Technical-Vocational Students' Reading Competence and Technical Skills in Iloilo City, Philippines

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Abstract - This study focused on the relationship between reading competence in English and performance in technical skills among students in TESDA-Supervised Institutions. This study was limited to the students enrolled in the institutions under TESDA supervision and to provide information to the beneficiaries. A descriptive-correlational research design was employed. A researcher-made test on the reading competence in English had undergone validity and reliability testing through item analysis and Kuder-Richardson formula 21 while the grades of the students were utilized for technical skills. It found out that the reading competence in English showed "fair competent". Technical skills, on the other hand, performed as "good". It also revealed that there was no significant difference and relationship in the level of reading competence in English and performance in technical skills. It is concluded that the students in technical-vocational schools were skillful technicians in terms of practical skills regardless of their reading competence in English. It noted that the performance in technical skills cannot be measured through the reading competence in English of the students. It is observed that reading competence in English and a technical skill was learned separately. Thus, it is strongly argued that TESDA education focuses on the practical area of learning for a certain competency..

Keywords – electronics, performance, reading, skills and technical-vocational

INTRODUCTION

Reading has the most dynamic role in one's life. It is believed that more than 85% of all learning is done through the senses and mostly through the eyes by reading. Reading is, therefore, the most important subject in school. It is the key to success, for students are required to read whether the subject is academic or technical. Many of our students and graduates are deficient in basic language skills, and this has hampered their employability. Many of our students lack even the minimum required level of comprehension of the English language [1].

Reading is a multidimensional process such as fluency and word recognition which must be mastered and reading comprehension will be emphasized because if the latter is weak, it will not be able to make guesses on what happens next or connecting on what they are reading to their own prior knowledge and experience [2]. Moreover, Krashen [3]; Rezaee & Saeed [4] has a strong confirmation on the reading undertakings which can help L2 learners improve their spelling abilities in the L2 in a way that supersedes more 'skill-based' methods to the teaching of L2 spelling such as words lists, spelling rules, and drills.

Most technical-vocational students do poorly in reading competence in English likewise in technical performance because maybe they cannot understand well the instructions given or written in the English language. This problem might be one of the reasons for students' incompetence for future employment. Some students in technical-vocational schools are skillful in terms of practical skills. However, their reading competence in English is very poor especially in comprehending the texts from books. Probably this may be because most of the students enrolled in technical-vocational schools come from rural and public high schools.

Effective reading is partly dependent on the reader's prior knowledge or background experiences. One's reading performance is affected by a number of correlates or factors such as physiological,

psychological, mental, environmental, sociological, and linguistic factors. Each of these factors influences to some extent one's performance [5].

The Philippines is aiming to become the next newly-industrialized country. Therefore, there is a call for the education sector to produce workers who are technologically competent and prepared to absorb ideas, perceive patterns, and solve non-routinary problems. Competence in English, as a powerful tool for communication, is the key to opportunity for future jobs. Many of the students can neither answer simple questions nor perform well in the practical examination because the instructions are worded in the English language. It is sad to note that there is a common complaint among establishments regarding the quality of applicants.

Furthermore, the research can attest to the fact that many students who arrive at the post-secondary and tertiary levels are academically ill-prepared. Students of technical-vocational institutions have crucial roles in contributing to the economic development of the country. Most of the overseas contract workers are technically skilled workforce, therefore; they must be competent in English in order to communicate effectively with different groups of people in the world. In addition, most communications, instructions, documentations are in the English language.

To become graduates who will be highly qualified and competent in technical-vocational skills, students should be equipped with reading competence in English and should be well in technical skills. Based on these observations and assumptions, the research takes a closer look at the problems. Statistical data and scientific bases must support the presumption that students' poor reading competence in English is correlated to their poor performance in technical skills, hence this study.

OBJECTIVES OF THE STUDY

This study aimed to determine the difference and relationship of reading competence in English and performance in Technical skills in the areas of cognitive and psychomotor among students in TESDA-Supervised Institutions in Iloilo City.

The study aimed to test the significant difference in the reading competence in English when classified according to the variables, age, exposure to electronics repairs, and location of high school graduated from; test the significant difference in the performance in

technical skills in the cognitive area when classified according to the variables, age, exposure to electronics repairs and location of high school graduated from; test the significant difference in the performance in technical skills in the psychomotor area when classified according to the variables, age, exposure to electronics repairs and location of high school graduated from; and test the significant relationship between the level of reading competence in English and performance in technical skills in the areas of cognitive and psychomotor

Null Hypothesis

Based on the aforesaid inferential question, the null hypothesis was advanced:
1. There was no significant difference in the reading competence in English when classified according to the variables, age, exposure to electronics repairs, and location of high school graduated from.
2. There was no significant difference in the performance in technical skills in the cognitive area when classified according to the variables, age, exposure to electronics repairs and location of high school graduated from.
3. There was no significant difference in the performance in technical skills in the psychomotor area when classified according to the variables, age, exposure to electronics repairs and location of high school graduated from.
4. There was no significant relationship between the level of reading competence in English and performance in technical skills in the areas of cognitive and psychomotor.

THEORETICAL AND CONCEPTUAL FRAMEWORK

This study was basically anchored to the Schema Theory which is the linguists, cognitive psychologists, and psycholinguists have used the theory of schema to comprehend the interaction of the significant elements affecting the comprehension process. Moreover, schema theory states that all knowledge is organized into units. Within these units of knowledge, or schemata is stored information. A schema, then, is a generalized description or a conceptual system for understanding knowledge-how knowledge is signified and how it is utilized. The fundamental principle of schema theory assumes that written text does not carry meaning by itself. Rather, a text only provides directions for readers as to how they should retrieve or

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construct meaning from their own previously acquired knowledge. This former knowledge is called the readers' background knowledge (prior knowledge), and the previously acquired knowledge structures are called schemata. The schemata of a reader are organized in a hierarchical manner, with the most general at the top down to the most specific at the bottom [6]. Thus, the premised on this theory has been employed to this study to determine the relationship between reading competence in English and performance in technical skills in the areas of cognitive and psychomotor among students in TESDA-Supervised Institutions.

The variables age, exposure to electronics and repairs, the location of high school graduated from are presumed to have affected the reading competence in English and performance in technical skills of the students. Moreover, the research believes that technical-vocational students must be equipped with reading competence in English needed to learn and understand technical instructions.

Specifically, the reading competence in English among students in TESDA-Supervised Institutions was determined by the reading competence in the areas: word recognition skills, reading comprehension skills, and cloze test while the performance in technical skills was determined in the areas: lecture as cognitive and laboratory as psychomotor.

Figure 1 shows the research paradigm of the study showing the possible relationship between certain variables like age, exposure to electronic repair and location of high school graduated from and the reading competence in English and performance in technical skills among students in TESDA-Supervised Institutions in Iloilo City.
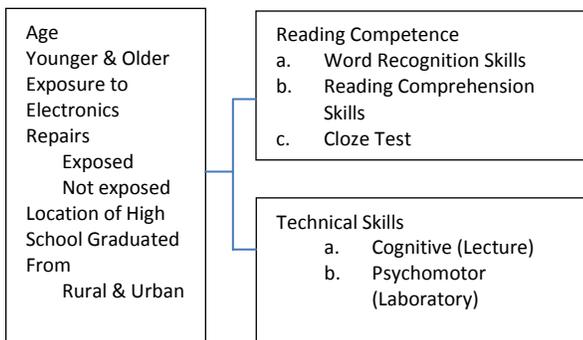

Fig 1. Research Paradigm

METHODS

The descriptive-correlational research design was used in this study. The purpose is to find a new truth,

the discovery of a new relationship, a more accurate formulation of the problem to be solved and many others. It plays a large part in the development of instruments for the measurement of many things [7]; [8]. According to Hale [9], descriptive research design describes and interprets 'what is'. They added that it reveals conditions or relationships that exist or do not exist, practices that prevail or do not prevail, beliefs or points of view on or otherwise, affects that are being felt, or trends that are developing. Thus, this research design was considered as appropriate in this study.

The respondents of this study were students under TESDA-Supervised Institutions taking up courses such as Industrial Electronics Technician, Electronics Servicemen, and General Electronics Technician. The respondents of the study were 110 students from a total population of 151 students under TESDA-Supervised Institutions and classified according to the categories of variable age, exposure to electronics repairs, and location of high school graduated from. The research further used stratified random sampling from each school to choose the respondents. This sampling technique ensures the different groups of a population to be represented adequately in the sample and divides the population into two or more strata in which each stratum, the sample items are drawn at random [10].

The instrument used in gathering data on the level of reading competence in English was a researcher-made test. The researcher-made test had undergone expert examination by jurors who were considered an authority in the fields of teaching English, instrumentation, statistics, and technical education. The tests in the word recognition and reading comprehension were validated and reliability tested through the item analysis procedure and the Kuder-Richard formula 31 (KR21) on the cloze test.

Furthermore, a multiple-choice test was used for word recognition skills and reading comprehension skills while the cloze test required the students to supply the missing or omitted word in the selection. Each correct answer was given the corresponding score of one point using a spate answer sheet. To assess the level of reading competence in English among students in TESDA-Supervised Institutions, the research used the scale of means and description. There were 60 validated and reliable items from 119 items initially constructed using table of specification that indicates areas or concepts, objectives, number of items and percentage proportion of items in each skill

represents the nature of the variable being measured and the relative emphasis of each area are essentially judgmental in the test given to the respondents. A rating scale was used considering that all the scores in the reading competence in English test were divided into four class ranges. Each range corresponded to a described level of reading competence in English. In preparing the class ranges of 60, the lowest possible rating is zero (0). The number of classes or categories to determine the size of the interval is to get the rating scale used in the study then divided the range. The corresponding scale shown below was used to serve as the basis for describing the reading competence in English of the students.

Scale of Means	Description
46-60	Very Competent
31-45	Competent
16-30	Fairly Competent
0-15	Not Competent

To assess the level of technical skills among students in TESDA-Supervised Institution, the research used the grade classification as adopted by every institution. The performance of students in technical skills was based on the students' final grades in the technical skills (electronics) in the cognitive (lecture) and psychomotor (laboratory). The grade classification was as follows:

Scale of Means	Description
95-100	Excellent
90-94	Superior
85-89	Very Good
80-84	Good
75-79	Fair
74-65	Failed

The researcher and the assigned instructors from each school administered and retrieved the tests immediately and at the same time gathered their grades in technical skills with the permission of their school president. The data processing, which involved tabulation and subsequent computation of statistical values, was done after data collection with the use of Statistical Package for Social Sciences (SPSS) software.

The participants were informed that the scores of their tests and technical skills grades will be kept utmost confidential. The participants were also informed that the collection of test scores and technical skills grades were only intended for the purpose of research and their academic standing will not be affected. Specifically, the researcher had announced to the participants the purpose of research and allowed them to express their willingness to participate by an affirmative act like nodding their head and raising their hand.

The data were then statistically analyzed to answer the specific objectives of the study and to test the null hypotheses. Moreover, the statistical tools used were means and standard deviation for descriptive statistics; and the t-test and the Pearson-r all set at 0.05 level of significance were utilized for inferential statistics.

RESULTS AND DISCUSSION

Table 1. Difference of Reading Competence in English with the Selected Variables

Variables	f	Mean	SD	t-ratio	p-value
Age					
Younger	18	25.94	6.66	0.274	0.785
Older	92	25.45	7.14		
Exposure to Electronics Repairs					
Exposed	57	25.95	8.17	0.648	0.518
Not Exposed	53	25.08	5.58		
Location of High School Graduated From					
Rural	43	25.83	6.99	0.120	0.905
Urban	67	25.46	7.11		

p-value< .05 significant at alpha = .05, df = 108

Table 1 shows no significant difference in reading competence in English according to the variables, age, exposure to electronics repairs, and location of high school graduated from. This may imply that the students have focused on the specific reading materials as Tech-Voc students. According to Day & Bamford [11] nowadays, the readers take control whatever they want to read.

Table 2 shows no significant difference in the performance in technical skills in the cognitive area among students in TESDA-Supervised Institutions when classified according to the variables age and location of high school graduated from. However, a significant difference when categorized according to variable exposure to electronics repairs. This may imply that the students have had background knowledge in electronics which is focused on their

technical skills in a concept learning aside from learning vocabulary that embedded with it.

Table 2. Difference of Performance in Technical Skills in the Cognitive Area

Variables	f	Mean	SD	t-ratio	p-value
Age					
Younger	18	84.50	4.43	0.969	0.335
Older	92	83.57	3.58		
Exposure to Electronics Repairs					
Exposed	57	84.84	4.18	3.429	0.001*
Not Exposed	53	82.52	2.71		
Location of High School Graduated From					
Rural	43	84.09	4.06	0.835	0.406
Urban	67	83.49	3.50		

p-value< .05 significant at alpha = .05, df = 108

Kweon and Kim [12] in vocabulary learning are occasionally 'incidental' since the learners' attentions are engrossed on something other than the words to be learned.

Table 3. Difference of Performance in Technical Skills in the Psychomotor Area

Variables	f	Mean	SD	t-ratio	p-value
Age					
Younger	18	84.56	4.68	1.325	1.188
Older	92	83.24	3.68		
Exposure to Electronics Repairs					
Exposed	**57**	**84.58**	**4.28**	**3.302**	**0.001***
Not Exposed	**53**	**82.25**	**2.95**		
Location of High School Graduated From					
Rural	43	83.91	4.26	0.982	0.328
Urban	67	83.91	3.60		

p-value< .05 significant at alpha = .05, df = 108

Table 3 shows no significant difference in the performance in technical skills in the psychomotor area among students in TESDA-Supervised Institutions when classified according to categories of variables, age, and location of high school graduated from. However, a significant difference was noted when respondents have classified according to the variable, exposure to electronics repairs. It is very clear that the consistency in learning the practical way or hands-on (psychomotor) may activate the schema of the students which ensures the permanent learning. This may further imply that assuring the schemata of the students has been one of the issues in the field of teaching. This is supported by Marginson and Van der Wende [13] when they said that the vocational training institutions, which prepare learners for careers that, are based on practical activities, which should not be neglected anymore. They are currently reflected as a significant part of higher educational systems.

Table 4. Relationship between Reading Competence in English and Performance in Technical Skills in the Cognitive and Psychomotor Areas

Variables	Mean	Pearson-r	p-value
Reading Competence	25.53		
Cognitive	83.45	0.166	0.082
Psychomotor	83.99	0.142	0.138

p-value< .05 significant at alpha = .05, df = 108

Finally, tables 4 reveals no significant relationship between the level of reading competence in English and their performance in technical skills in the cognitive and psychomotor areas among students in TESDA-Supervised Institutions. This may imply that the reading competence in English learns independently from the technical skills whether in cognitive and psychomotor areas. Chalmers [14] teaching various strategies enable the learners to learn multiple viewpoints whether in concepts or in practical which still gaining a more in-depth understanding of the lessons to produce quality outputs which underscoring the importance education to the real world.

CONCLUSION AND RECOMMENDATION

Based on the findings of the study, this study concludes that the reading competence in English and technical skills among students in TESDA-Supervised Institutions has no significant relationship due to the reason that both are different from each other. Therefore, the technical skills of the students are based on the exposure of the technical background vis-à-vis electronics repair. This study further supports the TESDA education on focusing and maximizing the technical skills of the Filipino students.

Indeed, the results of the study have proved the fundamental principle of schema theory that the students may retrieve or construct meaning from their

own previously learned information. Thus, this schema theory may facilitate the practical teaching so that the students may improve their skills effectively and apply to the real-world situations.

This study may provide insights to the TESDA-Supervised Institutions on how to improve and develop their curriculum in practical teaching to their technical students and to link the needs of the industries so that the students will be equipped after graduation. Particularly, the TESDA-Supervised Institutions may also provide growth and nurturing experiences to their students that would benefit the community by providing quality and qualified manpower that contributes to the national interest and economic development.

This study further recommends that TESDA-Supervised Institutions should provide excellent school facilities and laboratory/simulation equipment which are necessary for the attainment of the skills of the technical students.

This study also mirrors the limitations because it only focuses the electronics students as participants enrolled in three TESDA-Supervised Institutions and the study was descriptive research by nature so it would be in-depth the results if the qualitative approach will be employed. Finally, future research can be done with the use of other instruments to confirm the present results.

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