by setting their own course instead of running to keep up with others.
– Evaluate their formal and informal organisational processes, procedures, culture and structure.
– Analyze their communication and decision making mechanism
– Create strategic plans to implement their vision.
– Take full advantage of the creativity and learning capacity of their employees.

**Supervision of Inventions and Innovations**

Supervision as perceived by Madumere-Obike (2004:203)

is one of the functions of administration concerned with guiding the day to day action of people working in the organization by stimulating, directing and coordinating their activities and creating good working relationships, to ensure that they work towards the achievement of the goals of the organization.

It is a process of providing an effective leadership that promotes the achievements of the aims and objectives of education. It is the duty of the school administrator to supervise to ensure that things are done according to laid down rules and regulations. The administrator needs to supervise the staff as they implement new idea while teaching, offer useful and make corrections where necessary

In the area of curriculum and instruction, the administrator should pay special attention not only during the planning stage, but also during the implementation stage. That is, during the delivery of instruction and execution of instructional programs. The administrator has to supervise and see to it that the working environment is conducive for teaching and learning. The supervisor can assist by providing instructional resources and materials motivate the staff by demonstrating innovative instructional methods. The supervisor must have good interpersonal relationship with the staff.

According to Tuoyo in Adebayo (2006), supervision is the practice of monitoring the performance of the school staff, noting the merits and demerits and using amicable techniques to ameliorate the flaws, while still improving on the merits, thereby increasing educational goals. This shows that supervision is aimed at improving the effectiveness of teachers towards the implementation of inventions and innovations so that they can contribute maximally to the attainment of educational objectives. During supervision, information on the relevance and adequacy of instructional materials are dictated and advise is given. Supervision should be fully integrated with the practical day to day administration and implementation of inventions and innovations. Supervision is fundamental to effective curriculum management and the provision of learning opportunities. Supervisory reports provide effective method of monitoring provision in preparation for action planning and the like. It provides a framework for policy needs inclusion, provision of materials, teaching and learning methodology, staffing, grouping etcetera.

**Supervisory Practices**
Supervising the teachers in the implementation of inventions and innovation is an effective way of ensuring that goals are achieved. It is an effective way of increasing the teacher’s performance level. It is a way of revealing areas which requires more training or introducing new procedures that will allow teachers to teach better or perform better. When teachers know that they are being supervised, they will put in their best to see that the goals are achieved. There should be adequate supervision while implementing of inventions and innovations to check if the plans are being achieved and also the impact being achieved from the plans. Supervisory practices should include classroom visitations by designated member of staff, to accommodate the following:

- Mutual observation by the supervisor and supervisee.
- Observation of work plan of action.
- Follow up discussions after supervision
- Interviews to ascertain the student’s perception by systematic sampling of opinion.

For educational inventions and innovations to be fully implemented, it must not loose sight of the importance of supervision during the planning stage of the implementation and after the implemented stage. This is because all stakeholders demands that the objectives must be achieved. Supervision aims at assisting the decision makers at various stage of the implementation, taking and demonstrating appropriate actions or activities to ensure that programme is adequately implemented.

Strategies for Implementing Inventions and Innovations.

For inventions and innovation to be fully accepted, the stakeholder, that is the students, teachers, principals, parents and so on, of such inventions must be seriously considered. There should be an acceptance of a set of shared values which all stakeholders hold about the school and its aims and objectives. According to Omenyi (1997), the administrator must experience support, trust, acceptance and confidence in his relation with other people in this regard. He must assure the autonomy and security of the implementer and the cost involved must be properly considered. This will depend not only on strategic planning but also on developmental planning for implementation which will empower the school. According to Sue and Derek (2000) implementation needs effective management strategies which includes in practical terms (i) establishment of targets (ii) rational planning and (iii) effective supervision and evaluation.

Establishment of targets

The aims of the invention and innovation against which plans can developed must be clearly stated, this is very essential if it must be implemented. The aims should be translated into specific objectives which can be defined, given priority and then implemented on the basis of rational planning approaches. These aims and objectives must be fully communicated to all stakeholders for them to understand.

Rational planning, to achieve the target

In order to achieve the stated targets the planning process should follow the following sequence:

(a) Statement of objectives which should be agreed upon and communicated to all stakeholders.
(b) Prefer alternatives: Information on alternative methods of implementation to achieve the stated objectives has to be obtained.

(c) Selection of alternatives: From the suggested alternatives the most appropriate course of action will be selected for example: providing additional resources for Information Communication Technology (ICT) or for building, repairs depending on availability of funds.

(d) Putting the selected alternative into action, that is implementing the programme.

(e) Evaluation: Monitoring through supervision to measure the progress being made towards achieving the aims as a result of the implementation.

(f) Recycling: The cycle continues so that the implementation programme becomes a continuous activity.

The school implementation plan should be concerned with detailed implementation of key elements in the innovation as well as the cost involved at the classroom levels. The school should plan the implementation at the entire school level and at the departmental levels across time. This is because the schools budget might pose a constraint to the implementation and achievement of results.

Supervision and Evaluation.

During the implementation of the target, there should be adequate supervision to check if the plans are being achieved and also if the impacts are felt from the plans.

– The schools organisation needs to be designed to promote stability and growth. The school organisational structure need to be flexible enough to adapt to changing world, yet secure enough to accommodate inventions and innovations without being destabilized by them.

– For effective implementation of inventions and innovations, the organisation needs to understand that the perception of all those involved, each of whom may interpret each event with his/her own different meaning is very important. So for change to succeed, as many poses different perceptions as there are staff, these three clear but often neglected tasks are needed

(i) we must find out people’s version of reality

(ii) We must discover the stresses which threaten people’s definition of reality.

(iii) We must develop people’s commitment to new goals and ways of achieving them.

– The school administrator must be careful on how to manage emotions if the school is undergoing change. How to handle emotions during critical times can help or hinder invention and innovation implementation process. It is a known fact that if the resistance to innovation is emotional, it is the hardest form of resistance to overcome. As an administrator, do not avoid the emotions that accompany the implementation process of invention and innovations. Set the mood and know how to manage emotions.

– Inventions and innovation requires effective communication. The school administrator must
communicate to his staff to be able to secure the resources (human and material) needed to implement the new idea and also increase efficiency, quality and acceptance of the invention and innovation to be able to achieve the aims.

– A good school administrator should establish division of work, division of authority and responsibility that will motivate staff to subordinate their individual their individual interest to the common goal of the school. This is because according to Jones and George (2003) it is believed that high performance achievement is derived from individuals ability and skills and that equity, order, initiative and other indicators of respect for individual create ‘esprit de corps’ that leads to achievement of goals.

Conclusion

The administrators at the basic level of our educational system need to exemplify the best aspect of invention and innovation that could be implemented, demonstrating and articulating the benefits, allowing all stakeholders to share in the approaches so that tensions and emotions will be addressed. It is in such a context that organisation and supervision of inventions and innovations can be effectively implemented.

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