Concepts Learning Problems in English at Selected South African Primary Schools

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Abstract

Learning through the use of English as a medium of instruction has always been difficult for most South African learners. In this study the researchers investigated the role of conceptual understanding in learning by Grade 5 (100) learners from five primary schools. The focus was on whether the learners at this level, where English is first introduced as a medium of instruction, understand the concepts or not in both the mother tongue (Tshivenda) and English. A questionnaire was used to elicit the responses of the pictures taken from the textbooks for the Health, Mathematics and Gardening subjects. The results for the health concepts revealed that the majority of the learners did not know a concept thermometer in their mother tongue and in English. Regarding the subject Mathematics, all the learners could not recode zero comma zero zero one in into English. In response the concepts for the Gardening subject, the majority of the learners could not identify vegetable in their mother tongue. The study found that the majority of the respondents lacked both conceptual awareness and adequate English proficiency to learn concepts in English. The study therefore, concludes that lack of conceptual understanding in learning impacts negatively on learning as reflected in poor Grade 12 examination results among, especially second language black learners from rural areas.

Key Words: Conceptual understanding, concepts, recode, medium of instruction, primary school learners

1. Introduction

1.1. Orientation

A concept is a common thought or understanding which is related to a word or sign in a mind of a person (Richards et al. 1992). Concepts are the theoretical meanings that words and other linguistic items represent. The forming of concepts is closely related to language acquisition, and the use of concepts to form propositions is basic to human thought and communication. Language, therefore, is used as a vehicle through which information is disseminated (Richards et al., 1992). For learning to take place the learner has to understand or become aware of the concepts together with the language through which these concepts are expressed.

Swart (1989) echoes this view that the most fundamental meaning of the term 'concept' is exhibited in individual behaviour. The individual responds to a class of observable objects or object qualities such as those implied by words. These are, for example, colour, shape, size, heaviness and so on, or by common objects such as *cat*, *chair*, *tree* and *house*. Swart (1989) argues that learners acquire concepts by observation and by definition. Therefore, the experience (received within their learning contexts by means of observation and interaction with more experienced learners in their learning contexts) that learners have helps them to understand or be conceptually aware of issues more easily. This type of understanding is required from each learner at a given learning situation because conceptual awareness plays a critical role in learning.

However, Whitehead (1990:73) emphasises that the development of concepts is affected by personal life experiences, cultural traditions and the subtle process by which any new information, new experiences and new words are matched to and integrated with the already experienced, named and known. Britton (1994) points out that social behaviour implies interaction in the group whose activities have been shaped to cultural patterns. When new concepts are reconciled with existing schemes, conceptual capture takes place. This implies that the background knowledge or cultural experiences of the learners facilitates successful academic learning which takes place through the use of language.

Vygotsk's(1967) theory suggests that language cannot be studied productively unless word meaning forms the basis of all study, because word meaning unites thought and speech into verbal thought. A word is already a generalisation, because it refers not only to one object, but to a class or a group of objects. Vygotsky points out that meaning is an act of thought and an inalienable part of words and, therefore, belongs in the realm of thought and language. Young children often find new words difficult to learn, not because of the new sound involved, but because the generalised concept that ensures understanding is lacking. Vygotsky (1967) maintains that, as children mature, the concepts or pictures they already have in their minds are as much part of language as attaching the correct words to the concepts. If the concept does not exist in thought or is not fully matured, the young learner may hear and even become familiar with new words, but these will have little meaning. As the young child learns he matches concepts to words. The initial matching relies heavily on real concepts or images that the young child experiences through the senses (Berlyne, 1967). Therefore, language and concepts are intertwined as learning is dependent on these two variables. It seems that learners who use second language for academic learning might experience difficulties because they are required to learn both language and the concepts simultaneously. Piaget, (1955); Vygotsky, (1967) and Clark, Scarino and Brownell (1994) represent many theorists and psycholinguists that elaborate on how concepts and/or knowledge are acquired and how language impacts on this process. Learners should know the concepts of what they learn and be able to recode the information into the language required for a specific learning task. Learners in this study are required to learn all their subjects in English that is their second language. It seems that they may be faced with two limitations, namely a lack of concepts and an insufficient knowledge of the relevant English vocabulary to recode the concepts for learning purposes.

1.2. Statement of the problem

Learning in most South African schools has been in a crisis for a long time and has been the hotbed of socio political currents for many years (Desai, 1994; De Villiers, 1997). Much school learning is based on second-hand experience conveyed through language, and in the case of this study, learners switch from mother tongue instruction to English medium of instruction classrooms in Grade 5. However, the research findings byMacdonald and Burroughs (1991) found that most Grade 5 learners in Cape Town are not ready to learn up to ten subjects through the medium of English They found that the 'whole learning situation from Grade 1 to Grade 4 is too limited to prepare the children for the range of skills which they will need from Grade 5 onwards'. Quin and Amos (1991) also echo these findings. South African learners also come from highly diversified backgrounds and different speech acts may have different meanings in different contexts.As it is clear that learning and prior knowledge seem to be inexorably linked, if learners have not developed appropriate concepts (i.e. the ability to remember, perceive, recognise and classify, *not only* in their own mother tongue *but also* in English), by the time they are in Grade 5 their school-based learning may be expected to be unsatisfactory.

This problem is exacerbated by deprived language development and the use of a second language (L2) as medium of instruction after Grade 5 as well as developing a common understanding which becomes difficult when dealing with learners who cannot grasp the concept in its English form (Onyango-Ouma, Agaard-Hansen & Jensen, 2003). Unfortunately these problems are mostly exposed at Grade 12 results where it is too late to effectively address a lack of language and conceptual awareness amongst most South African learners (Dirven & Verspoor 1998).

In view of the above, the researchers saw it deem fit to explore the role of conceptual awareness in learning by investigating, whether Grade 5 learners of Thulamela Municipality within the Vhembe District possessed/or were aware of the Health Education, Mathematics and Gardening core concepts identified from their syllabi. It was also determined whether the learners were able to recode the concepts into English or not.

2. Literature Review

Lack of conceptual awareness amongst second language learners in South Africa is one of the complex variables responsible for the learning situation. The main problem seems to be that the prior knowledge of the learner as one of the determining factors in the learning process has been underestimated. Knowledge especially learning in schools or any academic context is built on what the learners have learnt previously, but most learning in classrooms is through language (Lipmap, 2003). Learners learn concepts and the language needed to encode those concepts at the same time. Research findings by Tedick (1990) suggest that learners with much prior knowledge on a topic, show higher quality of learning than learners with little prior knowledge. On the other hand, Powell 's (1997) research on memory reveals that the storing of knowledge is what promotes learning on related issues while, Bower and Hilgard's (1981) research findings reveal that the storing of knowledge is what enhances subsequent learning on related issues. Machazime (1993); Lightbown and Spada (1993) found; that if sufficient knowledge is not established in the primary school years when foundational concepts are established, all subsequent learning will be impaired.

Lack of conceptual awareness coupled with lack of adequate English proficiency to learn concepts in English may be influenced by, a lack of prior knowledge of concepts, poorly trained teachers who are unable to assist learners to create links between existing knowledge and new knowledge, poor socio-economic circumstances and illiteracy and teachers who may lack English proficiency and cannot teach all subjects in English(Clark et al., 1994Villegas, 2000; Shwartz, 2000; Weidemann & van Rensburg, 2002; Grandall et al., 2002; Chieng, 2003; Niemann 2008). Therefore, if teachers are aware of the demands made on the conceptual framework of learners and the possible limitations that they have regarding their conceptual readiness to learn, intervention is invitable. Much can be done regarding the teaching of concepts that teachers may employ to expand, reconstruct, revisit or adapt concepts for learning(De Villiers 1997).

Steffenson, Joag-Dev and Anderson (1988), and Le Sourd (1988) report consistent research findings that learners understand, remember and enjoy their learning more when they posses relevant cultural knowledge.The teaching of concepts should therefore include, cultural content, visual scaffolding, an enriched conceptual and language programme and a planned and structured approach to teaching across the curriculum. Conceptual awareness for both learners and teachers might help to alleviate the educational woes that have embroiled the system of education. Many learners in South Africa seem to enter formal schooling without a conceptual knowledge basis that is often presupposed in schools (such as concepts regarding shape, size, colour, space, time and the like (Dulay, Burt &Krashen, 1982; Swart, 1989 &Nwaila 1992).

3. Methodology

3.1 Participants

The sample comprised 11 years old, fifty males and fifty females Grade 5 Venda learners from five public primary schools within the Vhembe District in South Africa. It was the learners' first year to study all the subjects, except mother tongue through the medium of English. The researchers randomly selected only twenty respondents per school.

3.2. Instrumentation

The study used a questionnaire as a tool for collecting data. The researchers showed each learner the pictures in the questionnaire asked to state them in Tshivenda and recode them into English. The concepts in the form of pictures were from the Grade 5 syllabi and text books for the three subjects (Health Education, Mathematics and Gardening) that learners have learnt in the present or previous grades.

3.3. Data Collection and analysis procedure

Prior to embarking on this investigation, a pilot study was conducted at one primary school. Data was collected during regular school hours by researchers themselves. Due to the fact that the respondents were young to understand the process of data collection by means of filling in the questionnaire, the researchers had to interview the learners orally by showing them pictures representing concepts as well as recoding the responses on a table. Data derived from questionnaires were analysed using the Statistical Packages of Social Science (SPSS) Version 18 with the assistance of the Statistician.

4. Results and Discussion

Most of the participants as shown in Tables 1 to 3 in this study, were unable to recognise and recode concepts identified from their syllabi and textbooks. Once again, the concepts identified in this section were regarded as basic and should be well known by most 11-year olds. The poor performance by the learners concerning four health concepts which are supposed to be common for this age might be attributed to the fact that learners came from a poor socio-economic background. The finding confirms what (Dulay et al., 1982; Nwaila, 1992) found that the environment that does not expose learners to contact with concepts required by school learning, denies them better learning understanding.

The learners clearly experienced difficulties in understanding most mathematical concepts, and this was coupled with a lack of knowledge of English, as they fared particularly poorly at the recoding of most mathematical concepts. It is accepted that these concepts may not be part of their immediate environment, but as this knowledge is such an integral part of further schooling, serious attention needs to be given to the mastery of basic mathematical concepts, and especially also to the recoding of these into English. This is detrimental to what Boaler (1998) in his findings revealed that when students discover mathematical ideas, they have stronger conceptual understandings.

Regarding the gardening concepts, many learners had obvious trouble in naming vegetables. This finding supports what Onyango-Ouma, Agaard-Hansen & Jensen, 2003) found that it is difficult to develop a common understanding if learners cannot grasp the concepts in its English form. This may be because these vegetables are mostly part of western culinary traditions. If this is indeed the case, it would serve to reinforce concerns by (Whitehead, 1990; Britton, 1994) about cultural content in schools that is not palatable to all learners. De Villiers, (1997) confirms this finding as she argues that conceptualisation occurs when total meaning of what is learned is fitted into the network of information already possessed by the learners and organised in ways that are meaningful to the learners' understanding

Conclusion

The findings have shown that learners in this study did not possess many identified concepts from the Grade 5 syllabi and textbooks. Many learners were also not ready to learn Health Education, Mathematics and Gardening in English. It can be concluded that the understanding of concepts plays an important role in learning. Teachers therefore, should be aware and equipped with the understanding of the learners' background knowledge as lack of conceptual understanding results in poor learning.

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Table 1: Results for the Health Education category (n = 100)

CONCEPTS	TSHIVENDA	ENGLISH
	Respondents who could not encode/name	Respondents who could not recode
Thermometer	94%	90%
Doctor	82%	87%
Nurse	73%	74%
Milk	40%	38%

Table 3: Results for the Gardening Category (n=100)

CONCEPTS	TSHIVENDA	ENGLISH
	Respondents who could not encode name	Respondents who could not recode name
Spinach/vegetables	98%	41%
Sugarcane/mealie plant	93%	50%
Hoe	2%	80%
Mealies	2%	46%
Potatoes	16%	63%
Insects	25%	72%
Sweet potato	65%	92%
	22%	47%
Pumpkin	15%	65%

Table 2: Results for the Mathematics category (n = 100)

CONCEPTS	TSHIVENDA	ENGLISH
	Respondents who could not encode name	Respondents who could not recode
Kilograms	75%	76%
Litre	54%	45%
Grams	60%	60%
Metre	71%	72%
Divide	89%	65%
Minus	40%	39%
Addition	36%	8%
Multiplication	16%	86%
Ten times hundred	9%	48%
Brackets	18%	100%
Zero comma zero zero one	22%	99%
Circle	4%	19%
Triangle	27%	80%
One quarter	32%	70%
Two thirds	69%	94%
Kilometres	54%	54%