From literacy to literacies: preparing higher education in South Africa for the future

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ABSTRACT
The notion “literacy” is changing to encompass the concept of “multiple literacies”. There are various forces, especially social and cultural forces, which used determined the definition literacy and in this new millennium one can merely predict which possible cultural forces will now shape the nature of literacies. In South Africa there are various cultural forces such as the growing influence of technology at work which might influence literacies in future. It is important that higher education in South Africa should take cognisance of these cultural forces, in order to empower people who want to further their tertiary studies. These cultural forces include: growth in technology; integrating the use of technology into the curriculum; the need for updated information; teacher training and literacy instruction; the need to empower students, and the need to prepare students for future workplaces.

LITERACY AND LITERACIES
Literacy is traditionally regarded as reading and writing, which are complex cognitive activities consisting of many levels of interactive processes. Cunningham, Many, Carver, Gunderson & Mosenthal (2000:64) point out that most definitions of literacy share three commonalities which are “the ability to engage in some of the unique aspects of reading and writing; contextualisation to some extent within the broad demands of the society; and some minimal level of practical proficiency”.

Young learners start their primary school careers by being taught how to read and write; these skills have been traditionally regarded as basic literacy. In order to be able to master the subject content in the secondary school, learners must be able to understand new ideas and information, to relate this with what they already know and how to apply these. This requires well developed reading and thinking abilities (Hugo 1991:47).

Secondary school literacy involves the reading of content areas. Content area literacy is regarded as the level of reading and writing skills necessary to read, comprehend and react, to instructional materials in a specific subject area (Readence, Bean & Baldwin 1998:4). When one considers the current literacy needs of adolescents in secondary schools, it is, however, impossible to use a simple text driven definition of literacy in the new millennium. An expanded definition of content literacy should include varying levels of interest to literacy activities which serve particular functions in the lives of young people. A multitude of new text forms including visual and audio multimedia technology is available and teacher should tap their learners’ natural interest in these new form of discourse. (Bean, Bean and Bean 1999:445 446). Prinsloo and Breier (1996:19 ) state that several people are of the opinion that there are different types of literacies, usually in interaction: school and non school literacies, and public and private literacies. The implication for teaching is that the various non school literacies in which people participate should be examined and ways to bridge the gap between public and private literacies should be found.

In South Africa, the technology learning area is one of eight learning areas which were incorporated in the Draft Revised National Curriculum Statement for Grades R9. In the General Education and Training Band, Information and communication technology is one of the three interrelated outcomes in the technology learning area. As far as Information and communication technology is concerned, it is argued in the Draft Revised National Curriculum Statement (2001:17 18): “One of the features of a rapidly changing world is the accumulation of vast amounts

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of information and data. This has an impact on all aspects of modern life. Through this Learning Area, learners will be equipped with knowledge and skills to be competent and confident in accessing and working with various forms of information and data.

These skills include information gathering, storing, processing, management and communication skills. The approach to information and communication, technology focuses on the use of learning support materials and equipment to access, process and use information.

In the Draft Revised National Curriculum Statement (2001:112) reference is made to technological literacy which is defined as the “ability to use, understand, manage and assess technology”. It is, however, not pointed out that the ability to understand and assess technology requires, inter alia, certain reading skills which sometimes differ from everyday reading as has been known up to now.

According to Cunningham et al (2000:64), the internet is fast becoming the most revolutionary example of contextualised reading and writing ever seen. Literacy is involving the the contextualisation of reading and writing within the needs, demands and opportunities of society. They indicate that reading and writing are school based activities, but literacy can be regarded as society based practice. Bruce (1997:305 306) calls this socio technical literacy. These new functions of literacy encompass citizens to be able to effectively use oral language, phones, pagers, cell phones, computers, electronic mail, the internet, art, music, drama, film, video games and digital aids of all kinds.

People’s notion of text is expanding and authors refer to multiple types of text. This leads to the belief that the conception of literacy as reading and writing of printed materials should expand to include multimedia and computer based text. Researchers now realise that there is no one path to literacy and they start to describe the various paths as multiple literacies (Smith 2002:156). Street (2000:18 19) prefers the term multi literacies. In contrast to literacy which refers to the traditional notion of grammar, lexicon and semantics, multi literacies refer to semiotic systems that cut across reading, writing and speech into all the other semiotic forms of communication. Kellner (1998:2) stresses the importance of multiple literacies in postmodern society and indicates that multiple literacies should include both traditional print literacy and literacies which include new technologies. His concept of multiple literacies include: critical media literacy, print literacy, computer literacy, cultural literacy, social literacy and ecological literacy.

**SOCIAL AND CULTURAL FORCES IN DEFINING LITERACY**

The forms and functions of literacy are largely determined by the cultural forces at work within society (Leu & Kinzer 2000:111 112). The influence of cultural forces in defining the nature of literacy can be seen as one of the important starting points of reading and writing. The Sumerian society, for instance, grew rapidly and became more complex during the fourth century (BCE). The Sumerians realised that they had to keep record of their business contracts, transactions and trading accounts, and thus they started to write this information on soft clay which was later baked (Chandler 1969:20). In medieval Europe, literacy was used to enforce a common religion dogma in a diverse world. The literate priests of the Christian Church kept the central texts to themselves and this enabled Christianity to survive across enormous distances, cultures and time and in the face of competing religious points of view. Sometimes literacy was used as a way to communicate among the oppressed. In the Russia of the tsars oppression led to politically charged forms of literacy. This gave rise to samizdat which was a secretive system of publication of revolutionary texts and literature which was banned by the government (Leu & Kinzer 2000:112).

The influence of cultural forces is also clear when one considers the different periods of reading instruction through the ages. This applies to most countries and nations, seen against the background and influence of the historical events taking place. The new trend as far as literacy is concerned, is to refer to literacies or more specifically to multiple literacies. According to McEwan (1992:54) different literacies arise in different academic traditions. Theoretical orientations derived from the subject matter thus play a part in the different ways in which literacy is approached.

Literacies can also be seen as a complex amalgam of communicative channels, symbols, forms and meaning inherent in oral and written language, as well as the arts which include visual arts, music, dance theater and film which includes television, video and technology. Another way to think about literacies, is to see them as multimodal forms of representation or mixed varieties of meaning making which are shaped and presented in different ways (Piazza 1999:2 3).

**CULTURAL FORCES THAT MIGHT SHAPE THE NATURE OF LITERACIES IN THE FUTURE**

No person can predict which cultural forces will influence and shape literacies in the future. Thomas Edison was, for instance, so enthiced by movie pictures that he predicted in 1922, that the motion picture was destined to revolutionise the educational system to such an extent that it would supplant largely, if not
completely, the use of textbooks (Cuban 1986:9). In 1984 Papert (1984) predicted that there would not be schools in the future because the computer could blow up the school. One factor could, however, not be denied and that is that the development of new technology creates the demand for new literacies. Exactly what the new literacies will be, remain an open question.

The growth of knowledge will continue in the next century and citizens will have to be able to access, gain, transform and transmit information. In future workplaces employees and employers will have to access numerous knowledge bases (such as manuals, texts, tables, videos and graphics), read, view and listen to information (such as facts, viewpoints, analyses, critiques and demonstrations), understand, analyse, synthesise and evaluate the information and then distribute or apply it (Smith, Mikulecky, Kibby, Dreher & Dole 2000:380).

The one thing that can be done, is to look at the present cultural forces which might influence the development of literacies in the more immediate time periods. Leu and Kinzer (2000:112) are of the opinion that the following three aspects are the main cultural forces which will frame the story of literacy instruction in the near future:

- Global economic competition within a world economy which necessitates the effective use of information and communication.
- Public policy initiatives by governments around the world which will increase the levels of literacy achievement.
- Literacy as technological deixis.

These forces can be considered as forces which are present in South Africa as part of the world as a global village and they will play a role in any future literacy instruction. The first two aspects which Leu and Kinzer refer to could be considered motivational forces and it would be difficult to discuss this in depth within the limited scope of this article. Literacy as technological deixis will, however, be discussed. There are also other aspects which should be considered when one discusses literacy and literacies in the South African context.

THE NEW MILLENNIUM AND LITERACIES IN HIGHER EDUCATION IN SOUTH AFRICA: CULTURAL FORCES AT WORK

It is a worldwide phenomenon that many learners do not become literate at school and that they continue to struggle with basic literacy at tertiary level. It is for instance estimated that in the USA literacy difficulties affect as many as 20 percent of all learners in schools. The large number of learners who are at risk, to have reading and writing problems, thus threatens to outstrip the ability to help them in some other way in the schools (McCutchen, Abbott, Green, Beretvas, Cox, Potter, Quiroga & Gray 2002:69).

As far as South Africa is concerned there are many students studying at tertiary level whose levels of literacy including language abilities and reading abilities are not in line with the academic demands required by their studies. The seriousness of the problem, came to light in a research project conducted by the Student Service Bureau, of the University of the Orange Free State. In this project the reading level of sixty first year students were tested. Not one of the students’ reading levels was higher than Grade 8 and thirteen of them were only able to read at Grade 1 and Grade 2 levels. It was, however, required from these students to have English language abilities which would allow them to read relevant academic content at university level (Orr 1997:51). In another study, which was conducted by the Unit for the Development of Language Abilities at the University of Pretoria, it was found that 2 000 out of a number of 6 000 first year students, which included home language and non home language speakers, had a language ability which was on the level of a Grade Seven learner or even lower. Some students whose home language was English or Afrikaans also had poorly developed reading and writing abilities (Rademeyer 2001:1).

There is thus growing evidence that there are many students in South Africa who might have the potential to study successfully at tertiary level, but they lack the necessary literacy skills to guarantee academic success. Some South African tertiary institutions are offering additional language courses to students, in order to improve students’ language abilities including their reading abilities. This surely is a movement in the right direction, but it does not guarantee that students will eventually master the necessary academic literacy, and especially the necessary literacies required in the new millennium. Another aspect which should be kept in mind, is the fact that many South African students do not have access to technological forms of literacies when they start their tertiary education. Higher education institutions should therefore make provision for the training of students in this respect as well, such as bridging courses.

From the discussion which follows it will be clear that in South Africa it will also be cultural and social forces which will necessitate the growth of various literacies in higher education in the future. This necessitates an ecological approach which takes the influence on the use of technological developments such as computers into account.

Growth in technology

It cannot be taken for granted that learners at school
and students at tertiary institutions will master the necessary literacies to be competent in all required forms of literacies. Teachers will have to consider how reading on the computer differs from reading print and they will have to teach the learners in their classes accordingly. Literacy instruction will include helping learners how to negotiate digital meaning by utilizing supportive systems of software. Learners will also have to develop a critical, and analytical stance to digitally mediated communicative forms (Moje, Labbo, Bauman & Gaskins 2000:130).

As far as tertiary institutions are concerned, they will have to facilitate access and promote skills development to make electronic information accessible. Students and their educators will have to be taught ways to scan, collect, organize, manage and use all the data resources which are available on the information highway. They should also be trained how to convert internet data into internet information. So they should be able to convert data into a form which they can use (Stilwell & Crovo 1997:106 & 113). Students should, however, also be trained to critically analyse any information which they obtain from the internet. The amount of information available on the internet grows each day and therefore students should know how to evaluate the quality and relevance of any internet information which they might use.

Technology and literacy should, however, never be regarded as separate entities. Technological aspects in the environment should be regarded in their socio-technical context and therefore technologies are intimately part of all literacy practices. Texts are for instance redefined through technologies: authors write hypertexts, advertisers write in multimedia and encyclopaedias move from paper to digital media. The computer should, therefore, not be regarded as a high technology device, but as an extension of a long history of literacy practices through other technologies. Traditional print and computers should not be regarded as the same thing, but we cannot understand the role of technology in literacy if we see it as a tool only. The picture is more one of multiple literacies, each employing a wide range of technologies that overlap with those of other literacies (Bruce 1997:300-302).

In South Africa an estimate of 100 000 to 150 000 people are still illiterate, and therefore new structures have been put in place in an attempt to address this need. Much success has been achieved through Adult Basic Education Programmes and the Educare centres which have been opened. Basic literacy skills are, however, not enough, if a person enters the modern workplace and this will necessitate the introduction of programmes to teach new literacies to a large segment of the South African population. If this is not achieved the country will continue to face the problem of illiteracy which are already becoming illiteracies.

Fluency in English is a big advantage, in using the web, and a lack of fluency in English is constructed by the web culture as a disability (Bruce 1997:306). Many students at tertiary level in South Africa lack fluency in English and this is another problem which higher education in South Africa will have to address.

**Integrating the use of the technology into the curriculum**

Computer science as a subject is incorporated into the Draft Revised National Curriculum. All learners in South Africa who are in schools will therefore receive computer instruction in the future. The problem arises when computer science is seen as a separate subject, which is taught and used in isolation. Labbo & Reinking (1999:479) reason that there is no sense in stipulating that all new editions of reading texts at tertiary level should have a chapter or section on technology, but the use of technology is not mentioned in the rest of the book. Flowers, Pascarella & Pierson (2000:638) aver that universities and colleges engage in educational malpractice, if they fail to incorporate technological training in the instructional process.

Electronic texts should be a part of the curriculum. Teachers who teach reading should therefore be trained to teach the reading of electronic texts (Hoffman & Pearson 2000:41). This will mean that teachers who presently teach reading, should also receive in service training with regard to the reading of electronic texts.

A distinction should be made between learning from a computer and learning with a computer. Learning from a computer implies that the computer is seen as one of several options to deliver instruction. The focus is on specific and short term outcomes. Learning with a computer implies a focus on long term and broader outcomes. The use of the computer plays an active role to change orientations to learning, content and tasks (Labbo & Reinking 1999:483). Learners should also be prepared to learn with a computer.

As far as higher education is concerned, there is a growing concern that technological training should form part of the instructional process. If they fail to do so, colleges, universities and technikons could be accused of a kind of educational malpractice (Smith et al 2000:638).

Perhaps training in technology should be compared to environmental education. It took a long time for educators to realise that environmental education is not a subject on its own, but that the content of environmental education and what is advocated in
Although in many schools only scant examples of learning, to reading a model, to a model which encompasses socially interactive technologies. Bean et al (1999:447) state that teachers’ concepts of literacy as far as teacher training is concerned. Bean et al. (1999:447) note that teachers’ concepts of literacy should change from an autonomous, cognitive based learning, to reading a model, to a model which encompasses socially interactive technologies. Although in many schools only scant examples of learning such as drama, technology, popular culture, personal employment, humor, sport knowledge and knowledge of the media. Their multiliteracies are

**The need to provide updated information**

If higher education does not keep abreast of new information and global changes, tertiary institutions run the risk that they simply store and recall randomly and quickly outdated information. Tertiary institutions should strive to be contemporary and effective organisations, which take cognisance of all contemporaneous and global issues. By incorporating and redesigning instructional technology, it can become both a strategic and cognitive tool. Higher education should, therefore, strive to bridge the time lag which exists between a paradigm altering influence such as digital technology and its implementation in everyday use (Privateer 1999:60 61).

The South African Department of Education accepts that its learners should be prepared to play a role in and to be part of the world as a global village. It was announced in May this year, that in order for learners’ to become informed, and to remain informed, an agreement with the IT giant Microsoft was reached. Microsoft undertook to provide software free of charge to all 32 000 government schools in South Africa during the following three years (Smith 2002:2). This will mean that in all schools where there are computers, all learners will have access to updated information from all over the world.

**Teacher training and literacy instruction**

Teachers will remain at the centre of all types of literacy instruction in the new millenium. The reason is that teachers understand how curricula, methods, subject materials and technology work together to create a rich learning environment (Moje et al 2000:131). Teachers should, inter alia, be trained to help the learners in their classrooms to become critical readers. Critical readers should know how to critically analyse print so that they do not believe everything which they read. Learners should know how to start from a position of strategic doubt and to weigh texts against their own ideas and values, as well as those of others (Janks 1993:iii).

The influence of new technologies on the world, society and eventually on the development of school curricula, necessitates the inclusion of new development as far as teacher training is concerned. Bean et al. (1999:447) state that teachers’ concepts of literacy should change from an autonomous, cognitive based learning, to reading a model, to a model which encompasses socially interactive technologies. Although in many schools only scant examples of technology can be seen, there are schools which are directly or indirectly becoming heavily infused with today’s technology. A key component in the effects of electronic media in the classroom, is the teacher. Many teachers are still reluctant to use computers effectively in the classroom, but more and more teachers are exploring the use of computers in their classrooms. It is thus necessary “to include the development of teachers’ knowledge about and use of computers and other electronic media in our agenda, as we enter the 21st century (Sulzby 1993:59). Teachers should also know that if they use computer based instruction, they will have to deal with a variety of technological, logistical, curricular, financial and other obstacles (Reinking & Watkins 2000:387) Over and above obstacles such the availability of electricity and enough computers, an obstacle which teachers will have to face in South Africa is the availability of appropriate software. This is especially true when instruction in learners’ home languages is at stake.

With regard to the training of reading teachers, they should in future receive the necessary knowledge and skills to ensure that they are able to train the learners in their classrooms to read and access electronic information with ease (Hoffman & Pearson 2000:41). Even those teachers who teach beginning literacy and beginning reading could benefit by training in the teaching of computer aided reading. Research conducted in the past thirty years has, for instance, indicated that there is a positive relationship between phonological awareness and early literacy development if readers have a high level of phonological awareness. It was found that computer administered instruction is an effective method for teaching phonological awareness to beginner readers (Mitchell & Fox 2001:315 & 329). With the help of computer administered instruction teachers could also be trained to differentiate between specific reading problems and make provision for fluent readers and readers who experience barriers to the mastery of reading. In a multilingual country such as South Africa computers could also be used with success to teach learners to read in their home languages. This will necessitate the development of software in the official languages to be used for instruction in beginning reading.

Teachers, trainers and lecturers should be aware of the complex social and language practices both in their home environment, as well as in the teaching situation of today’s young people, in order to understand the multiliteracies which their students need to master. Knowledge of students’ literacies is important for developing plans and curricula to enhance the literacies needed in the various subject areas. Students’ multifaceted literacies include all areas of learning such as drama, technology, popular culture, personal employment, humor, sport knowledge and knowledge of the media. Their multiliteracies are
often intertextual and cross communication skills of reading, writing, listening and speaking (Hagood 2000:320 & 323). Literacy instruction should therefore be viewed from a sociocultural stance thus recognizing and including the role of multiple literacies.

The need to empower students

If all learners have access to information technology in future, their skills and knowledge can only be enhanced. Thus they will have different skills and ways of knowing the world (Moje et al 2000:128).

To be able to empower students, teachers, trainers and lecturers should know the multifaceted literacies which students use. Educators should also keep abreast of technological developments because new technologies create new literacy demands (Labbo & Reinking 1999:483). Programmes should be developed to guide students to meet new literacy demands. This will also help students to be prepared for their future careers.

Although Microsoft undertook to provide schools in South Africa with software during the next three years, it should be kept in mind that the availability of software will not necessarily empower learners and on tertiary level to become technologically literate. Labbo & Reinking (1999:481) maintain that it cannot be assumed that good things will happen when hardware and software are available, little attention is given to the actual use of information technology, or if little attention is given to conditions that may facilitate its use.

Access to libraries for more people

According to Neuman (2000:276) the library of the future will be characterised by open shelves because of a limited collection of books. There will also be a limited attention to circulation figures as indicators of library activity. There will be computer terminals everywhere, with keypads designed to match the age appropriate handsizes of the library clients. Hits on various web pages will become the norm for determining amount and type of library activity.

The web will effectively provide access to a huge virtual library for any person who is linked to the internet. Everybody who has the skills and literacy to use the web independently, will be empowered (Dalgarno 2001:154). In South Africa many people, especially in remote areas do not have access to libraries. Access to the web could bridge this need and also support students on tertiary level who live in remote areas or who study through the distance education mode.

The need to prepare students for future workplaces

Higher education should take cognisance of the demands in the workplace of the future and prepare students. Most future workplaces will require access numerous kinds of knowledge bases such as texts, tables, tapes, videos and graphics. Employers will have to assimilate various types of information such as facts, viewpoints, analyses, critiques and demonstrations. They will have to understand, analyse, synthesise and evaluate this information in order to distribute or apply it (Smith et al 2000:380). Businesses and industries will advocate the teaching of skills related to information obtained electronically. This involves electronic searching, analysing and synthesizing skills (Moje et al 2000:129).

As many countries change from industrial to information societies, the literacy demands of the workforce in the use of electronic texts will far outstrip anything that was needed up to now. New types of workplaces will, therefore, have new literacy demands. People now regarded as literate, could become functionally illiterate. Literacy instruction in the new millennium, involves problem solving, information access and communication in the workplace (Leu & Kinzer 2000:113).

It cannot be afforded that students at tertiary institutions should learn obsolete content. Higher education is shaped by many changes, both national and international, and tertiary institutions should consider these changes and prepare their students for the workplaces of the future.

CONCLUSION

In the new millenium the concept of literacy and literacies will continue to change and to be used in various ways. Positive interventions in school curriculum and teacher training, as far as the concept literacies is concerned, should be developed. It should especially be noted that literacy goes beyond cultural practices and the influence of literacy as a technological deixis should be recognised.

Teachers, trainers and lecturers should therefore be theoretically informed about all aspects of literacies. There should be a move away from a single school related concept of literacy to the modern concept of social literacies which include the various notions of information and technological literacies. The knowledge of literacies should be used in the classroom in order to combine various and newly developed literacies with students’ personal needs.
REFERENCES


