

An Evolving Model of Knowledge Management in Education and the South African Reality: How Knowledge Management, Information Literacy and Reading Skills are Informing Learning at a High School and a Primary School in Gauteng, South Africa

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Concepts of Knowledge Management struck three educators in Gauteng, South Africa, and inspired them to devise a Knowledge Management model for education and schools. The model is focused on how Knowledge Management is sandwiched between the country's educational policies and the bedrock of literacy and reading. It encompasses the Constitution, common value systems, common leadership/management skills and professional values, inherited language skills and cultural knowledge and lifestyles, general knowledge, information/literacy/digital/IT skills, Intellectual Capital and collaboration between educational entities, school librarians and colleagues, communities and stakeholders. The model highlights the many challenges existing in South African education and further inspired the three educators to consider their own achievements as School Librarians – one at a Public/Government High School and the other at a Public/Government Primary School. The High School Librarian has used IT to promote reading to great effect, while the Primary School Librarian has made important strides in helping her subject/learning area colleagues to teach Information Literacy.

Roots of The Knowledge Management Model

Concepts of Knowledge Management struck three educators in Gauteng Province, South Africa, and led them to reflect on practices in their Schools and the Gauteng Education Department District D9. These

decisions were also influenced in part by the Australian ASLA Online Conference, 2004, and the Globalization...Conference held by HKERA 2002, as well as some Internet and periodical sources. These reflections led them to devise a Knowledge Management Model for education which might be helpful in many other countries. Within the value and educational parameters that govern the South African educational scene, the educators looked at their achievements in terms of the Knowledge Management model, IT and Reading Skills. The Model is too wide-ranging to serve as more than a vision at this stage, but it highlights important departure points for this Paper.

A definition of Knowledge Management which motivated these educators was the following:

“The value of Knowledge Management relates directly to the effectiveness with which the managed knowledge enables the members of the organization to deal with today’s situations and effectively envision and create their future Without on-demand access to managed knowledge, every situation is addressed based on what the individual or group brings to the situation with them. With on-demand access to managed knowledge, every situation is addressed with the sum total of everything anyone in the organization has ever learned about a situation of a similar nature.” (<http://www.systems-thinking.org/kmgmt/kmgmt.htm>, 2004, Gene Bellenger, Outsights Inc, p 5)

Corporates and companies throughout the world are attempting to deal with the idea that the knowledge in the heads of individuals or groups can be garnered to help the knowledge base of the company at large. The media record that African and many other developing countries are keen to develop local intellectual capital and indigenous knowledge sources. Certainly, by 1990 some management consultants had begun in-house knowledge management programmes, and by the mid-1990’s Knowledge Management initiatives were flourishing. However, when the original research was done for this Paper in September 2004, the situation appeared diffuse and muddled and the concept something of a buzzword. Later research in March 2005 revealed that regular research groups on Knowledge Management have been formed, professional bodies exist now (such as the Hong Kong Knowledge Management

Society) and that at least one university programme on this study area has been established (in Australia).

Back in September 2004, the Gauteng educators also struggled with the concept of Knowledge Management – until it occurred to them that in the South African educational scene some of this knowledge is out in the public domain anyway and what is not in the public domain must be sought and harnessed to the cause. In addition, it became obvious to them that their schools were participating in the Knowledge Management Model without their realizing this fact.

Other Relevant Definitions that Influenced the South African Educators

- Knowledge
- “Knowledge is defined as what we know...the mental processes of comprehension, understanding and learning...(Wilson, TD The nonsense of Knowledge management <http://informationr.net/ir/8-1/paper 144.html>)
- Information
- “Information is expressions of what we know, orally, in writing, graphics, gestural or even body language.” ... (Wilson, TD The nonsense of Knowledge management <http://informationr.net/ir/8-1/paper 144.html>)

- Information access:
- Access to information is enshrined in the South African Constitution. In the USA the Library Bill of Rights expresses the basic principles of its Code of Ethics. “Libraries empower users by providing access to (library materials and) the broadest range of electronic resources...”
- Information literacy:
- “Information literacy is knowing when and why you need information, where to find it, and how to evaluate use and communicate it in an ethical manner.”
(<http://www.cilip.org.uk/professionalguidance/informationliteracy/definition/>, p. 2)
- “To be information literate, a person must be able to recognize when information is needed, and have the ability to locate, evaluate and use effectively the needed information.”
(<http://dis.shef.ac.uk/literacy/definitions.htm>, p. 1)

- Thus Information Literacy is defined similarly across the world and the Big 6 Model is the one many people still use. However, there are important developments in this field as this Paper will attempt to demonstrate.
- Definition of the importance of school libraries and school librarians
- “School Library media specialists play an important role in improving student achievements, the teaching of information literacy, the promotion of reading literacy and the continued use of technology. Nowhere else in the school system does one see these three important factors together....” (Geitgey, Oelma President {Ohio Educational Library Media Associations} quoted in: Stotts, S & D Logan *Questions about how Library Media Centers & Specialists impact student achievement*. March 2001 Page last modified 2/21/04.)

This Paper was prompted by the practice of two South African school librarians and it is hoped that reports of their successes will inspire other school librarians.

- Definition of reading

“Reading is both a skill and a behavior. It is a combination of how to read and the desire to do so. Classroom teachers do not necessarily promote reading for pleasure. School librarians are different. Their purpose is to encourage children to select their own reading material and school library collections not only to complement the curriculum but are also designed to support the schools’ wider mission: to encourage lifelong learning and reading. In order to become readers, children must have access to books – and lots of them...” (Carter, B Formula for failure School Library Journal, July 2000 p 34-37)

“In an information age, literacy demands not only the ability to read and write, but also the ability to process information effectively.”

(ALA/AASL Position Statement on the Value of Independent Reading in the

School:http://www.ala.org/ala/aasl/aaslproftools/positionstatements/aaslpositionstatement_valu)

The Knowledge Management Model and the South African Realities and Challenges in which the Knowledge Management Model was Devised

This model (Figure 1, appended) conceptualizes how Knowledge Management in education in South Africa is sandwiched between the

country's Constitution, values and educational policies and the bedrock of literacy and reading. The Second diagram (Figure 2, appended) shows the Challenges and Achievements of the South African Reality based on the Knowledge Management Model. Although the diagrams have been sketched out on different pages, it seems simpler to treat the two as one narrative in the written Paper. Figure 1 is represented by the bullet symbol Black Dot. Figure 2 is represented by the bullet symbol Four Black Dots.

Fig 1: The first box refers to the centrality of the Constitution in the life of South Africa. All legal systems are based on this and a common system of values flows from the Constitution. Many world religions are represented in the country, as well as African religions; their Scriptures and beliefs underlie other common value systems. The rights of all religions, languages, cultures, are respected in law as are the rights of individuals. From this basic core flow many civic and societal concerns: the building of the country, the celebration of democracy (10 years' old in 2004), the eradication of poverty, equality and redress of past wrongs, the fight against AIDS and many others. The right of access to information is one of those guaranteed by the Constitution.

- Fig 2:
- ❖ Fig 2: There is slow progress in many areas of social reconstruction and catching up with backlogs from the Apartheid era – e.g. in conquering poverty, battling AIDS, preventing crime, etc. Implementing some laws seems problematic.
 - ❖ However, the Constitutional Court is the effective last resort of conflicts and many compassionate laws have been passed guaranteeing the rights of individuals and protecting them against violence. Many interventions are happening to alleviate the 'poorest of the poor'.
- Fig. 1: The next box refers to the common Educational Policies and systems in South Africa: South African Schools' Act (SASA, 1995), Outcomes Based Education (OBE, 1995) and the Revised National Curriculum Statements (RNCS, 2001). These policies are designed to include all learners in the country in an effective education system designed to prepare children for fulfilling lives in educational, vocational, civic and emotional terms, and for lifelong education. Embedded in the RCNS are the original Critical and Developmental Outcomes (1997). The most relevant of these in terms of this Paper are that Learners will:

- Identify and solve problems and make decisions using critical and creative thinking;
- Organise and manage oneself and one's activities responsibly and effectively; and
- Collect, analyse, organize and critically evaluate information
 - ❖ Fig 2: OBE was probably introduced too fast to many teachers used to talk-and chalk teaching. Training was too brief in many cases and District staffs do not have time to provide enough support to individuals. Another result of OBE in its original conception was that it provided Principals and educators with immense paperwork.
 - ❖ The Revised National Curriculum Statements should redress some of these problems. Terminology has been made simpler and some paperwork eliminated. However, the RNCS contain Information Literacy requirements and the authorities do not at this stage realise the significance of these or of their importance to learners.
- Common Government Departmental Leadership/Management policies e.g. Strategic Management, Balanced Scorecards, etc. This system makes educational managers and school principals business managers as well as line managers.
 - ❖ The Management systems of the moment are somewhat authoritarian. There is much emphasis on IT and computer projects and little on school libraries and reading.
 - ❖ It is hoped that a new Minister of Education in going to rectify some of these problems, especially as far as school libraries are concerned.
- Common Principles of Educational Professionalism

Principles of teacher professionalism “demand the highest standards of commitment to knowledge of, and participation in, the activities of the professional community, ethical behaviour consistent with the best interests of students and community and reflection on professional practice...”(2005; Standards for the Education of Science Teachers: Professional Practice, p2) These principles are probably accepted in most countries worldwide.

- ❖ There are still educators who believe in the closed classroom and are very sensitive to criticism. They have limited views of professionalism. Sadly some of our young teachers are included in this group.
- ❖ However, there are many dedicated teachers who strive for the best for their learners and are very keen to improve their professional development.
- ❖ School librarians are amongst the most dedicated of these teachers and often soldier on in brave isolation. It is interesting to notice that if commitments for professional teachers are demanding, those for School Librarians are mind-boggling. (ATLC. (2004). Students' Information literacy needs in the 21st century: competencies for Teacher Librarians, p1. <http://www.atlc.ca/Publications/competen.htm>).

- Inherited/acquired language skills

South Africa has 11 official languages, but only English or Afrikaans are as yet developed enough for higher education purposes. At present, English is acting as the main language of teaching and learning.

- ❖ English is resented as a lingua franca. Discipline problems often occur in schools because learners cannot cope with their subjects in English and cannot read adequately. Equally, educators also cannot always cope with English texts.
- ❖ The goal that all South Africans learn to speak and read other languages, and that African languages achieve tertiary education status are distant at present. Meanwhile, School Librarians need to help these learners with their language and reading problems.

- Common inherited/acquired cultural knowledge and values

South Africa has a wonderfully mixed variety of cultures – not only the 11 acknowledged cultures of the country, but the many other European, Muslim, and other cultures which exist amongst the established citizens of the country, plus the many other African and other cultures which are flooding in with the immigrants.

- ❖ Interesting cross-cultural dialogues are happening, but there are still groups which resist transformation.
- ❖ This is an area in which School Librarians can help immensely by procuring books in African languages, as well as other cultural sources which can underpin the wide variety of cultures represented in schools. A problem is the paucity of books in African languages.

- Subject knowledge (Learning Areas)

This knowledge comes across through centuries of experience; it is the accumulated knowledge of ages. Dedicated educators try to keep abreast of subject developments in their field. This has been complicated by the information explosion and to some extent alleviated by ICT and Internet, as well as all the other library and mass media sources.

- ❖ Again, many educators and learners battle with English text across the curriculum, especially in Science, Mathematics and Technology.
- ❖ Initiatives are being launched regularly to help both groups with this situation. Also girl learners have been targeted to help them cope with scientific learning areas.
- ❖ This again is an area in which School Librarians can help schools to grow in subject knowledge.

- General Knowledge

Knowledge of how to improve one's knowledge through libraries, including different media, including books and the Internet.

- ❖ Critical and thinking skills, media literacy and information literacy are required as well as basic literacy and reading skills. School Librarians are central to the provision of materials for these skills and advice to colleagues on how to teach the skills.

- Accessing information

“Information skills are not library-based, but *information*-based, incorporating all areas of the school curriculum.” (Maloney, K 2001. *Information literacy: towards lifelong learning*, p.1)

- ❖ Command of Information Literacy is essential for learners, as well as literacy and computer literacy. It has been mentioned before that Information Literacy Skills are contained within RCNS for each Learning Area and all educators in schools should be aware of this.
- Educational collaboration
 - “Collaborating with the full range of school personnel to identify and solve information problems presents a model of the approach that students and other must take to thrive in the information age.” (ALA...*Information power*...1998, p51)
 - ❖ As Kresberg (2001, p22) remarks: “collaborate means working jointly with others or together especially in an intellectual endeavor.”
 - ❖ Collaboration between educational entities as postulated in the Knowledge Management model is a great ideal, but is not always realized in practice. This needs to happen in reality in schools if School Librarians are to spread Information Literacy across the curriculum.
- Intellectual Capital, Knowledge of local and global communities
 - ❖ Copyright is a major consideration in information and IT circles. In addition, developing countries are needing to develop indigenous knowledge and expertise, so that they re not always exporting such knowledge from the First World.
 - ❖ This is a challenge when many South African learners cannot read English.
 - ❖ Ongoing challenges: Knowledge of local/international communities and Partnerships between sponsors, donors, suppliers, stakeholders, etc.

Specific School Experiences

In the face of these challenges, this Paper looks at the achievements of one Government High School Librarian and one Government Primary School Librarian in terms of IT, Information Skills

and literacy/reading skills. The third educator is a District Official – a Library Facilitator – at one of the twelve Districts in the Gauteng Province.

- IT, Reading and achievement of learners across the Learning areas:

The Queens High School Principal, Mr Terry Wilsenach, looked at the situation in his School and decided that the great problem was that the learners were of many language groups and that they could not read and comprehend English, which is the language of teaching and learning. This affected their performance and self-esteem across the Learning Areas (subject areas). In other words, the Constitutional requirement of “information access” took on a new context. Learners could not access information because they could not read. This must be a festering situation in many developing countries.

In consultation with his School Management Team, including the High School Librarian, this Principal decided to turn his computer room into a reading laboratory and committed a large amount of his budget towards purchasing a series of computer reading programs from Grade 1 to Grade 12 for the Laboratory. These programs address almost all reading problems from eye-movement to comprehension, and are pitched at the level the learner needs at the time.

The advantages of the system for learners took time to become established. However, gradually, educators began to see improvements across the curriculum from this basic reading remediation. The High School librarian has backed up the Reading Laboratory with easy reading fiction and non-fiction books as well as regular books and materials. In fact, the Reading Laboratory has spawned such interest in reading that students’ overall academic achievements have climbed steadily. Similarly, the students’ interest in reading has boosted the School Library into vibrant new life – with children clamoring to read both fiction - and non-fiction for their school assignments. In addition, the learners could be taught and understand the principles of Information Literacy, since they could now understand texts. This example has inspired other schools in the Province to follow suit.

- The Primary School Librarian has gone a step further: She realized that the RCNS Information Literacy requirements meant that the school staff as a whole needed to teach these skills.

The Information Literacy Skills involved in the RCNS are broadly speaking as follows (see Figure 3):

LANGUAGES – ENGLISH Home language/First Additional Language
(South Africa. Department of Education. RCNS, 2001)

“Purpose – Languages are central to our lives. We communicate and understand our world through language. Language thus shapes our identity and knowledge.

How does the Language Learning Area contribute to the curriculum?

- ✚ It develops reading and writing, the foundation for other important literacies.
- ✚ It is the medium for much of the other learning in the curriculum, such as Mathematics and Social Sciences
- ✚ It encourages intercultural understanding, access, to other views and a critical understanding of the concept of culture.
- ✚ It stimulates imaginative and creative activity, and thus promotes the goals of arts and culture
- ✚ It provides a way of communicating information, and promotes many of the goals of science, technology and environmental education.
- ✚ It develops the critical tools necessary to become responsible citizens.”

As one can see in Figure 3, the other Learning Areas similarly display outcomes which require Information Literacy Skills/Literacy.

This School Librarian of Montrose Primary School looked at these Learning Area-precise Information Literacy Skills and decided that the teaching of such skills should be transferred to Learning Area educators. OBE has assimilated the Information Skills approach, extending the mantle beyond the library lesson to the classroom. Her experience showed her that OBE projects demand that all educators have a full working knowledge of information processing skills so that they can impart this knowledge to their learners. Many educators, however, lack this knowledge and still tend to emphasise the product, rather than the process.

She used the Big 6 Information Skills Model in her work. By relying mainly on the Presentation Phase of the Big 6 steps, educators tend to ignore the crucial, fundamental skills embodied in the preceding phases. Despite achieving attractive, highly visible results, the Presentation Phase is often a sterile and limited exercise where learners present plagiarized material and transposed computer printouts or photocopied pictures and texts. These mechanical actions require little critical thinking or processing.

She therefore involved her school colleagues in discussions and workshops about the Big 6 Information Skills Model. This meant that educators across

the spectrum took responsibility for Information literacy and the School Librarian could concentrate on literacy and reading. The process is not an easy one and the School Librarian often has to answer educator's questions. However, the direction she has taken is represented also in the KwaZuluNatal (another Province in South Africa) Policy for School Libraries, which recommends a school-wide Literacy Policy.

The gains of these two Government schools might not loom large in the world of Knowledge Management, but they are considerable achievements in a challenging and multicultural environment that is South Africa. The wider world might be involved in "Digital Age literacy, inventive thinking and effective communication" (Weis, J P Contemporary literacy skills, p. 13), but many developing countries are involved in Information Skills at a basic level of reading and writing in English. It is hoped that they will achieve all of the goals in the Knowledge Management Model in time. The experiences of these two School Librarians emphasize where schools are in many countries and how Knowledge Management principles might turn these experiences around to the great advantage of students, school librarians and educators everywhere.

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Author note

The author traveled extensively in her early twenties through Europe and the United States. After her teacher training, she discovered school libraries which became a lifelong passion. Since then, she has worked in Public Libraries, lectured at Johannesburg College of Education in School Librarianship, obtained a Masters Degree in Children's Literature and worked in Gauteng's Education Library before and after the new South Africa. At present she works for a Gauteng Educational District in Johannesburg as Library Facilitator which means much interaction with school librarians.

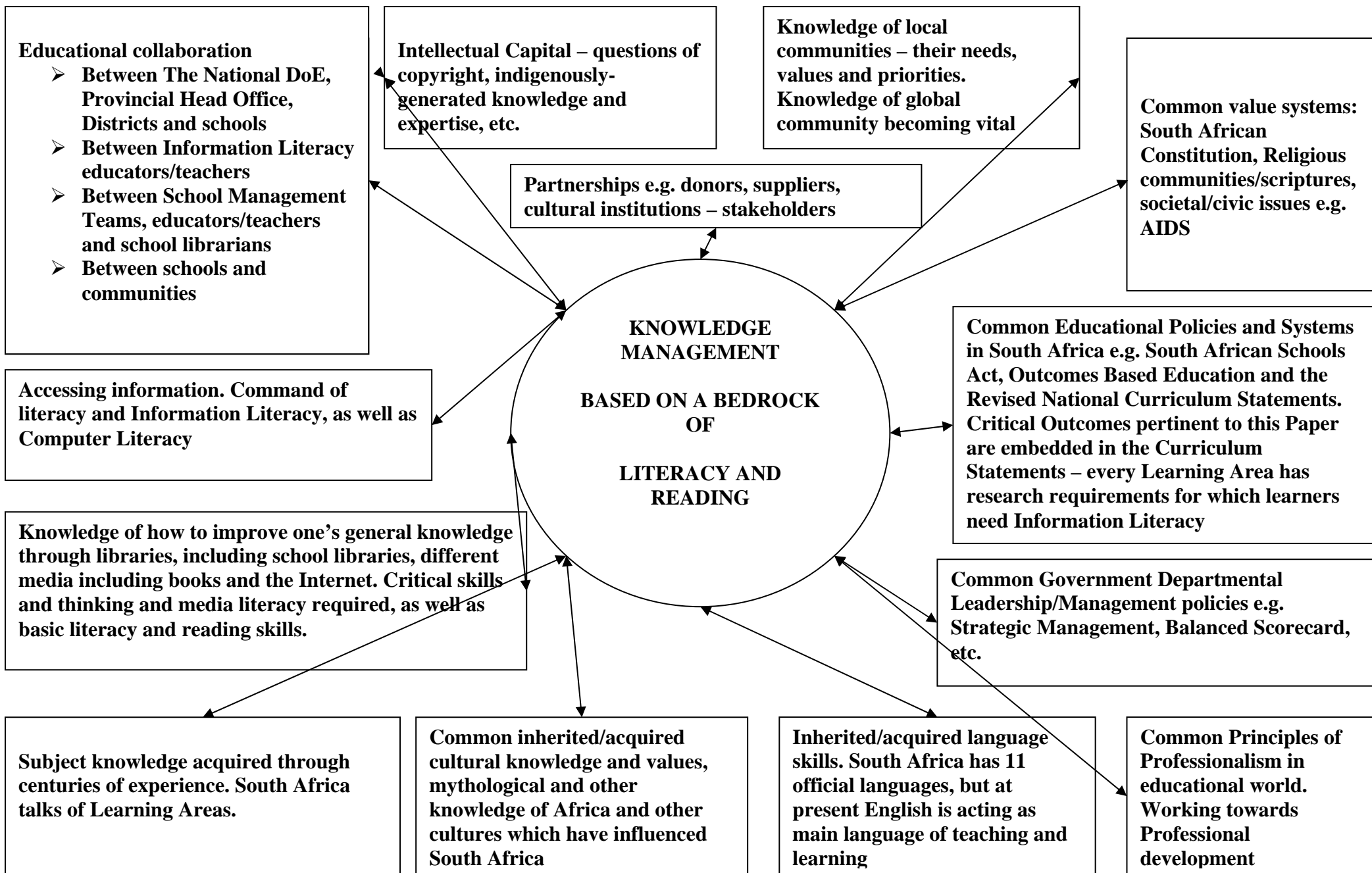


Figure 1: AN EVOLVING MODEL OF KNOWLEDGE MANAGEMENT IN EDUCATION

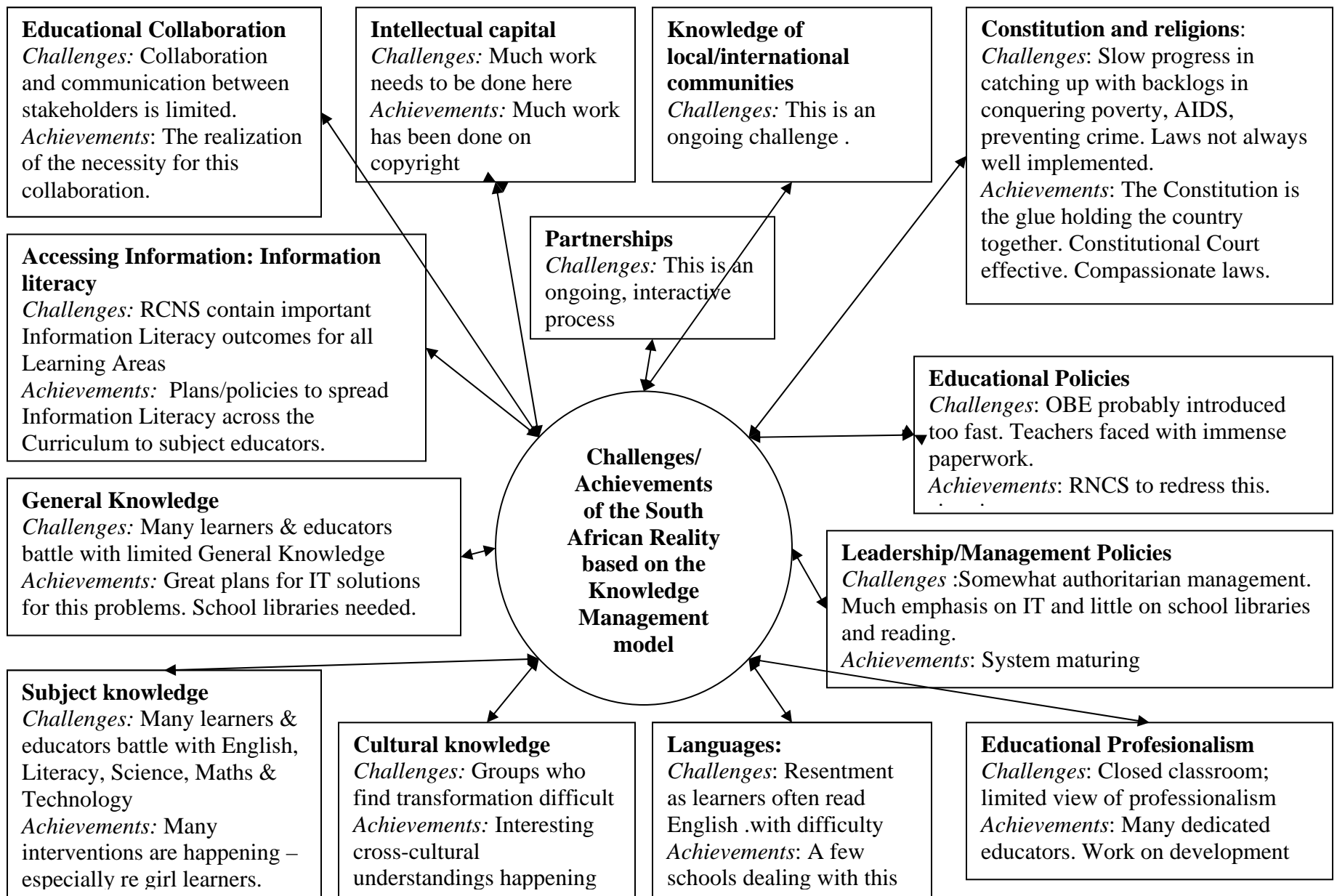


Figure 2: Challenges/Achievements of the South African reality based on the Knowledge Management model

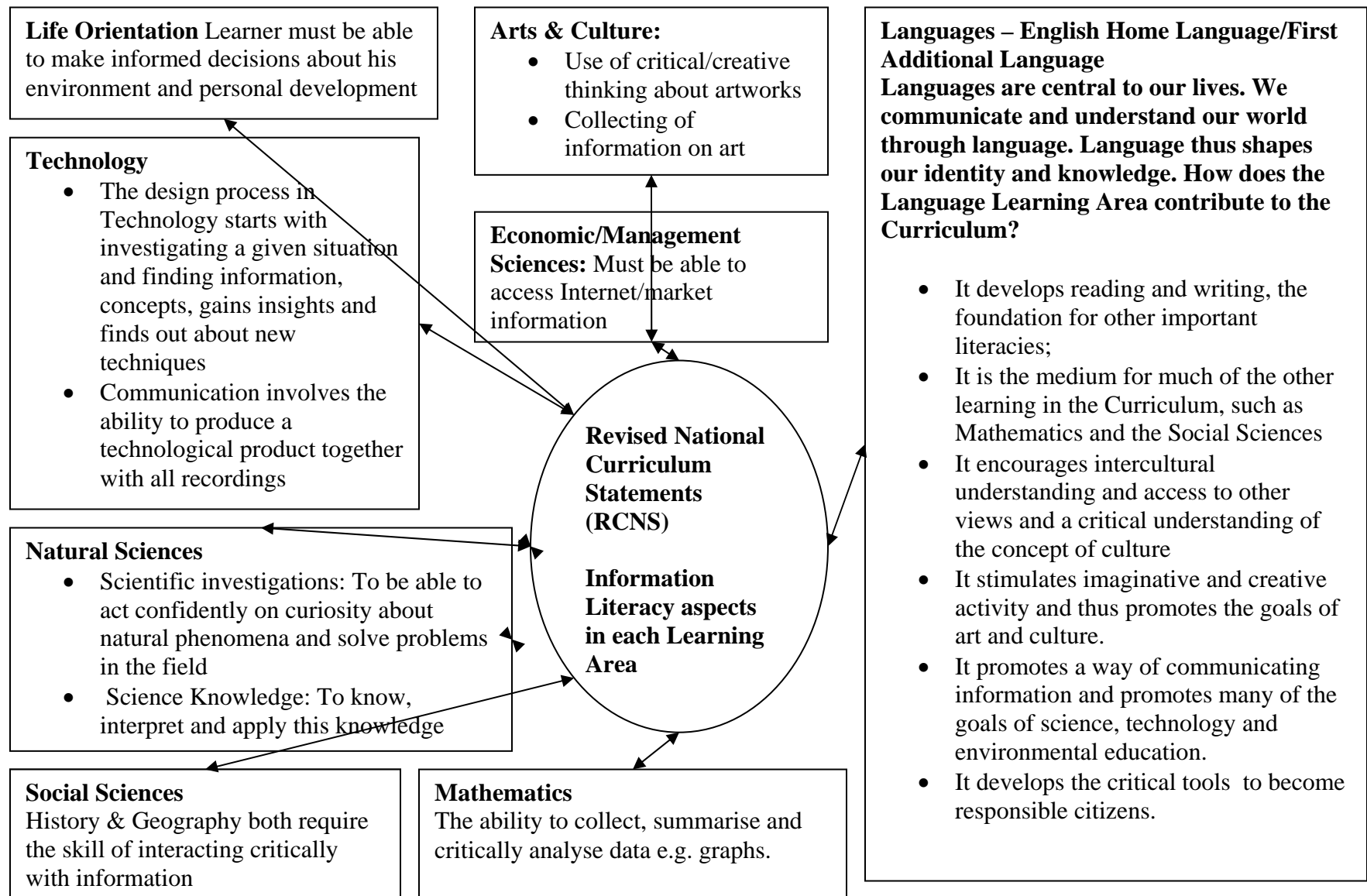


Figure 3: Revised National Curriculum Statements (RCNS): Information Literacy Aspects in each Learning Area

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