Knowledge Management and Challenges in Education

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In Defense of Eclecticism and Knowledge Management

A cursory glance at the titles in this collection may lead one to categorize it as an "eclectic assembly" about knowledge. Such a label, however, would be hitting it squarely on the head. Isn't humanity's collective knowledge an eclectic assemblage, and isn't a truly learned person a person with knowledge in many disciplines? Traditionally, a "Renaissance person" was an individual with astuteness and familiarity in varied disciplines. A contemporary Renaissance person is an eclectic jack-of-all-trades.

Neither knowledge nor eclecticism is undesirable. The essays in this collection are strung together on the thread of "sharing of knowledge". Sharing, as in imparting knowledge in a formal classroom setting; sharing as in disseminating information to large populations in a society.

Teachers, policy makers, and businesspersons are wrestling with two important issues: one, presenting relevant, timely, and useful information to their users and two, placing the information where the users may reach and access it easily.

Assuming that "educated decisions" are in the best interest of people in a society, it is important that users of the knowledge, be it students in a classroom, or public at large, have the choice in deciding the value, worth, and usefulness of a particular piece of information before accepting or discarding it.

Broadly speaking, the essays in this collection are about creation, dissemination, and results of knowledge sharing efforts. Such a grouping lends itself to three sections: Theoretical framework around knowledge management, the organization of knowledge for formal instruction, and presenting knowledge in a given society.

The opening essay by Rehman lays a broad foundation by describing the purpose, place, and importance of managing and sharing knowledge in formal learning settings. He offers practical approaches to planning and imparting instructions. Simplistic as it may seem, Rehman's recommendations are grounded in research. His arguments appeal equally to logic and common sense.

The two papers in Section II report on a society's attempt at sharing knowledge with its various publics. Marta Koszko discusses and dissects the use of Quick Response bar codes, their display in public places, and users' reactions to QR codes, smartphones and technological sophistication necessary to make use of such communication.

Marta Koszko questions the relevance of recent technological devices that are supposed to help people communicate more effectively and access information more easily. She describes the early

attempts of introducing the Quick Response (QR) codes in Poland. The postal stamp look-alike squares have endless functions from carrying a boarding card to scanning and depositing a check into one's checking account. One can pay a bill by scanning the QR code on a bill or get directions to a museum by scanning the QR code on a poster at a train station. Koszko argues that while it is an extremely useful technology in providing, sharing, and accessing information, it is of little use for someone who is not about to board a plane or pay a bill or visit a museum. Or if a person does not own a device that can scan a QS code and then perform various functions. For such non-users, the display of QR codes in public places is an intrusion. Such persons may also feel excluded from the communication that is occurring through this new technology. Are the QR codes to improve communication among the providers and the users or is it to exclude certain people from the communication process. She agrees that if one has a proper device one has the information, without it, one is unable to access certain information. She concludes that for some, these devices may be useful, for others these may be unessential.

Monika Chomątowska revisits the question of turning cities into metropolises. Reminiscent of German expressionist cinema and Fritz Lang's landmark silent film Metropolis (1927) that presented a futuristic urban dystopia producing dehumanization, totalitarian control, and environmental disaster leading to cataclysmic decline in society, Chomatowska asserts that in the name of "knowledge economy", some governments and international organisations are pushing for metropolization as the future of the world. As more and more opportunities are shifted from the rural areas to the cities, the quality of life in the rural areas deteriorates. People migrate to the cities in pursuit of employment, education, and healthcare. Such depopulation of the rural areas and the overpopulation in the cities has widened the gap between metropolises and the countryside creating a visible social exclusion that is afflicting both rural and metropolitan populations, and has produced a social underclass in the rapidly growing cities in Asia, Africa, and South America.

Offering examples of transformation of European cities such as Barcelona, Glasgow, and Stockholm, she questions the social and economic benefits of metropolization. Just as expressionistic cinema introduced a new form of conflict -*man versus city*- in narrative structure. Chomątowska warns us of the deepening of internal disparities in metropolises, of high unemployment among immigrants, hence creating a poor underclass. The lure of a better life in a big city is giving way to a dual city with rich gated communities near slums where the children of poor immigrants attend the worse schools and the poverty becomes heritable. The newcomers from rural areas often lose their cultural values. The moral standards in metropolises are also different from those in traditional societies– e.g. higher divorce rates, consumeristic lifestyle, placing career above family life, and loose sexual contacts have resulted from the creation of metropolitan cities. Careful knowledge management and communication need to be put in place before cities turn into futuristic nightmares.

Three essays in Section III are case studies from classrooms where educators and facilitators are facing the challenges of reconciling with cultural values and social issues.

Lyon Rathbun is teaching in a violence-ridden town on the border between the US and Mexico where gunfire exchanges between the members of the drug cartel and the law enforcement agencies are everyday occurrences; where innocent bystanders risk getting caught in the crossfire and getting killed. It is not easy to teach grammar when the students are preoccupied with guns, or to the students to pay attention to calculus or chemistry when kidnapping and human trafficking are eminent. In such a challenging classroom, Rathbum teaches literature.

In a first-person style, he describes the challenges he faced and how he overcame these. As a personal account, he tells a moving story of how he has taken the "reality" of the students' lives and made it relevant to literature. His narrative is moving and heart-warming. He has added a new dimension to sharing knowledge by building trust between the learner and the teacher.

Silvia Emilia Plăcintar offers a fresh perspective on the real mission of teaching - to prepare the students so that they can manage (careers, work, life) on their own. She reports on the findings of a cross-cultural study of students from China and Romania. Through observation and self-reporting, she explains that reflective thinking is carried out differently by people from different cultures. Simply put, different people think and approach problem-solving differently. She analyzes her findings on dimensions such as individualistic versus collectivist cultures, high-context versus low-context cultures, and independence versus interdependence. Her observations offer new perspectives on two cultures – Chinese and Romanian.

She notes that attitudes towards task completion thought process, and willingness to collaborate and interact differ significantly between the Chinese and Romanian adult learners. Despite their cultural differences, she concludes that interaction with their counterparts from another culture, both groups become aware of the shortcomings in their own perspectives and the need to readjust their thinking and interaction to work productively with others. Her findings are conclusion are yet another reminder that as the “global village” emerges, the need for interdependence becomes self-evident.

Lucyna Wilinkiewicz-Górniak focuses on specifics of identifying a need and designing instruction to satisfy that need in a Business program at a university in Poland. Although immersed in a theoretical framework, her approach and application are practical and useful to the extent that teachers around the globe may find her method and approach flexible enough to be adaptable in many cultures. She notes that many of today’s learners are digital natives while the teachers might still be exploring digital horizons as digital immigrants. Still, the two share a common path lighted by the promise of knowledge management – generating, storing and sharing knowledge. She also reports on the differences in attitudes and perceptions of teachers and learners. She, nevertheless,

finds more similarities than differences. Her optimistic conclusion: "… technology has become an indispensable element in the educational process".

Two essays in Section IV address cultural differences and values. Applying the Lacuna theory to international advertising, Erika Grodzki and Kinga Kowalewska, point to the challenges of incorporating cultural values in creating appealing advertisement copy and images. Comparing ads for beer in the US and Poland, Grodzki and Kowalewska demonstrate that since different traits and values are seen as important in the two countries, incorporate images and text highlighting these important values in their ads. Consequently, American beer ads stress notions of self-reliance, independence, and the outdoors while the Polish ads for beer make references to tradition, strength, and family.

These authors also caution the reader of the limitations an outsider has when witnessing different cultures. Newcomers (visitors, strangers, foreigners) are unable to detect many of the linguistic, behavioral, and ideological idiosyncrasies in a new culture leaving the outsiders at a disadvantage and gaps in their understanding and knowledge of the new culture. Their essay is a signpost reminding us that people's impressions of a foreign culture are far from complete if limited to their own observations and interpretations. For a fuller understanding, one needs assistance from the indigenous.

The final essay by Rehman takes us full circle. He describes how knowledge is managed (gathered, evaluated and used) in mate selection. For most people, mate selection is a serious matter and people try to obtain as much information as possible about the other person before reaching a selection decision.

Different cultures place different weights and values on different personality traits in mate selection. Some traits such as earning potential, emotional stability, ability to bear children as are seen as more desirable, other traits such as lack of ambition, indecisiveness, and being self-centered are perceived as less desirable. Focusing on the Hispanic-American culture, Rehman argues that three variables play an important role in long-term partner selection. These variables are gender, age, and perceived relationship status. He concludes that even though most people get married, men and women do not look for the same traits in their partners. There might be some truth, after all, to the notion that men are from Mars and women are from Venus. However, creatures on both planets are desperately grappling for quality information, i.e., the need for knowledge management.

Editors

Section I

Knowledge management: Challenges in curriculum design amid knowledge explosion

Sharaf Rehman

> *"Information is not knowledge." - Albert Einstein*

Abstract

This essay focuses on three areas. Firstly, it describes the changing role of universities and the faculty, secondly, it defines knowledge management within the academic context, and thirdly, it describes the application of knowledge management in curriculum design.

Keywords: *Knowledge acquisition, Knowledge management, Changing role of a university, Curriculum design.*

Academe in Transition

Among the numerous changes that have ensued in the process of transition from the agricultural age to the digital age, one is that of function and role of the universities. The preliminary purpose of universities was to provide instruction in philosophy, logic, rhetoric, ethics, and religion. Young men (and some women) that attended these institutions came from affluent families and as such these young learners were not likely to seek gainful employments at the end of their university education. Universities were, in the true sense of the term, in knowledge management business. Universities saw themselves as beacons of enlightenment and insight, not suppliers of diplomas that serve as union cards for various professions.

The working classes that needed and sought jobs learned their trade or craft through the process of apprenticeship. Members of these lower classes did not attend universities. They went to trade schools or technical institutes. It is apparent that in our present time the initial purpose of the universities has become faded if not been forgotten.

As societies moved from aristocratic cultures to egalitarian and industrialized nations the need for formal training in professions such as medicine, law, engineering, and farming became necessary. Initially, the responsibility of preparing the skilled professionals in these areas was assumed by trade schools. As late as 1920, universities in the United States taught poetry not pottery, ethics not electronics, and mathematics not mechanical engineering. Our institutions of higher education no longer have such luxury; today our universities' smorgasbord offers college credit for the auto repair, break dancing, surfing, French pastry, and managing small businesses.

Economic reality for most university students of today is such that they are going to need and look for jobs in specific trades. As a result, they seem to have no use, appetite or

patience for the arts, philosophy, and literature. Students come to the institutions of higher education, not for enlightenment but to prepare for trades.

Institutions that can produce employable individuals are seen as the right schools to attend.

Henceforward, the universities have transformed into trade schools, and professors are dubbed as trainers, facilitators, and mentors. Focus is no longer Plato's Republic or Homer's Iliad but the corporate cultures of Google and Microsoft; heroes of the Greek mythology have been replaced by Steve Jobs, Bill Gates, Martha Stewart, Paula Dean, and Donald Trump. The faculty members that can teach the "in-demand" skills are retained and rewarded.

The shift is neither good nor bad. It is what the global economy dictates. Species living in water learned to swim or they died out; species living on land learned to walk and run or got consumed by bigger and stronger creatures. Big business runs the global economies; the educational institutions produce the workforce for these corporations. Survival is still the name of the game.

Will the trend reverse? Unlikely. Will there be a time when knowledge for its own sake is viewed as valuable? It's doubtful. The current thinking of a typical university student is: How does any particular set of courses help me in obtaining and/or retaining a job? And this is the tail that has wagged the institutions of higher learning. The new mission of the universities is to produce employable individuals. Universities are ranked in terms of their graduation rates and average starting salaries of their graduates. Read as: an understanding of megapixels is valued more than appreciating the Mona Lisa.

Although the universities do not openly admit in their mission statements, but more and more of the institutions are being run as businesses. Terms such as Total Quality Management, Lean Operations, Rightsizing, Outsourcing, and Meeting the Customers' Needs are no longer uncommon among the university administrators. Students are seen as paying customers and efforts of recruiting students are beginning to resemble the battles for larger market shares fought by the likes of soft drink makers, automobile producers, cosmetic industry, insurance companies and financial institutions. Businesses that cease to be profitable, are shut down. Many of the liberal arts universities in the United States are facing shutdowns.

Universities have begun to make claims that they are offering the best value for the investment (tuition dollars); the return on investment is promised in comparison tables and charts with starting salaries of their recent graduates. Faculty are hired, promoted and retained using criteria that add value to a campus. This is done either through research and publishing potential or a track record for attracting grants and external

funding to an institution. Faculty's priorities have shifted from teaching to publishing and seeking outside funds. While these changes are taking place on campuses, the human knowledge base is increasing exponentially. It is estimated to double every five years.

Knowledge Management

Knowledge Management (KM) is a term that came into vogue in the 1990s. Consulting companies that offered to assist the business institutions in gathering, acquiring, disseminating, and protecting their corporate knowledge, devised it. The two decades, the 1970s and the 1980s were a testing time for corporate America. American auto industry, steel industry, earth-moving equipment manufacturing and many other industries suffered great losses.

During the era of mergers and acquisitions, from 1975 to 1990, the businesses were not only concerned about losing market shares but were also worried about losing a vast body of knowledge and expertise that was likely to vanish with the disappearance of the baby boomers due to retirements and passing on. Corporations felt that since the older employees acquired their experience and knowledge while working for the company, the company had the right to it. The problem was extracting the knowledge from the older employees and passing it on to the next generation.

Knowledge management consultants offered solutions for transfer of knowledge and plans for developing reward systems for the older employees for sharing their expertise and experience.

An early definition by Davenport (1994) is still widely used: "*Knowledge management is the process of capturing, distributing, and effectively using knowledge*."

Others have expanded and elaborated on the concept. One of the most frequently cited is by Duhon, (1998):

"*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*." – The Gartner Group –

> ***Knowledge management is the process of creating, organizing, storing and sharing important information.***

These and many other definitions share strong organizational / business orientation. Knowledge management has primarily been about managing the knowledge of and within

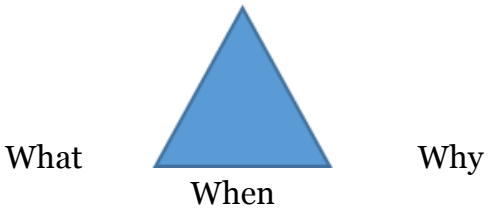
organizations. Borrowing from and blending many definitions, this author proposes a definition that might be more suited to educational institutions.

This definition stresses two concepts - determining what is important and how to go about sharing it.

Importance. Within a formal learning-teaching environment, this is based on what our learners need to know, why would they need it, where might they find it, and how might they retrieve it. The importance of any set of knowledge can be determined by using a filtering process. Sometimes this is referred to as the selection process (O'Dell & Hubert, 2011) and can be reduced to a simple model - The 3-"W"s Model. The three "W"s stand for What, Why and When.

The "what" aspect of the model is used to determine the content of a syllabus for a course or the curriculum for an academic program. This is also referred to as "Just the right stuff" approach. Since higher education and teaching have become synonymous with skills for performance at a job, the following questions may guide a knowledge planner in identifying such "right stuff".

It is becoming increasingly important to prepare the learners for tomorrow, and for the developments that are on the horizon than telling them what used to be available in the past. This is not to undermine history; we cannot know ourselves unless we know our history. However, if pointed to the appropriate books and sources, the learners can carry out such self-discovery on their own.



Three 'W's Model. (Rehman, 2014)

1. What skills/sets of knowledge do the learners need to perform their jobs?
2. Do I need to teach them the information or will they acquire it over time On their own?
3. Can I direct them to where they can learn these skills on their own?

The "why" aspect of the model focuses on making knowledge relevant to specific learners. In an age where instant gratification is preferred over delayed rewards, the learner wants to know:
What's in it for me - today?

Guiding questions are:

What is the immediate benefit to the learners?
What maybe the long-term benefit to the learners?

> ***Knowledge is for the future, not the past.***

The knowledge that is perceived as "useful" is attended to and retained. People listen to us if and when we have a solution for their immediate problem or their future problems. Knowledge has to be specific to the learner's needs.

The third "W" of the model addresses the question – when to teach or offer any knowledge? When are people the most teachable? When they are facing a problem. Most people and organizations operate on a reactive model, i.e., deal with the problem when it arises. While the proactive approach would suggest planning and anticipating in advance, or taking precautions so that the problem would not arise.

When should we present the knowledge so that it is used and not ignored or forgotten? For this, we may use "just-in-time" (JIT) approach - an inventory management system that was first employed by the Japanese. The idea behind JIT is that instead of warehousing supplies or parts and tying money in storing the materials, one should have the materials delivered exactly when they will be needed. By providing the information when a learner is going to need it, chances are that it will be attended to, remembered, and put to use. If the same information is given, say, a month ahead of time, it may not be considered important and thus may not be retained. Information coming too late is obviously of no use. The mantra is: Just enough, just for them, just in time.

Knowledge stems from data and information. Often we confuse data, information, and knowledge. These three are not interchangeable.

Data is specific information or figure. For example:

- 25 attendees.
- 1000 students.
- Johan Polanski.

If there's nothing to define these data, these are meaningless. To make sense of these data, one needs to organize and place these in a specific context.

> **Data is not knowledge, not even close.**

Information is organized data.

- 25 conference attendees at the 6th Communication Arts Conference.

- 1000 Fine Arts students at New York Art Institute.

- Johan Polanski, the rector of New York Art Institute.

Now the data make more sense.

Knowledge builds on information to give it context. Johan Polanski is the rector of New York Art institute that has 1000 Fine Arts students. This is the 6th annual conference of Communication Arts being held at the Institute.

The key difference between information and knowledge is that information adds meaning to data. Knowledge gives one the power to make decisions, take action, and accomplish tasks.

Koenig (2012) suggests that there are three types of knowledge: explicit, implicit, and tacit.

Explicit knowledge is set out in tangible form. It is the kind of knowledge that one can show, tell, share and teach to others through written or oral communication; For instance, a textbook in accounting, a university's course catalog, a company's policy manual, and instructions for using a GPS device. Explicit knowledge is quantifiable. It is more tangible.

Implicit knowledge is not set out in tangible form but could be made explicit. Learning to ride a bicycle or learning to swim are examples of such knowledge acquisition. This is the learning complex information in an incidental manner, without becoming aware of what has been learned. Drawing inferences and making deductions are also examples of implicit knowledge.

Tacit knowledge is in "one's head" and is extremely difficult to convert into tangible form - the type of knowledge that is difficult to write down, visualize, or transfer from one person to another.

> ***"We can know more than we can tell." - Michael Polanyi***

Tacit knowledge is not so easy to measure. It includes things we come to know through experience. Sometimes we are unaware of our tacit knowledge. For instance, in some cultures friendships and socializing are important in building business relationships. An experienced businessperson knows that a certain client is not going to sign the deal unless he or she plays golf with the client. We acquire such bits of acumen through experience. However, there is no guarantee that socializing with the clients will always render identical results. Some other common examples of tacit knowledge are:

- Aesthetic Sense

- Emotional Intelligence
- Humor
- Innovation
- Intuition
- Leadership
- Learning a language

Knowledge Management Process

Several models have been proposed by different scholars in the field. Dataware Technologies Inc. (1998), focusing on a particular problem for a specific business, offered a seven-step model with the following steps:

- Step 1: Identifying the Business Problem
- Step 2: Preparing for Change
- Step 3: Creating the Team
- Step 4: Performing the Knowledge Audit
- Step 5: Defining the Key Features
- Step 6: Building Blocks for Knowledge Management
- Step 7: Linking Knowledge to People.

Simmons (2013) broadened the model's application by adding evaluation and assessment as an extra step offering an eight-step process. These were:

- Step 1: Establish Knowledge Management Program Objectives
- Step 2: Prepare for Change
- Step 3: Define High-Level Process
- Step 4: Determine and Prioritize Technology Needs
- Step 5: Assess Current State
- Step 6: Build a Knowledge Management Implementation Roadmap
- Step 7: Implementation
- Step 8: Measure and Improve the Knowledge Management Program

This author proposes a four-step process that may serve the needs of educators and trainers. The four steps are creating, capturing, organizing, and sharing.

1. Creating. This step includes activities such as learning about the existing knowledge of the learners, researching their needs, adding new learning materials to existing ones, and developing an instructional strategy.

2. Capturing. Harvesting existing knowledge, modifying it to the needs of the learners.

3. Organizing. Categorizing the information and storing it for easy retrieval.

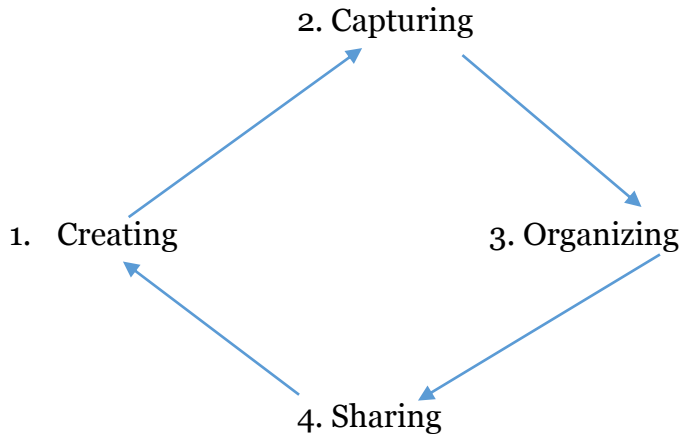
4. Sharing. Communicating to the learners about the learning strategy, teaching, and disseminating to the appropriate learners/users.

The above model relies on an understanding of the what, why, and when for completing the first two steps. The third step, organizing, also assumes that the knowledge will be organized in a systematic matter, i.e., progressing from simple to complex, from identification and categorization to analysis and synthesis. Equally important are the location of the information and the mode in which it is made available.

The technology used for organizing and storing the information has to be synchronous with the technology and resources available to the learners.

The best-developed materials are of little value if the learners are unable to afford these. Similarly, if the knowledge is placed on the Internet that is either inaccessible or incompatible, the effort is in vain. Invariably, sharing and usage would lead to feedback that may guide revisions for the next go-round.

A growing body of literature in knowledge management suggests that it is not a trend (Ponzi & Koenig, 2012). It is here to stay, and for good reasons. Knowledge is power and it gives one competitive advantage. The world is rapidly turning into a competitive environment – not just in business but also in academe. Trainers and teachers will be well served if they were to adapt any one of the variations on knowledge management.



Knowledge Management: A four-step process. (Rehman, 2014)

Knowledge Management and Curriculum Development

As educators and trainers, educational institutions are constantly creating, collection, repackaging, and selling knowledge. In our current economy, the first step for higher education institutions out to be the gathering of information about the kinds of job opportunities that will be available to the students. It is clear that many of the jobs of yesteryears are going to disappear or be performed by robots and computers. Universities should gather information about the sets of knowledge, skills, and talents that are going

to be needed in the job market. Such knowledge would determine the 'what' and the 'when' of curriculum content.

The society in general and the universities, in particular, have to accept the fact that a vast majority of American students are coming to universities for job preparation, not intellectual curiosity. Core curricula attempt to integrate some content from the liberal arts, humanities, and fine arts, however, as specific knowledge within each discipline continues to grow, the liberal arts education is going to be squeezed out of the General Education Core.

The task for the higher education institutions is not only to attract and retain students but also to prepare them for the job market. The challenge is to offer a curriculum that offers a good balance between needed job skills, social skills, and people skills.

Knowledge management can help an educational institution is several ways.

It helps transform data into information. As mentioned earlier, data or numbers mean very little; it is placing these in a proper and useful context that turns them into information. Information can then be turned into knowledge.

Tracking and recording data can prevent knowledge loss. Reports and documents prepared by teams or individuals, if not cataloged, organized, and stored, will be lost.

If and when two teams are working on somewhat similar projects, there may be a duplication of effort. Effective Knowledge management will detect such duplication, allow for information sharing resulting in increased efficiency.

An active knowledge management plan encourages sharing of information – such open sharing benefits everyone in an organization. This also ensures that the knowledge will be used.

Knowledge has to be improved, challenged, and increased constantly, or it vanishes.

Peter Drucker

Knowledge does not improve by itself. It needs constant updating, deleting and adding. Old statistical data is of little use. So are sales figures from ten years ago, or student performance records. For such data to be useful, these have to be compared with more recent data to detect any trends, changes, or fluctuations.

At the end of the process cycle (sharing stage), as one conducts evaluations and assessments, one can measure the success of an effort.