Curriculum Integration for Knowledge Management: A Prospective Concept

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Abstract
Natural changes in organization of human knowledge and developments in curricula do not always raise serious logical problems. Often problems raised are not epistemological but administrative and such is the case of integrated science courses. Problems are not raised even with the integration of disciplines, since some disciplines regard all knowledge as one and indivisible. We must therefore put the learners in a situation in which he/she can organize and construct knowledge in ways that are meaningful to them as to society. Education thus should be a dialectical relationship between the learners and their environment, it should be concerned with the intentions that lie behind the conscious activity of the learner and should be seen as an extension of the entry behavior that the learner brings to the teaching-learning situation. This position eliminates divisions that appear and represents organization and construction of knowledge into convenient fields on the basis of social and personal relevance and acknowledges the need for constant change, re-organization and re-appraisal of these fields. The way current and past generations have structured their knowledge will not necessarily be the most satisfactory structure for subsequent generations; hence the need to plan for constant integration and re-integration of curricula. This theoretical review paper seeks to give an exposition that views education as being essentially a matter of the developing experience of the individual in the context of knowledge management. The authors have designed a prospective conclusive working model; which has been named the cyclic model for knowledge management.

Key Words: Curriculum, Integration, Knowledge Management, Prospective Concept

Introduction

There have been attempts on Curriculum integration (CI) in the United States of America and in Israel. According to Hoachlander (1999) integration of academics into the Career and Technical Education (CTE) curriculum is a major policy objective of the Carl Perkins Vocational Education Act (1985, 1990, & 1998) Indeed, CTE courses hold promise as another venue in which to reinforce students' math understanding and skill(Woodward & Montague, 2002). However, despite the federal mandate, there is still no agreement on what curriculum integration should look like. There have been several efforts in CTE circles to define curriculum integration (CI) models (Grubb, Davis, Lum, Plihal & Morgaine, 1991). However, as Johnson, Charner, and White (2003) observed, much of the available literature is descriptive and quantifiable data are scarce.

Mustafa (2011) reviews various types of curriculum integration models in general as well as in science and mathematics education. In light of these models a new

five points model of integration called transitional model of integration is presented. This model is designed for science education more specifically for mathematics education. However it is not confined to these areas and can also be utilized for other subjects in school curriculum. The model focuses on the integration of social issues in school curriculum without addition of other subjects and changing the time schedule of the school. In this model the knowledge about social issues can be imparted to the children through teaching different subjects using subservient and thematic approach of integration

All CI models attempt to move away from the traditional model of instruction, in which subjects are taught by themselves, completely isolated from the context. Traditional mathematics, for instance, is seen as abstract, disconnected from any real application (Brown, Collins, & Duguid, 1989). Some math educators believe that students have a lot of trouble learning algebra in a de-contextualized way (Boaler, 1998; Kieran, 1992). This issue is particularly acute with low achievers (Woodward & Montague, 2002). The goal of CI is to demonstrate to students the connection between academic subjects. Integration is a philosophy of teaching in which content is drawn from several subject areas to focus on a particular topic or theme (Montague, 1992). Stone, Alfeld and Pearson (2008) in their Math-in-CTE model present CI as contextual (as opposed to context-based). Bernse and Erickson (2001) define contextual learning as learning that involves students connecting the content with the context in which that content could be used. They emphasize this connection to bring meaning to learning. Karweit (1993) defines contextual learning as learning that is designed to support students in activities and problem solving in ways that reflects the real-world nature of such tasks. According to this perspective, educators play a major role in helping students find meaning in their education and make connections between what they are learning in the classroom and ways in which that knowledge can be applied in the real world. The use of authentic situations serves to anchor the symbolic and abstract math in situations that are familiar and real to students, which serves to help them make sense of the content (Brown, Collins, & Duguid, 1989).

Contextual Learning and Situated Cognition

One problem with contextual learning is that students may be unable to transfer the knowledge learned in one context or situation to another context or situation because it is so embedded (situated) in the original context where it was learned (Boaler, 1993; 1998; Lave, 1988; Lave & Wenger, 1991; Karweit, 1993). Unless students are taught the abstract principle behind what they are learning in context and guided through other contextual examples to which it applies, it is unlikely that cognitive transfer will occur outside the classroom (Fuchs*et al*, 2003). This is a critical problem because students eventually need to use their skills outside the classroom. Employers emphasize a need for students to have experience with application of these skills (Stone, Alfeld& Pearson, 2008). This implies that students need to practice skills in a variety of ways so that they become proficient in knowing when and how to apply them.

This was consistent with the definition and characteristics provided by **The Math-in-CTE Model** (Stone, Alfeld& Pearson, 2008). The authors posit that the basic assumption was that the mathematics taught in CTE courses should arise directly out of the occupational content. Students should see the math as an essential component of the CTE course content, a tool needed to successfully perform the tasks of the occupation (Ericsson, Krampe, &Tesch-Römer, 1993). Deliberate practices can be created by asking students to solve a

problem repeatedly in ways different than the ones they had previously used to solve the problem. Anderson (1996) describes the process of readdressing a problem as a tuning stage. Brownell (1956) called this meaningful habituation and supported by (Allen, 2003). These theorists argue for learning problem-solving in a "real world" context and practicing both similar and novel problems on a continuum from more contextualized to more abstract, which should pave the way for students to be able to transfer their skills to new situations and environments.

The Rationale: Reasons and purposes for curriculum integration

According to Stone, Alfeld and Pearson (2008) curriculum integration enables teachers and learners to identify and utilize the connections between syllabi. Its primary purpose is to enhance and maximize learning both within and across key learning areas of the curriculum. Through curriculum integration, teachers plan for the development of key skills and understandings that transcend individual strands and syllabi. In practice, curriculum integration enables students to acquire a unified view of the curriculum, broadening the context of their learning beyond single key learning areas.

An integrated approach better reflects the way children learn at home and in school. Through planning and programming integrated learning experiences, teachers enable students to make connections and to understand relationships within and between learning areas (Stone, Alfeld and Pearson, 2008). In spite of the administrative difficulties and the stated logical problems, many teachers in schools, colleges and universities have undertaken the chore of developing new forms of integrated studies (Salomon &Perkins, 1989; Pomson, 2001).Researchers of Modern Orthodox, Conservative, and Reformist Jewish education have all indicated that integration efforts in the day schools in Israel affiliated with these movements have generally been a source of disappointment (Bieler, 1986; Lukinsky, 1978; Zeldin, 1992). Fogarty (1991) has recommended that we should start curriculum planning from a consideration, not on the nature of knowledge, but of the needs and interests of the learners. Perkins and Salomon (1984) recommended a complete change of methods, to the idea of promoting pupil inquiry rather than proceeding entirely through a teacher-dominated didacticism. However, this factor provides further evidence that this has been a major purpose of many schools and teachers in introducing new approaches to the planning of their curriculum (Pomson, 2001)

2. Literature Review

Curriculum integration in Perspective

Curriculum integration has been with us for years, for man has always integrated his knowledge as he has focused on certain concerns that have been important to him (Hirst, 1965). People have felt the need to re-focus knowledge to deal with new concerns; hence the problem of integrating hitherto separate areas of knowledge has been raised. According to Pomson (2001), there is no agreed-upon definition of Curriculum integration; however, there are several characteristics that are within all definitions. They include: student-centered relevant learning, a socially and site-based orientation, all disciplines and grade levels involved, and shared content. Curriculum Integration (CI) may be referred to as: thematic, interdisciplinary, multidisciplinary, transdisplinary and having connected thematic areas.

Curriculum integration (CI) can be described as an approach to teaching and learning that is based on both philosophy and practicality. It can generally be defined as a curriculum approach that purposefully draws together knowledge, skills, attitudes and values from within or across subject areas to develop a more powerful understanding of key ideas

(Jacobs, 1991).

According to Hawes (1979), the late 1960's saw the planning and development of new science syllabuses in the United States of America and Britain after the launching of the Sputnik by Russians in 1957. The preparation of these curricula was based on the British Nuffield science courses. In developing the Nuffield courses, American materials were used. These curriculum developments spilled over into developing countries in Africa in the early 1970's. The introduction of highly sophisticated and expensive scientific and technological education for the developing African states was done without regard to laying foundations in secondary schools for fundamental growth of knowledge, skills and attitudes necessary for understanding them. The importation of science curriculum packages into Africa had far reaching repercussions on the development and implementation of the biology curriculum and that of other science subjects like physics, chemistry and mathematics at secondary school level in Kenya from that time to-date (Nyongesa, 2010).

Repercussions have been observed in recent practice in education which has revealed very clearly that this importation can lead to the imposition on some pupils of a curriculum that is alien to them, which lacks relevance to their lives and to their experience outside the school, college and/or university and can ultimately bring about their alienation from and rejection of the education they are offered (Lukinsky, 1978). This is probably the root cause of most of the problems that the educational system is facing in Kenya today and it is certainly a real hazard if not an inevitable result of this kind of approach to curriculum planning (Nyongesa, 2010). The second reason for the need to introduce some form of curriculum integration, although closely related to the first, is sociological rather than psychological (Pomson, 2001). It is already noted that some areas of knowledge are not characterized by being logically discrete forms but by being fields of knowledge, issues of importance around which different bodies of knowledge tend to cohere or become organized (Hirst, 1965; Perkins &Salomon 1984; Bieler, 1986; Gardner, 1999). Jacobs (1991) observed that one direct implication that should be noted here is that any attempt at curriculum integration should be centered on an organizing theme or concept that is properly meaningful. Pomson (2001) posits that the justification for the introduction of new combinations cannot be arbitrary collections of subject matter but must have some central focus.

Knowledge and Knowledge Management

The question 'what is knowledge?' can be interpreted in several ways. It can be interpreted both as a psychological question or a philosophical semantic question, about what it means to know something, what kind of behavioral changes are to count as evidence of the acquisition of knowledge, rather than of, say, the development of habits or fixed responses to certain stimuli (Young, 1971).The author observes that, it is in this sense that if is often argued that the term 'knowledge' can only properly be used of that kind of learning that involves understanding. Knowledge that something is the case must always be accompanied by the knowledge why it is the case (Archambault, 1965). Only if we insist on this can we distinguish knowledge from belief, opinion or mere guess work.

Interpreted in this way, the question 'what is knowledge?' becomes almost synonymous with the question 'what is truth?' and its central relevance to decisions of curriculum content will be clear, since it will be impossible to justify the inclusion of certain areas of knowledge in the curriculum for their own sake unless evidence can be produced as to their truth content, objectivity or intrinsic value

(Archambault, 1965). Hirst (1965) argues for the inclusion of certain areas of knowledge in the curriculum on the grounds that these are those areas of knowledge that constitute rationality itself, that they represent what it means to be rational, so that without them nothing that can be called 'education' is possible since education is seen as essentially concerned to develop the rational mind (Hirst, 1969; Hirst & Peters, 1970; Jenkins& Shipman, 1976)).

Movizzo, (1995) argues that integral to the implementation of knowledge management is the organization's information flows and implementing organizational learning practices which make explicit key aspects of its knowledge base. Drucker (1995) posits that knowledge management is not about managing or organizing books or journals, searching the internet or arranging for the circulation of materials. However, each of these activities can in some way be part of the knowledge management spectrum and processes. Knowledge management is about enhancing the use of organizational knowledge through sound practices of information management and organizational learning (Nonaka, Ikujiro, von Krorgh & George, 2009).

According to Nonaka, Ikujiro, von Krorgh& Georg, (2009); Knowledge Management is a discipline established since 1991.It is a new branch of management for achieving breakthrough business performance through the synergy of people, processes, and technology. Its focus is on the management of change, uncertainty, and complexity. It evolved from the need for advancing beyond the failing paradigm of Information Technology Management.

Nonaka, Ikujiro, von Krorgh and Georg (2009) observe that knowledge management refers to the critical issues of organizational adaptation, survival and competence against radical discontinuous environmental change. Essentially it embodies organizational processes that seek synergistic combination of data and information processing capacity of information technologies, and the creative and innovative capacity of human beings. Importantly, unless data and information are translated into meaningful decisions and actions for sustained performance, there is no point of the whole exercise, whether you it is called knowledge management, wisdom management, creativity management, or something else (Movizzo, 1995). He posits that knowledge management is knowing what you know and profit from it. Drucker (1995) argues that the focus of knowledge management is on 'doing the right thing' instead of 'doing things right'. It provides a framework within which the organization views all its processes as knowledge processes and all business processes involve creation, dissemination and application of knowledge towards organizational sustenance and survival. Accordingly the goal of knowledge management is sustained individual and business performance through ongoing learning, unlearning, and adaptation. The real question then is "How can the curricula be integrated for knowledge management in Kenya and other countries including the United Kingdom.

Background to the Forms of Knowledge

Hirst (1965) posits that knowledge is organized into several logically discrete forms which Phenix (1964) calls the realms of understanding. This gives an assumption about knowledge. This assumption creates a difficulty for integration since these bodies of knowledge are different from each other in their logical structure. There are four main aspects to the logical differences that distinguish each form of knowledge form others. Firstly, each form has certain central concepts that are peculiar in character to the form (Hirst, 1965). These concepts are of course sometimes used in the context of other forms of knowledge but in a rational structure of knowledge these concepts fall naturally into one particular form.

Secondly, each form has its own distinctive logical structure. A systematic body of knowledge consists of networks of relationships through which experience is understood and these networks fall into several categories, such as mathematics, physical sciences, biological sciences, the human science, literature and fine arts, ethics, religion, sociology and philosophy (Hirst, 1965).There is of course overlap as between, for example, mathematics and physical sciences, but the fact that there is overlap does not imply that important logical differences do not exist.

Thirdly, each form has its own distinctive truth criteria, its own method of validating the assertions it consists of. Mathematical assertions, for example, are to be verified by procedures that are quite different from those that are used to verify scientific assertions. There are further different verification procedures, each appropriate and peculiar to a particular form of knowledge (Hirst, 1965).

Lastly, each form has its own distinctive methodology. Each has its own particular techniques and skills for exploring experience (Hirst, 1965). Each form therefore represents a different set of procedures for extending human knowledge and experience in the area with which it is concerned. We must however be careful about a good deal of confusion apparent both in what is said

The Integration of Knowledge

The first reason for integration of knowledge is that; it is a good reminder that no logical problems are created when subjects are to be integrated but only when the integration of separate disciplines is involved (Stone, Alfeld& Pearson, 2008). The term integration being used in this case, not to indicate the need to put two or more logically different forms of knowledge together (Blum, 1971). Thus, in a particular context a subject such as nutritional studies might not be seen in itself as a form of integrated study, which on this kind of analysis of knowledge it clearly is, an integration of some biology, home science, agriculture and partly some chemistry. Jenkins and Shipman (1976) conclude that, we must be clear that the problems such developments create are entirely administrative and not logical.

Secondly, not all attempts to put subjects, or even disciplines, together will raise problems of integration. Only when it is intended that the different packages of knowledge should be welded into one, there could be an apparent logical problem and only here, if anywhere, is there a need to develop an interdisciplinary, multidisciplinary or transdisciplinary logic.

Thirdly it is good to remember that it has already been done with apparent success. Many of the subjects that stand unquestioned on the curricula of schools, colleges and universities are forms of integrated study; they are fields of knowledge rather than forms of knowledge, subjects rather than disciplines (Stone, Alfeld & Pearson, 2008). Geography, drawing in mathematics, the physical sciences and the human sciences, is perhaps the most immediately obvious example of this, as already noted, but there are many others-home science, physical education, design and technology studies, comparative education and, indeed, the study of education itself

The second reason for the need to introduce some form of curriculum integration, although closely related to the first, is sociological rather than psychological (Pomson, 2001). It is already noted that some areas of knowledge are not characterized by being logically discrete forms but by being fields of knowledge, issues of importance around which different bodies of knowledge tend to cohere or become organized (Hirst, 1965; Perkins &Salomon 1984; Bieler, 1986; Gardner, 1999). Jacobs (1991) observed that one direct implication that should be noted here is that any attempt at curriculum

integration should be centered on an organizing theme or concept that is properly meaningful. Pomson (2001) posits that the justification for the introduction of new combinations cannot be arbitrary collections of subject matter but must have some central focus.

Pomson (1996) argues that if the integration of disciplines creates logical problems then it must also create them for those attempts at integration that took place before the notion of logically discrete forms of knowledge was first mooted, just as much as for those attempts that have been made since. Alternatively, if such subjects have solved the logical difficulties, then it should not be difficult for us to find similar solutions for new forms of integration. In fact, the whole issue continues to appear to be a non-problem or at least a problem created and solved.

Knowledge and the Curriculum

The twin questions 'what is knowledge?' and 'what is truth?' leads us on to the question that is central to this prospective concept on curriculum integration. Once again the inter-relatedness of these questions must be noted. The question is; what is it of virtue by which we can assess the validity of knowledge? (Archambault, 1965). In answering this question, it becomes obvious that the question 'what is knowledge?' becomes almost synonymous with the question 'what is truth?' in the context of learning and education in its entirety (Young, 1971)

Indeed, it could be argued that this is the focal point of philosophy itself since all branches of philosophy – ethics, aesthetics, politics and oters – can be seen as centrally engaged in a search for what will constitute knowledge in each particular field (Archambault, 1965). Inevitably a number of different theories about the nature and structure of knowledge have been offered, all or most of which are still relevant today and it would be for many reasons desirable that we should consider them (Young, 1971). Firstly, particular theories about the nature of knowledge are implicit in or assumed by all theories that are proposed as bases for curriculum development and planning and, secondly and more importantly, the epistemological bases of the curriculum are too little understood by curriculum theorists and most theories about the curriculum need to be looked at very critically and rigorously from this point of view (Lawton, 1969; Blum, 1971). This leads inevitably to a less confident view of knowledge and to a greater awareness of the tentative nature of human knowledge since it is agreed by everyone that the rationalists are right in claiming that the evidence of our senses is unreliable. It is not perhaps necessary to go as far to the other extreme as this, but it is necessary, if one takes such a view, to recognize at the very least the hypothetical nature of knowledge, as present day empiricist theories do (Ayer, 1936;1946).

The whole pragmatist movement, as promoted by John Dewey, which has been highly influential in the recent development of educational practice, has been founded on a view of knowledge as hypothetical and therefore subject to constant change, modification and evolution. Young (1971) observes that Such a view requires us to be hesitant about asserting the value of any form of knowledge or its right to inclusion in the curriculum and encourages us to accept that knowledge is to be equated rather with experience, so that what it means for a child to acquire knowledge is that he/she should have experiences which he/she can himself use as the basis for the framing of hypotheses to explain and gain control over the environment in which he lives.

This brings a full circle, since the problem of conflicting sub-cultures is back and a blank has been drawn in attempts to find a solution to the problem. (Archambault, 1965; Young, 1971) argue that there is no universally accepted theory of knowledge and the theories that appear to have the strongest claims on our acceptance are

those that posit that they cannot establish the kind of objective status for knowledge that man requires in order to make decisions about the content of the curriculum entirely on the basis of this kind of consideration (Keddie, 1971).

Applications:

Child – centered education

The idea that in seeking answers to questions about what should be taught, an examination of the nature of the child is not new; it is certainly not a product of the 21st century (Stone, Alfeld& Pearson, 2008). The main thrust of that revolt was against the idea that educational practices were planned by a consideration of 'the knowledge', the children instead who are the objects of those practices were looked at according to what could be discovered about them. It is for this reason that this general movement has been termed 'child-centered' (Blum, 1971). It is one thing to claim that education should be planned according to what we know about the nature of children; it is quite another to spell out precisely how our knowledge of children should be reflected in our educational planning. (Archambault, 1965; Young, 1971; Blum, 1971). With theories such as these it is difficult to decide what practical provisions they should lead to. They may be helpful in our attempts to decide on appropriate methods but they offer no criteria by which we can make choice of suitable content. (Pomson, 1996).

According to Dearden (1968), three related kinds of answers have been offered to this question – claims that the main concern should be the child or the learner, attempts to give a coherent account of the nature of growth and assertions that the content of the curriculum should be decided by reference to the interests of the children or learners the needs, growth, and the societal values. Maslow (1954) for example, identified three kinds of need – primary needs for food, air; sleep among others, emotional needs for such things as love and security and social needs

Dewey (1939) speaks of guided growth; this is to do no more than push the question one stage backwards. For now, one may ask; what criteria should appeal in deciding how to guide children's growth? The idea of growth is helpful to us in reaching decisions about appropriate methods in education, since it suggests that these should be such as to ensure that the development of children involves fundamental and permanent changes and that their learning should not be superficial, that it should not consist of 'inert ideas' (Whitehead, 1932). It has led to conclusions such as that of the SMASSE Project Report (2000) that the curriculum should be thought of in terms of activity and experience rather than knowledge to be acquired and facts to be stored. The SMASSE Project Report draws a lot of support from Dewey's philosophy of education that viewed education as a process of cognitive growth and see the main concerns of the teacher as being to assist pupils to acquire those concepts which will enable them to interact successfully with their environment.

Dewey (1939) speaks of an 'experiential continuum' which is for him the essence of education as a continuous lifelong process and which offers the principle by which decisions concerning the content of each child's curriculum; the principle being always to choose that activity or those experiences likely to be most productive in terms of further experience. Again this was a feature of John Dewey's philosophy of education and this theory has recently been developed more fully in an attempt to resolve some of the difficulties that a 'child – centered' approach to education presents (SMASSE Project Report, 2000). Briefly, it is suggested that we plan our curriculum not in the light of what we think to be the nature of knowledge nor by reference to what appears to be the requirements of the society or culture in which we live, but in response to what we can find that is actually of interest to the children or learners themselves.

At one level such an approach has

obvious advantages. For there is no doubt that children do work better and learn more effectively when they are interested in what they are being required to do (SMASSE Project Report, 2000). Conversely, it is a lack of interest in the work that teachers require of them that is responsible for the failure to learn and the ultimate alienation and disaffection of many pupils. A curriculum can only be truly described as educational if its content consists of those things that pupils are interested in. Kelly (1976) argues that a consideration of the interests of children is central not only to an effective methodology but also to the educational content of our curriculum. He furthers observes that if we are to avoid all the ills that are said follow for many pupils when teachers decide for them what they shall learn and thus impose their values on them, we can only do this by letting them decide what they are interested in.There are, however, several difficulties of a more theoretical kind with this view and must be considered (White 1964, 1967; Wilson, 1971).

The Conceptual Framework

The conceptual framework used in this paper is based on the Systems Theory presented by Joyce and Weil (1980). They conceived a system as some form in structure or operation, concept or function, composed of united and integrated parts. Banathy (1968) defined a system as a deliberately designed synthetic organism comprised of interrelated and interacting components which are employed to function in an integrated fashion to attain predetermined purposes. From the General Systems Theory is derived the systems concept (Mukasa – Simiyu, 2001). Figure 1 shows the Conceptual Framework for this prospective concept.

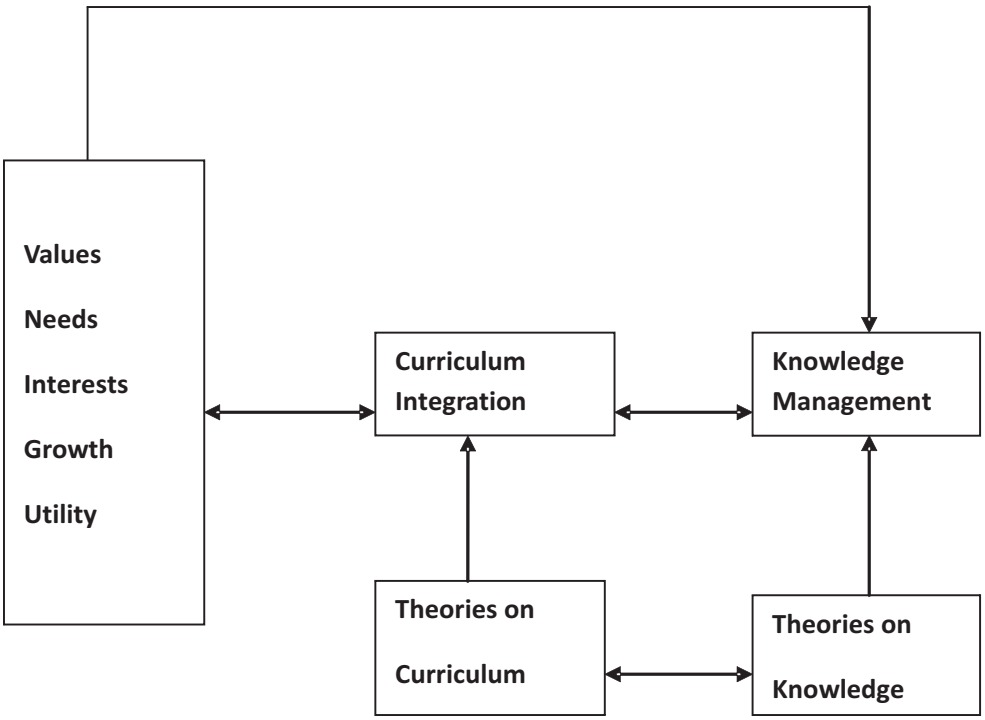

Figure 1: Relationship between Curriculum integration, Knowledge Management, Values, Needs, Interests, Growth and Utility of the Knowledge

The utility of the skills' understandings and attitudes to be gained should also be considered in (CI).The integrated curriculum should therefore reflect those needs, interests, growth, values and utility. These will have a bearing on the knowledge management of what has been gained from the integrated curriculum; likewise the integrated curriculum will influence how the process of knowledge management takes place. The needs, interests, growth, values of the learners still determine the dimensions of curriculum integration and knowledge management in any given society. Curriculum integration is largely determined by the previous and the present theories on curriculum, while knowledge management is greatly determined by understanding the previous and present theories on knowledge management. The two sets of theories can interrelate for a meaningful relation between curriculum integration and knowledge management.

3.0 Conclusions

In this theoretical paper there is an attempt to define Curriculum integration as the purposeful planning, by educators, of strategies and learning experiences to facilitate and enhance learning across key learning areas. Curriculum integration may also refer to the demonstration, by students, of knowledge and understandings, skills, values and attitudes that transcend individual key learning areas. Therefore, Curriculum integration does not abandon the skills and understandings that are specific to the individual key learning areas, but is a means of enhancing those areas that cross key learning areas. In this light, knowledge is the result of learning which provides the only competitive advantage. Knowledge management is action in focused innovation, pooled expertise, special relationships and alliances. Knowledge in this case becomes the value added behavior and activities. Figure 2 shows the prospective conclusive working model for this discussion.

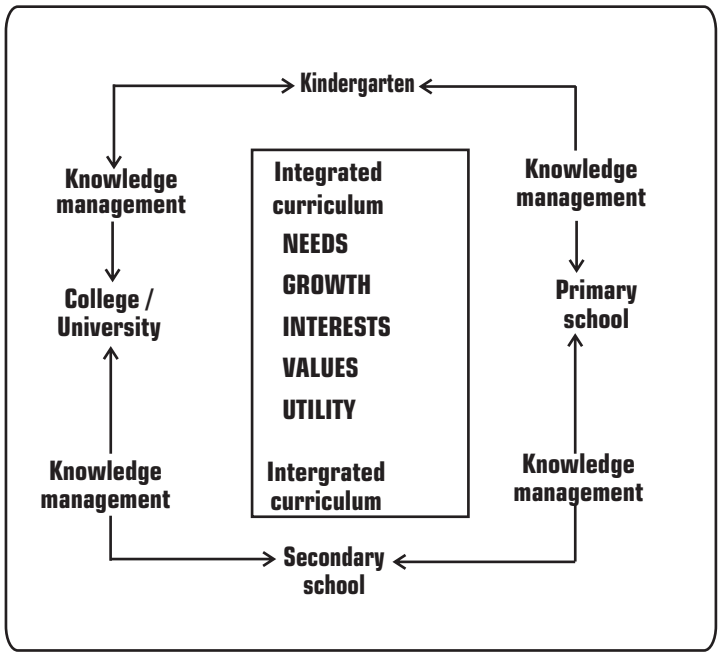

Figure 2: The Cyclic Model for Knowledge Management: Relationship between Curriculum Integration, Knowledge Management and the different levels of Schooling

Curriculum integration should resonate with the needs, interests, growth and values of the learners. The utility of the skills, understandings and attitudes to be gained also determines integration of the curriculum. The curriculum that is integrated for respective levels of schooling has its content disseminated to the learners at those levels. Knowledge gained at one level of schooling has to be merged at every transition. The knowledge gained at each schooling level should relate with knowledge at the next level. Furthermore knowledge gained at kindergarten should relate with knowledge gained at the college or university. Then and only then shall there be a good start for meaningful knowledge management.

Recommendations for Educational Practice

- Education should be concerned with activities that have an intrinsic value rather than with those that are instrumental to the achievement of ends beyond themselves. A curriculum should have intrinsic merit accept with acceptable intrinsic value.

Teachers should take into account children's needs, growth interests and values in planning how to present content to them.

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