

A STUDY OF STUDENTS' METALINGUISTIC COMPETENCE AND ITS PROBABLE EFFECT IN THE CAMBRIDGE SCHOOL CERTIFICATE FINAL EXAMINATIONS

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Abstract

The aim of this study was to investigate the extent to which students' understanding of key words in examination questions might influence their performance as illustrated by the number of subjects in which they obtain pass grades in the Cambridge Overseas School Certificate Examination (COSCE). The term used to refer to key words in this study is 'metalinguistic'. It is a term that means more than what Kemp (2006, p.1) refers to as 'grammatical metalinguistic awareness'. In the context of this study it refers to words or phrases that are used to describe language as an object of study. Procedurally, questions were designed to assess students' understanding of metalinguistic terms. The percentage scores of the metalinguistic tests were calculated and then compared with the number of 'O' level passes obtained by students to determine whether high scores in the metalanguage tests were comparable to the number of 'O' level passes obtained by the research subjects. It was discovered that high metalinguistic test scores were associated with greater 'O' level passes and low scores, with fewer 'O' level passes.

Keywords: metalinguistic awareness, linguistics metalanguage, metalinguistic incompetence, metalinguistic competence variable, idealization, metalinguistic score.

1 Introduction

The research reported in this article developed from the observation researchers frequently make when marking students' essays in language and content assignments. The problem revolved around students' failure to understand what questions required them to focus upon when answering essay and examination questions. In other words, students often fail to grasp the demands of the questions they choose to answer. In Zimbabwe and Botswana, reports released by the Cambridge Overseas School Certificate Examiners (COSCE) identify this problem as the cause for some students failing to get passing grades in their final examinations. They state this problem as follows: "Many marks were lost through failure to identify the key words in questions which would have determined the scope of the answers" (COSCE, 2006, p. 4).

Motlotlwe (1991) made similar observations in her study of why students fail to perform well in examinations. Her study supported the observations made by the examiners of the University of Cambridge Local Examinations Syndicate. These observations suggest that failing performance in examinations is partly due to students' inability to interpret the demands of given questions. Further, it is assumed that students do not only fail to interpret key words in examination questions, but that they also fail to identify them. Key words in examination questions should indicate to the student what knowledge and or skills need to be discussed in answer to selected questions. If the above assumption is true, then this has a lot of implications for both language and specialist teachers. On the basis of these observations the research attempted to establish whether failure to identify and to interpret key words and phrases is responsible for low achievement or failure in ordinary level ('O' level) examinations.

Whereas Motlotlwe's study (1998) focussed on the variety of students' techniques for answering such questions, this study goes beyond that research objective. It focuses on investigating 'O' level students' ability to identify and to understand the operational demands of key words or phrases in examination questions. These include words such as *describe*, *compare* and *contrast*.

2 Review of Literature

The literature reviewed for this study is sub-divided into two major sub-sections: (a) the meaning of metalanguage awareness and (b) language testing as it relates to metalanguage and knowledge of a given natural language.

2.1. The Notion of Metalanguage

The term 'metalanguage' is a descriptive linguistic label which refers to sets of language that are used to talk about language. In this case, language is objectified and our reference to it as an object of study requires that we generate and use terms that tell us about its structures and functions. This suggests that there is a difference between 'language' and 'metalanguage'. Brainard (1971, p.170) distinguishes between the two terms when he writes:

Whereas (the words) 'uncle' and 'you' belong to English – or object language, [K] and [K'] belong to the linguist's language which he can use to talk about any object language, that is, they belong to the linguist's metalanguage.

It is clear from this quotation that metalanguage refers to the language which linguists use to describe any natural language. When, for instance, a linguist speaks of 'deixis' the term would be used metalinguistically to refer to such language items as *this*, *that*, *these* and *those*. In morphology, terms like free morpheme, bound morpheme, prefix, suffix and infix are metalinguistic terms. They are used by linguists to label certain features which in the English language can be exemplified by 'man' (free morpheme) 'un', as in 'unkind' (a prefixed bound morpheme); 'less' in 'helpless' (a suffix bound morpheme). Hartmann and Stork

(1972, p. 140) describe metalanguage as a "second order language" or a "language or set of symbols which is used to analyse and describe another language". Crystal (1980) also suggests that entries in a dictionary of linguistics and their definitions constitute linguistic metalanguage. Discussing the same notion, Hormann (1971) Cazden (1974) Bateson (1976) and Fowels & Glanz (1977) define metalinguistic awareness as a notion related to the making of statements about a given language.

As Bewell & Straw (1981, p. 107) observe, it is not easy to define metalanguage and or metalinguistic awareness because "there seems to be a progression in levels of awareness." Another complicating factor is that metalinguistic competence or awareness gets defined differently depending on the area or topic of discussion or research. It therefore becomes necessary for anyone discussing this notion to define it in the context of their study. The definition of metalinguistic awareness, in the current study, develops from Blachowicz (1978, p. 875) who defines it as "awareness of language and linguistic concept". The ability to comprehend and or to manipulate linguistic concepts is seen by some researchers as a result of maturation in the development of metalinguistic functioning. Immaturity in metalinguistic development hinders a growing child or a learner to perceive words in speech or sentences as fulfilling different functions. Since a writer or speaker assigns specific meanings to different words in different contexts and in different utterances or sentence positions, learners need to be aware of the privilege of occurrence of certain words and the semantic implications that result from the process. It is these semantic implications and their pragmatic effect which the current study refers to as 'awareness of linguistic concepts'.

It is possible that a learner or a speaker (L1 or L2) can be fairly familiar with words and how they are used in the general stream of language (spoken or written) but may not have a clear notion of the concept(s) behind the words. Bewell and Straw (1981, p. 108) note that until a child, who is learning a language reaches the concrete operational stage, he may not be able to distinguish between "words as symbols and the things they symbolize". The implication of this in speech, in reading and in writing is that learners can read or write sentences fluently but may not be aware of the relative importance of the meanings and pragmatic effects of the words they read or use in (Kail & Segui, 1977).

This study regards metalinguistic competence as an 'entry qualification' into discourse production and the processing of discourse information. To enter into an academic discussion one needs linguistic tools to comprehend the topic or topics under discussion. The hypothesis of this study is that in order for students to do well in examinations, they need to be equipped with the sort of metalinguistic competence necessary for identifying and comprehending linguistic terms that elicit the information the examiner wants to have discussed. The hypothesis also assumes that learners have been taught and have carefully studied the material related to the questions they choose to answer. As noted above, metalinguistic items in this study include imperative verbs such as *discuss*, *explain*, *list*, *compare* and *contrast*.

In this study, the language factor was idealised. The researcher downgraded other variables that may lead to the attainment of high examination grades,

that is (x factors), and upgraded the metalinguistic competence variable (M-LC) factor. Idealisation as defined by Botha (1976) requires that the study concentrates on selected issues in a research project and ignore other related issues. The consequence for adopting such an idealisation strategy led to the formulation of a hypothesis that assumed that metalinguistic competence facilitates accessing knowledge in given situations. It also assumed that metalinguistic competence or lack of it influences the performance of students who write 'O' Level examinations. This assumption forms the cornerstone of the research hypothesis discussed below.

2.2. *Language Testing*

According to Baker (1989) language tests fall into two categories – 'system' and 'performance' referenced tests. The former are aimed at evaluating the learner's or speaker's knowledge of the language and the latter at assessing their ability to use language in given situations. These categories are similar to those that Carroll (1991) labels 'Linguistic' and 'Communicative' tests. Vollmer (1983) refers to these tests in his definition of the notion of 'Language Proficiency' in ESL. He argues that Language Proficiency in ESL refers to two different competencies. Vollmer (1983, p. 5) defines the first competence as pertaining

to performance level and relat(ing) to the extent and adequacy of the learner's control of the (foreign) language in all kinds of situations and social interactions (i.e. performance).

The description of language tests given in the preceding paragraph is relevant to this study in that it underpins the major concerns of language testing and suggests the most appropriate way of defining research objectives for this study. It is on the basis of such information that this study is described as 'performance' based. As mentioned above, the general purpose of the study is to assess students' ability to understand certain linguistic items and to apply their understanding of these in situations where they are required to perform certain academic tasks. It is because of this that the study is said to be based on the results of 'a performance-referenced test'.

3 **Research Hypothesis**

It was mentioned in section II that besides metalinguistic awareness, there are x factors that influence students' performance when answering examination questions. Such factors range from emotional to cognitive. But despite the multiplicity of factors involved in academic performance, a researcher can however isolate and study one or more of these. The major variables in academic performance can be discussed under the two headings: 'schematic and linguistic' knowledge (Cf. Widdowson, 1983). However, in this study these terms are defined in a slightly different way from Widdowson (1983). Whereas Widdowson (1983) refers to 'schematic knowledge' as the broad understanding of the world, this study uses the term narrowly to refer to knowledge of subject matter. And, whereas

Widdowson (1983) refers to 'linguistic knowledge' as *knowledge about* and the use of language, the term is used here to refer specifically to metalinguistic knowledge as it has been defined above. These two variables are crucial for successful academic performance as Bialystok (1988, p. 36) points out:

Success on a particular task would depend not only on the learner having been exposed to the relevant aspect of the language but also on the learner having appropriate control over information.

For practical reasons, metalinguistic competence variables investigated in this study were, 'abstracted' and 'idealised'. Knowledge of subject matter was downgraded in this process of idealization. Botha (1976, p. 72) justifies idealization in the study of human language and language performance when he writes: "The practitioner of a particular form of enquiry reflects only on one problematic aspect or a few problematic aspects of the object(s) of study on which to concentrate his investigation".

It was justifiable to 'abstract' and 'idealise' the metalinguistic competence variable because of the following assumptions: (a) a student who has schematic (content) knowledge is not likely to present the information demanded by a question if his metalinguistic competence is weak. (b) a student who has little or no schematic knowledge, even if he has adequate metalinguistic competence, may not have any appropriate information to present. It can be assumed that a candidate with schematic knowledge but no metalinguistic knowledge is not likely to understand the demands of the questions he wishes to answer. The probability is that he will not do well in the examination. On the other hand, a candidate who has no schematic knowledge but has metalinguistic knowledge might be consciously aware of what to do or say but might have no content to manipulate. The probability in these cases is that the candidate might not do well in the examination. On the basis of these assumptions, it is assumed that acquisition of knowledge does not seem to provide any chance of success unless metalinguistic competence is adequate. These assumptions led to the formulation of the following research hypothesis.

Hypothesis

In situations where metalinguistic competence tests are administered, students who attain high scores in metalinguistic competence tests are likely to obtain more Cambridge Overseas School Certificate examination (COSCE) pass grades than those who attain low M-LC scores.

In order to verify this hypothesis, the following research was carried out.

4 Research Method

4.1. Data Collection

Data for this study was collected from five (5) schools administering the Cambridge Overseas School Certificate examination to students in Zimbabwe in 1988. The schools were chosen on the basis of a stratified sampling technique in the Mashonaland region in Zimbabwe. In schools where there were more than one Form 4 streams, headmasters were asked to choose any one stream and to indicate whether the streams chosen were in the category of Bright, above Average, Average or below Average in their general performance.

Table 1: Form 4 Mashonaland Secondary Schools Used in the Research

School	Setting	No of Students
School A	Missionary Boarding	32
School B	Government Boarding	27
School C	Rural Day	30
School D	Urban Day	31
School E	Peri-urban Day	33
Total		153

4.2. Test Administration

The test consisted of three sub-tests as follows:

4.2.1. Sub-test 1

Sub-test 1 was a mechanical test which did not attempt to elicit students' understanding of metalanguage. It simply required students to identify key words in given questions. There were eight sections in this sub-test, each consisting of 10 questions in the following subject areas: History, English Language, English Literature, Geography, Mathematics, Biology and Science. The questions were selected from previous Cambridge School Certificate examination question papers.

4.2.2. Sub-test 2

In sub-test 2, the same questions used for sub-test 1 were used. Students had to respond to the questions by selecting words or phrases they thought adequately described the demands of the question from four 'possible' answers: that is, this was a multiple choice test. It was less mechanical than sub-test 1. It compelled students to think before choosing the correct response. One cannot rule out the tendency for students to make blind guesses in such tests, but the nature of sub-test 3, described below, provided a measure of internal checks and balances within the test.

Using selected questions from those set for sub-tests 1 and 2, sub-test 3 required students to briefly explain the demands of the questions. This called for the use of higher thought processes since, in each case, students were required to (a) identify key words in the questions and to (b) explain in their own words what the questions required them to do. If, for instance, a student made a blind guess in response to questions in sub-tests 1 and 2, s/he would have difficulty in sub-test 3 where thought and the expression of such thought was called for.

The three sub-tests were conceived as capable of measuring students' metalanguage ability, that is, the ability to identify key words in questions and to comprehend the demands of these questions. In a sense, therefore, each test measured factors of a unitary ability in the sense that Oller (1983), and Hughes & Porter (1983) describe the value of sub-tests in a language test. They suggest that in order to get a reliable assessment of learners' skills in aspects of language use, a number of tests or tasks should be administered. Each of these would assess a sub-skill of a broad-based language activity which can be described as a unitary linguistic skill. In this study understanding metalinguistic terms is the unitary skill being tested by using components of the skill which are referred to as sub-tests. It should be noted that in the sub-tests described above, the unitary ability referred to in this study as metalinguistic awareness consists of two factors which are progressively linked, that is, mechanical metalinguistic awareness, and verbalized metalinguistic awareness.

4.3. *Weighting of Sub-Tests*

Because the sub-tests varied in the demands they made on the research subjects, decisions had to be made on the weighting given to each sub-test. To arrive at a score for each research subject, it was recognized that sub-tests 1 and 2 were relatively less demanding than sub-test 3. Sub-test 3 was considered more demanding because it required deep thinking and elaboration. In the light of these observations, the sub-tests were differently weighted as follows:

Sub-Test 1	20%
Sub-Test 2	30%
Sub-Test 3	50%
Total	100%

Instead of assuming that students with an X or Y score would achieve so many COSC passes, it was decided that the correlation between M-LC scores and the 'O' level results would prove or disprove the hypothesis stated in above. The underlying assumption was that a high achievement score in the metalanguage awareness test promises good performance at 'O' level and a low score promises low achievement.

5 Results

The results, of this study were presented in two sections. The first set of results indicated the number of students placed in bands of metalinguistic categories and the number of CSC passes obtained by those students. In the last column, we find the average number of CSC subjects passed as shown in the table below:

Table 2: Score Obtained by Each Student in the Metalinguistic Competence Test (M-LC Test)

Band No	Meta-linguistic Score Bands	A		B		C		D		E		Aver Num of CSC Passes
		f	CSC passes	f	CSC passes	f	CSC passes	f	CSC passes	f	CSC passes	
I	1-10	0	0	0	0	0	0	0	0	0	0	0
II	11-20	0	0	1	0	0	0	0	0	0	0	0
III	21-30	2	1	1	0	3	1	3	1	0	0	0.3
IV	31-40	2	2	1	2	3	3	5	5	6	5	1.1
V	41-50	4	8	3	5	4	4	6	12	8	16	2.0
VI	51-60	12	50	10	52	8	36	6	28	8	38	5.0
VII	61-70	7	38	7	35	5	39	7	38	7	38	6.0
VIII	71-80	4	28	3	20	5	28	3	20	3	20	4.0
IX	81-90	1	8	1	8	2	14	1	8	1	8	7.6
X	91-100	0	0	0	0	0	0	0	0	0	0	0
Totals		32	135	27	123	30	125	31	112	33	126	4.05
Average No. of subjects passed			4.2		4.5		4.1		3.6		3.8	

The second set of findings focussed upon the percentage levels for determining the acceptability or otherwise of the research hypothesis as illustrated in the table below:

Table 3: Percentage Levels for Determining Consistency Levels

School	No. of Students in the 61%-70% Category	No. of CSC subjects passes	Average of CSC subjects passed
A	7	38	5.4
B	7	36	5.1
C	5	39	7.8
D	7	38	5.4
E	7	38	5.1

6 Analysis of Findings

The number of 'O' level subjects obtained at pass grade level in the Cambridge School Certificate examination was determined. The number of passes was regarded as the dependent variable. The independent variable was the score obtained by each student in the Metalinguistic Competence Test (M-LC Test) suggested above. It was assumed that if a student obtained high scores in the M-LC test and proceeded to pass 4 subjects in the CSC examinations, 60% was a probable cause or factor responsible for the attainment of 4 CSC passes. This was obviously a non-parametrically-based assumption which could only be accepted if there were comparable corresponding relationships between M-LC scores and the CSC passes obtained by students in different schools. In order to establish comparable correspondences between M-LC scores and the number of CSC subjects passed by students in different schools, the two variables, M-LC scores and the number of CSC subjects passed were presented in tabular form as shown in Table 2. The metalinguistic score bands were grouped at 10% intervals.

Three broad questions needed to be answered using the information provided in Table 2 above. These are: (a) Can low metalinguistic scores be associated with few CSC subject passes? (b) Can high metalinguistic scores be associated with many CSC subject passes? (c) What does the study tell us about students' performance in the schools selected for the study?

The responses to these questions were given as follows: (a) With respect to the first question, it is clear that in all the five schools, low M-LC scores tend to predict few CSC passes in the CSC final examination. For instance bands I, II, III, IV, and V which ranged from 1% - 50% M-LC scores, provide an average of only 1.8 (i.e. 2) subjects passed. The number of subjects passed rises as the M-LC scores rise. Band VI 51%-60% M-LC scores predicted 4.6 (i.e. 5) subjects. As noted above, if students passed 5 subjects at CSC level, they would qualify for further training in institutions of higher learning in Zimbabwe. So, a score between 51%-60% in an M-LA test can be regarded as a critical pass level that can be used to predict success in the COSE final examination although some students in this band can possibly fail to attain the required pass grades.

With respect to question (b), metalinguistic scores in bands VII, VIII and IX which ranged from 61% to 90% can be defined as high. Students in these mark bands on the M-LC test obtained 6 to 8 CSC subject passes. These scores, although differential performance can be observed from school to school, suggest that, to a great extent, high M-LC scores predict high level performance in the CSC final examination. More specifically, it can be claimed that a score between 60% and 90% can be used as a predictor for successful performance in the CSC examination.

In answer to question (c), it was observed that performance in all the schools is rather low. The reasons being that the average scores for all the schools are below 5.0, the minimum number of subjects required for students to get admitted into most institutions for further study in Zimbabwe. The averages for these are: School A - 4.2; School B - 4.5; School C - 4.1; School D - 3.6; School E - 3.8. The average for all the schools is 4.5. A general interpretation of these

observations is that the average pass grades for all the schools fail to meet the requirement of 5 'O' level passes for students applying to be admitted into higher academic or professional institutions in Zimbabwe.

7 Consistency

Instead of arguing on the basis of a correlation coefficient, the concept of consistency was applied. This is a term which, in this study, is a decision made on the basis of whether a score or a range of scores in the M-LC test is associated with the same or more or less the same numbers of passes in the CSC final examination.

Wikipedia, the free online encyclopaedia, defines 'consistency theory' as one of "the self-verifying theories" that researchers can use. It is defined as a theory that is

strong enough to talk about (its) own probability relation, but (is) too weak to carry out the Godelian diagonalisation (that is, a mathematically based form of argument) which can consistently prove their own consistency (Lucas, online, 2007, p. 1).

The theory of consistency was in fact adopted as the central analytical theory on which findings of the study were based. It was considered necessary to do so because the number of intervening variables in the study were too numerous to attempt to control. These included teaching methods, students' motivation, source of teaching/learning material, variations of teaching strategies and absence of guidance in the teaching of metalinguistic terms in various subjects.

To determine consistency, the M-LC score range of 61%-70% was chosen as the most reliable determiner of consistency because the average number of subjects passed by students in this range (5) is what is regarded as the desired qualification for further studies in Zimbabwe. The average number of subjects obtained by students who obtained the 61%-70% should be the same if we need to claim that there is consistency.

Table 3 suggests that there is a high probability that students who score between 61%-70% in the M-LC test will get not less than five CSC passes in the final examination. This claim can be qualified by observing that the consistency claimed in this study depends on (a) the M-LC test being properly administered - that is, opportunities for cheating should be curtailed; (b) students should have been thoroughly prepared for the examination to ensure familiarity with the content required to perform well in the examination.

8 Implications of the Study

Political decisions on the extent to which a foreign language such as English, French or Portuguese should be used as a medium of instruction in education frequently ignore the value of the medium of communication to the learner. Instead of choosing a foreign language to function as a medium of instruction and then hesitate to implement such a policy seriously for fear of suppressing local languages,

Ministries of Education should prioritise the value of such languages in the learning process. On the basis of this observation, we can suggest that a foreign language chosen as a medium of instruction should be effectively taught so as to help learners use it instrumentally to acquire knowledge and to perform effectively when using it to communicate and to comprehend educational ideas.

As Sorace (1983) suggests, there is need for language practitioners, that is, teachers and educators, to be aware of the need to develop language skills that enable learners to become aware of aspects or features of language skills and what to do or how to apply these in communication. In this study, correctly interpreting key question words such as: *discuss*, *compare*, and *contrast*, confirms the hypothesis that metalinguistic knowledge helps students perform well in examinations. Efforts at all levels of education should therefore be made towards teaching such knowledge by offering what are generally referred to as 'Communication Skills', 'Study Skills' or 'Use of English' in educational settings. Such courses are particularly useful to learners who use a second language as a medium of learning.

Besides focussing upon the ability to use language communicatively in both spoken and written forms, such courses should emphasise the comprehension and application of word, phrasal and clausal meanings and the implications of these in the responses provided by communicators in a variety of speech domains. In educational domains, the study of metalinguistic terms in answering questions, defining concepts, providing illustrations would constitute features that focus upon the use of language in social as well as academic communication.

We should also regard this study as a reminder to educators that the study of languages requires that we focus upon what Sorace (1983, p. 252) refers to as the "formal knowledge of a foreign language...a communication oriented learning situation (that) requires a better comprehension of the psycholinguistic process underlying the complex relationship between *knowledge* and *use in language learning*' (emphasis mine).

Findings related to the relationships between predictive texts like the one discussed in this study and their potential for consistently predicting outcomes in learning, examinations and other areas might help teachers plan and clearly develop teaching and learning tasks in classrooms. In addition to these observations, for pedagogical purposes, something similar to what Penagos (2004, p. 15) calls metalinguistic "information database" should be produced. This would constitute content that develops students' comprehension of sets of metalinguistic terminology which helps them comprehend the demands of questions. Roehr (2006, p. 64) makes an observation which aptly summarises the assumptions underlying this study when he says: "L2 metalinguistic ability may not only help learners construct implicit L2 knowledge, but may have arisen from such knowledge in the first place."

9 Conclusion

The main focus of this study was to highlight the need for students to understand the demands of questions through identifying and analysing key words in examination questions. The study further sought to verify the assumption that students who obtained high scores in the metalinguistic test designed by the researcher were likely to obtain more 'O' level pass subjects than those who obtained low scores. The findings obtained from this study support the hypothesis. Although the findings in this study are quite convincing, replication studies need to be carried out in different school environments before the findings are adopted and metalinguistic tests are designed and used in all secondary schools in Zimbabwe.

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