

KNOWLEDGE MANAGEMENT SYSTEMS IMPLEMENTATION: LESSONS FROM EDUCATION CHAMPIONS

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INTRODUCTION

Knowledge of knowledge throughout the centuries has always been man's capacity to understand life and its complexities. From antiquity, philosophers have assigned knowledge a higher role: knowledge is the ultimate purpose and meaning of human life.

For many years, knowledge allows us to advance to a better life. The ability to collect, organize, and pass down knowledge led us to advancements, creativities, and innovations.

In the twenty first century, knowledge assumes a more significant role as we now live in knowledge-based economy (KBE) where survival of nations and organizations are increasingly based on knowledge and information. Knowledge is now recognized as the driver of productivity and economic growth. As a result, there is a new focus on the role of information, technology, and learning in economic performance. The growing codification of knowledge and its transmission through communications and computer networks has led to the emerging "information society". The need for workers to acquire a range of skills and to continuously adapt these skills underlies the "learning economy". The importance of knowledge and technology diffusion requires better understanding of knowledge networks and innovation system. Identifying "best practices" for the knowledge-based economy is now a focal point in

the field of Science, Technology, and in the Global Market.

Identifying "best practices" for the knowledge-based economy is not only applicable in business organizations but is also central in the field of education. Identifying "best practices" or Benchmarking (a quality improvement tool) is now used in the academe. As such, institutional organization compares its practices and performance against those of others. A school now seeks to identify standards or "best practices" to apply and improve performance. A school tries to find out what the other school is doing, how that school does it, how other schools do it, how well they are doing it in reference to measures, and what and how to improve the school practices.

Hence, information practices and learning strategies known as Knowledge Management (KM) are gaining acceptance in education. At its basic level, KM may be described as a set of practices that helps to improve the sharing of data and information in decision-making. With an increased internal and external demands for accountability and innovations, the information needs of students, teachers, staff, and administrators are greater. There is now a need to effectively collect, disseminate, and share information to transform knowledge into action.

With the advent of 21st century learning, there is an increasing restructuring in the educational needs in terms of structure, function, curriculum, and approach at all levels. These educational requirements for the workforce of the future are extremely important. The systems developed for information and knowledge should encourage learners to engage in life-long learning especially in this age of global learning.

Knowledge management becomes more and more important in global settings (Desouza & Evaristo, 2003, Holden, 2002). The influence of aspects like geographical dispersion, communication across time zones as well as cultural influence factors has become a focus issue for the past decade.

METHOD

This is a qualitative study which made use of phenomenological design. Its purpose is to understand and interpret the meaning of knowledge management in a basic education setting which the academic administrators, as the subjects of the study, employ in their respective schools. As stated by Eagleton (1983); Kruger (1988); Moustakas (1994) cited in Groenewald (2004), "It is captured by the slogan, 'Back to the things themselves'". It is following the logic as it is described by Lincoln and Guba (1985) which says, a "generative inquiry (which) attempts to discover constructs using data themselves as a point of departure". Semi-structured in-depth interviews were used in gathering data from the subjects chosen from selected basic education schools in Metro Manila, specifically heads of schools, who have the experience in the phenomenon being researched (Kruger, 1988; Creswell, 1998). One of the criteria for selecting the subjects is having more than five years of experience in an administrative position. Basically the subjects who possess understanding on the dynamics of the concept were primarily sought; hence both academic and experiential knowledge were considered as important requirements on the selection of the subjects (Babbie 1995; Crabtree, & Miller, 1992). The researcher's key point of entry into the subjects' community was through key actor or key insider (Bailey, 1996; Holloway, 1997; Greig and Taylor, 1999).

To facilitate the interview process, written communications were made to the subjects prior to the interviews (Arkley, & Knight, 1999; Bailey, 1996). Besides, primary visitations to the schools were made in order to set the appointment with targeted subjects. Interviews served as process of primary of data collection (Bogdan, & Biklen, 1982) for which questions were directed to the subjects' experience, feelings, beliefs, and convictions (Welman, & Kruger, 1999) about their knowledge management practices. Interviews were conducted personally at the most convenient process of the subjects in their respective schools. Note-taking was also observed between formal and casual conversation to enrich data interpretation. Audio recording of the interview was again sought for transcribing purposes. Digital and analog recorders were used to ascertain the accuracy in the transcription of verbal texts. Interviews were conducted in English since all administrators speak English fluently. However, Filipino expressions were inevitable. Such expressions were carefully translated in English so as not to deviate from original ideas of the questions.

Data reduction was carefully made following steps proposed by Colaiizi in 1978 (Heppner, 2004). Data were then read and reread to get the full meaning of the ideas of the interviewees. From the key responses extracted from the subject, the researchers then identified 'small units' known as the 'meaning units'. Key responses were highlighted; and 'meaning units' were written in the Microsoft Excel spreadsheet. The researcher then transformed the 'meaning units' from the language of the interviewees, to the language of the researcher. These 'meaning units' were again transformed, this time to a situated structure; as a guide for the researcher to carefully identify emerging themes.

FINDINGS

In this phenomenological study, the collective ideas and experiences of the selected school administrators revealed interesting ideas on knowledge management system implementation. The school administrators were asked to define the concept of knowledge, education, and learning. These conceptual clusters below were derived from the definition given by the subjects.

Table 1. Differences of Knowledge, Education, and Learning

KNOWLEDGE	EDUCATION	LEARNING
May be accumulated using ICTs outside formal education	Formal process of instruction occurring to one or more students	Can occur, with or without formal institutional education
Should not be limited to a chosen few	Becoming less relevant to the requirements of emergent societies	May take place through collaborations
Should have access to as many people possible	Be aligned to local, national, and global priorities	May span the global arena and at other times involve tightly knit local communities with similar interests, will become more commonplace
Plays important role in national development		

The evolved concepts on the **Differences of Knowledge, Education, and Learning** describe the significant contrasts between them. Education is generally seen as a formal process of instruction, based on a theory of teaching, to impart formal knowledge (to one or more students). However, the process of learning can occur, with or without formal institutional education. Knowledge accumulation and the accumulation of skills for using ICTs will occur increasingly outside the traditional institutions of formal education. Learning in the workplace, and through collaborations that sometimes span the global and at other times involve tightly knit local communities with similar interests, will become more commonplace.

Knowledge should not be limited to a chosen few. As the warehouse of knowledge expands throughout the world, all of the world's people should have as much access as possible. However, the "formal institutions of education that exist today, and even many of these in the planning stages in developing countries, are becoming less relevant to the requirements of emergent 'knowledge societies'." Mansell and Wehn argue that these countries must actively reshape their educational systems in ways that are "consistent with their national priorities." These national priorities must now take into account the fundamental changes happening in the structures of the global economy and new strategies to achieve competitive national advantage.

Knowledge plays an important role in national development. It is opening new vistas to a whole range of emerging industries and developments in biotechnology, new materials science, informatics, computer science, and many other fields.

Within the new framework for knowledge, education, and learning described by our subjects, nine (9) factors were identified to provide a means to put

together and act on the knowledge accumulated in order to enhance basic education today. Such knowledge include design methods, best practices, competitor intelligence, with elaboration and commentary account. Each of these factors will be explained.

1) **Focus on unknown concepts**

The challenges for knowledge, education, and learning in this age will be the ability of today's learners to be more comfortable and knowledgeable with unknown/uncertain concepts/situations. Much of the schools today present students with ready-made problems prepared by the teachers. The teachers ask them to solve these ready-made problems. However, the reality of the world, based on information and knowledge, is that problems are rarely clearly defined. It requires those seeking valuable employment to seek out problems, gather the necessary information, and make decisions and choices based on complex uncertain realities.

Factor number one are clearly expressed in the following statements:

“We have to present various concepts to our students at different depth levels. For example, when we ask our students to solve an algebra problem but do not learn how to apply it properly in different situations, we end up with nothing. We do not have the insight on why we study those Xs and Ys. They may be good in solving Algebra but they may be poor in applications. Let us not make Algebra a boring subject to memorize. Teachers have to find ways to make Algebra a venue in exploring the world around us. After all, all of the math leading up to Algebra that we learned growing up such as addition, multiplication, decimals, fractions, have distinct meanings. These concepts all deal with numbers

in some way or another and because of this we can make our students learn around the concepts.” (RR)

“Learning is facilitated when students can connect new information with something they already know. One time, I observed a Social Studies teacher. The teacher discussed the effects of graft and corruption ... In groups of three, the teacher asked the group to come up with as many situations as they can that involve the subject – three people were talking, one was writing down the ideas. As students come up with examples, like inadequate housing, inadequate delivery of services and so on, the teacher added them to the examples given by the other groups with which to stimulate class discussion and instruction. The types of examples keep students interested, motivated, and engaged in the teaching moment because these examples may be connected and relevant to their life experiences since graft and corruption is a big problem in our country. This is what we call teaching inductively — moving from specific examples to generalities—can be applied in many learning forms, for example, discovery learning and problem-based learning.” (TR)

“Unfortunately much of what we learned in school as children was unconnected to everyday life and experience. And, since it is natural to teach as one was taught, our own students are probably doing precisely what we previously did: “learning” . In other words, to perform for grades and approval, not to gain knowledge, skill, and insight, not to transform their behavior in the “real” world.” (AP)

2) Use a holistic approach

Much of the education and schools today are divided into very rigid academic disciplines. They focus on discrete units/skills/lessons. However, the emerging

Information Society and global economy requires a holistic understanding of systems thinking, including the world system and business eco-systems. As such interdisciplinary research approaches are seen as critical in accomplishing a more comprehensive understanding of the complex reality currently facing the world system.

Factor number two are gleaned in the following statements:

“There must be that interconnectedness of experience so that learning becomes dynamic. Traditional education is fragmented. We must focus on the relationship between the whole and the part in education. The learner must be connected to his or her surrounding context and environment. That is 21st century learning.” (DN)

“We must make the student see that he or she is part of the society, the community he/she lives in. A part of the humanity. We must provide students with a sense of meaning. Twenty- first century learning is going towards developing human beings with a global conscience. Global conscience means social responsibility. We must promote Social responsibility in educating our students. That is the ability to understand connection to broader communities -- local, national, global. We must incorporate in all our lessons that we should not be simply be interested in our own interests. We always include that in our Understanding by Design Plan.” (TR)

“Even in the Performance Tasks of the students, we see to it that integration is done through inclusion of different subjects in one big project. In that way, our students could see the interconnectedness of one subject to another. They will see that each subject is important, and they have relevance in our daily life. We cut across the curriculum. Our teachers in various disciplines meet

and plan as to how the integration could be done. Rubrics are tailor-fitted for each subject.” (TR)

3) Develop the learner’s ability to explain symbols

Symbols are highly abstracted evidences of some concrete form of reality. Highly productive employment in today’s economy will require the learner to constantly explain symbols, such as political, legal, and business terms and concepts (such as intellectual property rights), and digital money (in financial systems and accounting concepts). These "symbolic analysts," as Robert Reich, a political economist, professor, and author, calls them, are in high demand.

Factor number three are explained in the following statements.

“Knowledge is mostly about symbols. Therefore we have to prepare our learners to manipulate symbols. We must give them hands-on learning. More simulations. Success in learning depends on how learners use and interpret symbols. Once a concept has been taught and demonstrated, the learners must also demonstrate the concept. However, the opportunity to demonstrate knowledge is most of the time in the forms of quizzes, worksheets, and paper and pencil tests. These things are not real gauges if the learners are able to explain concepts, especially difficult ones. Hands-on learning allows students to experiment, to test the water. If they fail, then they have to learn from their failures. They have to learn much from their failures as their successes.” (AL)

“Man always uses symbols. The cave men used symbols. The modern man used symbols. When we tie a string around our finger, that is a symbol reminding us that we have to be reminded of a task. Symbols help us in memories. Therefore, in teaching, we have to make use of tactile aids. These are cues to improve knowledge retention. These cues will help our students to retain important information. Simulations is a practice in our classroom set-up. Use of equipment that can be manipulated by the students increases knowledge learned in the classroom. You can just see the joy and excitement that our students experience when they tinker on the computer and manipulate the robots in their Robotics class. The students are so engaged that they did not know that it is time for the next class.” (DN)

“Hands-on learning engages students in learning because they use multiple senses, that includes sight, hearing, and touch. This is what we call multi-sensory learning, that means they can decipher codes because their senses are active. This makes the students understand the information better. For example, there is one teacher here who is very good on this. One pupil in her Grade One class had difficulty solving problems on worksheets. What she did is she made the pupil manipulate math blocks. The pupil was able to get the answer without undue stress on him. I think that pupil was able to utilize acquired knowledge better.” (TB)

4) Promote the learner’s ability to acquire and utilize knowledge

Teachers are often perceived as wise "sages on the stage" delivering data, information, knowledge, and wisdom to the eagerly awaiting students, whose minds were empty vessels waiting to be filled. If that is true, the world’s store of knowledge is increasing at such a fast rate, that no person can thoroughly explain as

comprehensively an understanding of a single subject, or as could be absorbed by most students.

Factor number four are evidenced in the following statements.

“Twenty-first century learning now requires a different approach. The aim of education now is no longer simply to explain a body of knowledge, but to teach how to learn, solve a problem and synthesize the old with the new. We teachers must teach the students now to access, assess, and apply knowledge. At this age, the students must think independently to exercise correct judgment and to collaborate with others. They should give meaning to new situations. Here in our school, we allow our students to think for themselves. For example, we have this activity called ‘Socratic thinking’. Students are split into two, circular seated groups: some sit in a circle at the center, the others sit as a circle surrounding. The inner circle has 10 minutes to discuss the topic while the outer circle observes. When the 10 minutes are up, the outer circle reports their observations. Then, the two circles switch and the process is repeated.” (AP)

“The teacher now is not the sole vessel of learning. There is now a paradigm shift. From being the over-all director, the teacher is now at the background facilitating learning. The students are now in the limelight, taking center stage and being responsible for their own learning. I think the students enjoy the new role they are in now. I could see that happening here in our school, especially if we have activities here in school. I enjoy also watching our students managing our activities.” (AL)

“Knowledge and understanding of what we know and how we think is always a puzzle to many educators. Actually, this has been with us for many years. It is just that there are still teachers who would still insist that they know better than their students or it’s just that the teaching strategy they have accustomed to is already a comfort zone for them. But times change. Our students now are becoming smarter and smarter. They sometimes are even ahead of their teachers.” (RR)

5) Provide the need for scientifically and technically trained teachers

The emerging economy is based on knowledge as a key factor of production, perhaps a factor more important than any other traditional factors of production. The kinds of industries emerging in the age of globalization—such as biotechnology, new materials science, human genetics, advanced computing, artificial intelligence, and human/computer interfaces—demand that employees remain highly trained in science and technology. Research and development is a critical component that many countries are trying to partner with academic institutions and other research organizations. In schools, research is also given premium since education in order to keep up with new trends and techniques must be research and evidence-based.

Factor number five are posited in the following statements.

“Trainings and research are very important in education. Just like any industry, education must be strong in research. We have all been to school before. But those were years back. The problem is that we were taught the way our teachers were taught. And our teachers were taught in which technology has not taken

place yet. So imagine that! That is so outdated! So many things had happened. And if teachers teach in an outdated way, what would happen to our students?” (RR)

“If we are to compete globally, then we must train our teachers especially the teachers teaching Science and Technology. It’s a fast race now in science and technology. We have to keep up with the race. We now send our Science and Technology teachers to different trainings. These are two areas in which our schools lag behind. Other countries are serious on this.” (TB)

“It is not enough to base teaching and learning around convenience of the teacher. Some teachers are so convenient in the way they teach that they think that further training or continuing studies are not important anymore. The theme now is globalization. In global learning, research, technology should be used extensively. It is said that technology will never replace teachers. But teachers who know how to use technology effectively will help their students connect and collaborate on line than those who do not. That is why there is a faculty development program for our teachers to this effect.

We also ask our seasoned teachers to act as trainers in our in-service trainings. In this way, we make use of their expertise in their field of discipline.” (DN)

“Teacher training is a must in schools. The world is getting to be technology savvy. Education should keep up. Science and Math are two subjects that our country do not perform well. I always send our teachers to seminars and trainings. Lately, we are training our teachers to make use of new platforms in

teaching. Our students who are digital natives are so comfortable with technology. The teachers who are considered digital migrants should not be left out. Or else... We now have Robotics in our High School. So our Science and Computer teachers underwent training. As I said, our teachers have to keep up with the changing time.” (AR)

“Research can help teachers to understand what works and why it works. Likewise, research can help them understand why some don’t work. Studies of student performance can help to identify trends and enable educational outcomes to be related to social and economic needs. Teachers can also make use of research to answer needs of their own students. ” (AL)

“We have what we call small learning areas in which each subject area designs ways to improve their teaching strategies, methodologies, curriculum, and activities. This is one way of engineering and re-engineering their specific area to be answer to the needs of the students. They even plan their own faculty development program.” (RR)

6) Promote innovation and creativity

Factor number six are confirmed in the following statements.

“I encourage our teachers and our students to do something creative. I want them to design, re-design, invent, re-invent, and imagine new ideas. Our school provides teachers and students with enough opportunities to be creative since creativity is important for success. Sometimes schools kill creativity.

You can see that our rooms are open. We opted for an open classroom since it is student-centered classroom design format. Parents argue that we have to close the classrooms but we are steadfast in our belief that the open classroom system is a better approach to teaching and learning. The open classroom system promotes active learning rather than passive learning. It is a student-initiated learning than teacher-directed learning.

Each classroom in our school mimics a region in our country. This room is the Bicol Room. You can see the picture of Mayon Volcano since the room is a showcase of what you can see in Bicol. The products from Bicol are also displayed in this room. Over there is the Palawan Room, the Visayas Room and so on. The room itself teaches the students not only the scenic spots and the local produce of the province or the region but it promotes nationalism as well. We just don't teach them that we have to love the Philippines but in a way the many wonderful things that they see in their room tell them that they have to be proud of what they have and who they are.

Across the school is our building where students are the ones manning the cooking and selling of food. That is our TLE (Technology and Livelihood Education) room. That used to be the office of the owner but we converted it to a business center. The students plan the menu and prepare the food here. They decorate the snack house. They are also our servers. People around the area eat here. The money that they earn from the snack house is the same money that they use to buy all the food and other things that they need. The students become entrepreneurs. So they simulate real life business here. The students enjoy what they are doing. The teachers become their advisers, something like an On-the-Job Training.

Our school is dubbed the School of the Future. Our school won the first Excellence in Educational Transformation Award and is considered the most transformative school in the country.

Especially with K-12 and ASEAN 2015, we really have to be divergent in thinking. Creativity should flourish. We should compete in the global market. We have to think locally and act globally.

That is why our school is dubbed as the School of the Future. Because we teach differently, out of the box. That is why our school won the first Excellence in Educational Transformation Award and is considered the most transformative school in the country.” (TR)

“Creativity is not only seen in the Communication Art in English or in Filipino. It is also very important in other subjects like Mathematics, Science, Technology, Business – in all areas of learning. And even in life. Creativity depends on knowledge, the resources, and most of all the unique ideas. Creativity can be developed through proper education.” (RR)

“We must promote creativity in learning. We must teach our kids to innovate. Many inventions and discoveries were borne out of creativity and innovation. Creativity is about uncovering new forms of knowledge or using existing knowledge in new contexts. All of these require children to have challenging activities, and time to think and experiment.” (AL)

“The jobs that our young students will do in the future haven’t even been invented yet. Look we don’t have BPOs (Business Process Outsourcing) before, in our time. But there’s a proliferation of BPOs now. So we need to promote creativity to our next generation of workers for them to shape not only their future but future

society as well. And this should all begin in our schools.” (TB)

7) Encourage students to work in teams

Working in teams requires students to develop skills in group dynamics, compromise, debate, persuasion, organization, leadership, and management skills. Most academic institutions and curricular offerings are set up to do the opposite, to force students to think only of themselves and their own personal development, perhaps with some very limited group work. Even in globalized enterprises there is now a need for employees to be able to work closely in teams.

Factor number seven are proven in the following statements.

“In our global world, there is now a need for enhanced virtual and networked activity. This could be ascertained in the use of social media. We have the Facebook, the Internet, E-groups, Web Chats and so on. Not only should students learn to work in teams; but they should also learn to work in global networked virtual teams. These global virtual teams are being used increasingly in industry and international organisations for R&D (Research and Development) activities. Well, or teachers make use of the social media in their instruction since they say that students learn from this.” (AP)

“Group work in a classroom teaches students the fundamental skills associated with working as a collective unit toward a common goal. This type of teamwork introduces a variety of skills that will be needed for students later in the workforce. These skills include communication, compromise and collective

effort. In any type of group work, students must agree on who will be assigned to various tasks of a project or work in dyad using one another's strengths to accomplish assigned tasks. Teamwork teaches time management, resource allocation, and communication skills." (DN)

"Students who value the role of workplace teams may be more willing to learn teamwork skills. We encourage our teachers to use many approaches to assist students appreciate teamwork." (TB)

"In some developed countries, not only students learn to work in teams; but they also learn to work in global networked virtual teams. These global virtual teams are being used increasingly in industry and international organizations for R&D activities. There is now a need for enhanced virtual and networked activity. A Professor at Harvard's, points out that computer-supported collaborative learning enhances team performance. They communicate each person's ideas, structuring group dialogue, and decision making, and facilitating collective activities." (RR)

"Before some of our teachers were wary that using group performance task might promote student ineptness since some students just want to pass, while others will work for a good grade. This was solved by providing rubrics to the students even before the start of the group task. Now, the teachers themselves design their own rubrics since they saw the advantage of a collaborative work. We train them on rubric-making." (AL)

8) Is an agile and flexible system

As command and control systems disintegrate around the world, academic institutions must become less rigid and more flexible in their attempt to meet the varied needs of learners. This includes variety in time, place, approach, and curriculum offerings. As new issues and industries emerge, academic course offerings should be adapted to reflect these new knowledge, education, and learning requirements.

Factor number eight are expressed in the following statements.

“Every summer we review our curriculum. This is a changing time. Educational system should answer the needs of the changing time. Flexibility in the design and delivery of academic programs is beneficial to both learners and teachers who have diverse needs and learning goals. A competency-based curriculum is more flexible than one defined around specific content and activities. I always emphasize that to our Subject Area Coordinators and the teachers.”(TB)

“Our school has implemented the “Pearl Program” for selected batches. Pearl Program is actually an acronym for “personal learning device”. Our student use Apple as the new textbooks for lessons and homework in school. It is mobile learning environment that we want to develop in school where students can use the internet more using mobile devices, to enhance the curriculum with even more technology.

Books will be there but it won't be physically. It would be in the form of an eBook. It can help the students by not being able to carry bulky schoolbags due to the heavy textbooks. The iPad can lighten the bag because of its weight. Also, it can help the environment by the

paper less environment, not printing thousands of books, reply slips and announcements.

The students are enjoying the program. This program also trained teachers to prepare the program with the Understanding by Design curriculum. Not only students get to benefit in the program, but also teachers. There is training that teachers in the selected batches have to go through to be able to know how to teach smoothly using the iPads.

The industrial business partners are Apple Company, the text book publishers who helped for the EBooks, and banks that helped in financing the purchases of the devices.” (AP)

“What we teach in our schools is one of the most important decisions we make as administrators. The knowledge passed on to the next generation, the skills and abilities that we think children will need when they become adults, the attitudes and values we wish to instil in them are all at the core of the curriculum and can shape our society, let alone our economy, for years.” (DN)

“We employ the Mentoring Scheme. We partner a Junior Teacher to that of a Senior Teacher. The Senior Teachers are the seasoned ones while the junior teachers are the new ones or the probationary teachers. In this case, the new teachers learn from the wisdom of our older teachers, from their elders. They then, take a look of how strategies could become better to make learning adaptable to the students.” (TR)

9) Promote the culture of research

“Research should not only be used in business but in education as well. Administrators and teachers should discover new ways to resolve significant problems in the classroom. Research must help in the practice for more action. Our guidance office provide us information based on their action research.” (TR)

“In 21st century learning, teaching must be tried and tested. Gone are the days when learning is just sitting and reading and reciting. So how do we know then that the teaching and learning strategies are effective? It is through research. We have to promote research in our school. Teachers and students alike may do research and find ways to improve learning. By doing so, achievement is enhanced. We are now starting this in our school.” (TB)

“We have to empower our teachers by doing action research. Research is not only confined to the guidance counsellors. I am now encouraging the teachers to do research since our world now is more complex, and changes more rapidly. Change is inevitable. And promoting research in schools can make this change happen. By performing research, we can identify trends, examine them, consider recommendations, and offer solutions.” (AP)

DISCUSSION

Interestingly, this phenomenological study significantly brings forth some enlightening findings on the essence of knowledge management as applied in the education setting, in this case the basic education, from a select group of academic managers. The apodictic nature of their knowledge management practices

highlights the significance of their roles which is driven by their mission to support and develop effective management in the teaching-learning process.

Snowden (2000) has provided a method for knowledge mapping that is based on story-telling techniques. This is a means for looking at knowledge assets that would not be found in conventional techniques such as surveys and structured interviews. As such, because of the relaxed atmosphere in the “story-telling” of our education champions, nine (9) factors were identified in order to enhance basic education today. The nine factors include: 1) a focus on unknown concepts 2) the use of holistic approach 3) the development of the learner’s ability to explain symbols 4) the promotion of the learner’s ability to acquire and utilize knowledge 5) the provision of the need for scientifically trained teachers 6) the promotion of innovation and creativity 7) the encouragement of students to work in teams 8) the need for an agile and flexible system and 9) the promotion of the culture of research

In this study, knowledge management system of the subjects captures the best practices in their respective school. (Duhon, 1998) posits that "Knowledge management is a discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving, and sharing all of an enterprise's information assets. These assets may include databases, documents, policies, procedures, and previously un-captured expertise and experience in individual workers." From the expertise and experience of the subjects, there is opportunity to repeat success in another school and to prevent mistakes from occurring. Perhaps the most central thrust in KM is to capture and make available, so it can be used by others in the organization or in any other organization, the information and knowledge that

is in people's heads as it were, and that has never been explicitly set down.

According to the education champions, education is not merely about the transfer of knowledge. It is about the many processes and outcomes as well to find out what is knowledge and its many uses and the relevance of knowledge in the global society.

Apparently, the education leaders employ patterns of knowledge initiatives in leading their respective school. With their narrations, they undertake initiatives every day: mentoring schemes are established, knowledge-sharing initiatives are devised, and search-and-find solutions are implemented. An examination of these initiatives reveals a set of patterns. These are: 1) Trainings 2) Mentoring 3) Internship-style job structures 4) In-house experts 5) Communities of practice in the school 6) Collaboration, and 7) Innovation Management.

The sharing of knowledge provided by our subjects provided a management system to assemble and act on the knowledge accumulated in his/her respective school. The knowledge shared included design methods in instruction, best practices, competitor intelligence, with elaboration and commentary included. Hence, the subjects now define and communicate what a 21st century school must be.

Knowledge management systems provide a means to assemble and act on the knowledge accumulated throughout an organization. Such knowledge may include text and images contained in patents, design methods, best practices, competitor intelligence, and similar sources, with the elaboration and commentary included. Placing the organization's (in this case, in an education set-up) documents and communications in an indexed and cross-referenced

form facilitates rich search capacities. Organizational knowledge is mostly tacit, rather than explicit, so these systems must also be made available to the direct users to members of the organization with special expertise.

Davenport (1994) offered the still widely quoted definition of KM: “Knowledge Management is the process of capturing, distributing, and effectively using knowledge.” The definition is organizational and corporate in orientation. KM, historically is mainly about managing the knowledge of and in organizations. But perhaps the most central thrust in KM is to capture and make available the information and knowledge which are essential assets in any organization including academic institutions. These information and knowledge that are in people’s heads as it were, and that has never been explicitly set down can be used by others in the organization and in other organizations.

The academic “story-tellers” narrated their tacit knowledge to enhance basic education today. These tacit knowledge from their heads should be explicitly captured and set down. Once having these tacit knowledge in place, schools may take advantage of the knowledge and manage it effectively. The information and knowledge may even be shared by connecting across other school organizations. The information and knowledge may become essential assets of the school/s.

If IBM had developed a graphic KM for the use of their KM consultants, based on the distinction between collecting stuff (content) and connecting people (the marvellous C, E, and H mnemonics are entirely IBM’s), then a school organization may also formulate a graphic KM for education.

The potential of KM in education is propitious, as the enthusiasm for the intellectual capital in the 1980’s had primed for the recognition of information

and knowledge as essential assets for any organization. Hence, a school that may explicitly set down their tacit knowledge may connect across other schools and other organizations to share and manage information and knowledge. The school that will start this sharing of information and knowledge becomes a trailblazer, and may even become a consultant to other disciplines. Again, perhaps the most central thrust in KM is to capture and make available, so it can be used by others in the organization, the information and knowledge that is in people's heads as it were, and that has never been explicitly set down.

CONCLUSION

The idea that Knowledge Management (KM) may only be used in a business orientation is an understatement. The role of KM in advancing the very act of creative reconstruction has a big potential in enhancing the Basic Education program. A new career pathway program using KM for Basic Ed may also be exploited.

As gleaned from our education managers the information and knowledge they have shared may bring forth some enlightening findings on the essence of knowledge management as applied in the education setting. The importance of their roles in knowledge management practices may prove beneficial in the teaching-learning process.

Through the "story-telling" of our education champions, nine (9) factors were yielded to enhance basic education today. The nine factors include: 1) a focus on unknown concepts 2) the use of holistic approach 3) the development of the learner's ability to explain symbols 4) the promotion of the learner's ability

to acquire and utilize knowledge 5) the provision of the need for scientifically trained teachers 6) the promotion of innovation and creativity 7) the encouragement of students to work in teams and 8) the need for an agile and flexible system and 9) the promotion of the culture of research.

Since the education managers have identified, captured, evaluated, and shared information such as policies and procedures and success stories from their respective school, there is a possibility that their gains may be repeated in another school and may prevent mistakes from occurring. Thus, KM's thrust to capture and make available the information and knowledge may be another system to be used in the education landscape. As such, the information and knowledge that the education champions have narrated should be explicitly set down.

The education leaders utilized patterns of knowledge initiatives in leading their respective school. An examination of these initiatives reveals a set of patterns. These are: 1) Trainings 2) Mentoring 3) Internship-style job structures 4) In-house experts 5) Communities of practice in the school 6) Collaboration, and 7) Innovation Management.

The interviewees narrated their tacit knowledge to enhance basic education today. These tacit knowledge from their heads should be explicitly captured and set down. If these tacit knowledge are set down, schools may take advantage of the knowledge and manage it effectively. The information and knowledge may then be utilized by other school organizations. These information and knowledge may become indispensable assets of the school and other schools as well.

The definition of Knowledge Management as the process of capturing, distributing, and effectively using knowledge is used in an organizational and corporate setting. But the process of capturing, distributing, and effectively using knowledge is integral to every organization including the school system. KM then may be employed in school to continue developing the practices involved in the management of complex initiatives and the building of collective intelligence.

There are important reasons why a school system may opt for a Knowledge Management System. When an employee/s of the school leaves/leave, their knowledge of the school process and expertise leave too. The experiences of the personnel who stay with the school, primarily only share their ideas with those they work on a daily basis. This limits the number of people who can actually benefit from their experience. When information about the school process, best practices and lessons learned are not captured and shared, vast resources may be wasted since trainings should be provided to the new employee/s.

Knowledge Management examines the missed opportunity to repeat success. Missing an opportunity to repeat success by not capturing the firm's past knowledge and not using the lesson learned from the past to prevent the same mistakes from occurring is a pitfall of any organization.

The definition of Knowledge Management as the process of capturing, distributing, and effectively using knowledge is used in an organizational and corporate setting. But the process of capturing, distributing, and effectively using knowledge is integral to every organization including the school system. The dynamics of Knowledge Management may then be employed in school to continue developing the practices involved in the management of complex initiatives and

the building of collective intelligence. Academic leaders who can adjust to and leverage Knowledge Management within their respective school can formulate programs and curricular offerings more proactive and more responsive to 21st century learning.

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