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Analysis of Problem-Solving Skills in Secondary School English Textbooks

Dr. Bibi Asia Naz[a], Dr. Javed Iqbal[b], Dr. Khuda Bakhsh[c] Zamir Ahmed Zaki[d], [a,b,c]Assistant professor, [a,b]Department of Education, Hazara University Mansehra, [c]Department of education, GC University Faisalabad, Pakistan [d]Elementry and Secondary Education, Email: [a]asianaz@hu.edu.pk, [b]javediqbal73@hu.edu.pk,[c]khudabakhsh@gcuf.edu.pk
[d]Zamirraja766@gmail.com

The aim of this research was to conduct a content analysis of High School English textbooks in the context of problem solving skills education. The study's goals were to examine the content of 9th and 10th grade English Textbooks (ETBs) in light of problem solving skills-related components, and to compare both textbooks. For this purpose an English textbook was selected of Azad Jammu & Kashmir Text Book Board Muzaffarabad, Pakistan. The research was confined to ETB prose chapters from the 9th and 10th grades. A codebook related to problem solving skills was developed and validated to ensure intra-coder reliability. Frequency and themes were used to determine the degree to which problem solving skilled components were included in the textbooks. Problem solving skills as the most important component of life skilled base was covered but with low frequency in the textbooks. Therefore the study recommended that problem solving skills-based elements be included in textbooks to address the challenges of everyday life.

Key words: *Problem Solving Skills, Secondary School, English, Textbooks.*

Introduction

Education is a critical pillar for a society's long-term socioeconomic growth and an essential tool for progress, because it encourages the use of skills, expertise and creative thinking. It is employed to reduce poverty and gender disparities between men and women (Shaarma, 2007). Education is an effective tool for solving issues at all levels; it is used to bring about improvement in awareness, beliefs and actions in order to achieve nation-wide stability and sustainability (Rajaj & Chiv, 2009). According to Haralambos & Holborn (2004) through education people can think openly about social progress and creativity, both of which are important aspects of personal development. The development of society depends on its

members' ability to think freely and critically; in this way, they can bring social change and contribute to the growth of society.

Education is a tool for achievement of sustainable national growth. Education is critical to a person's growth and development. It raises people's awareness of potential problems that they will face in the world. It fills empty minds with various types of thoughts and imagination. Individuals, communities and nations with good educational backgrounds play a leadership role in the world in this way (American Federation of Teachers, 2000).

To meet the challenges of the world, all people must develop life skills that enable them to perform confidently and competently in front of others on a larger stage. Skilled based education is a method of developing and maintaining healthy lifestyles through expanding awareness, beliefs, attitudes and skills through a variety of learning experiences, with a focus on active participation [World Health Organization (WHO), 2015]. Life skills are the abilities to adjust positive actions that enable people to deal effectively with the demands and challenges of everyday life (WHO, 1997). According to the WHO, life skills oriented education is a behaviour-changing approach that addresses a sense of equilibrium in three areas: awareness, abilities and attitudes. Communication skills, problem solving skills, self-awareness skills, decision-making skills and creative thinking skills were listed as essential life skills by the WHO in 1997. Reading and evaluating a problem, articulating a plan, executing the strategy to achieve a solution, and working on the solution in a manner that creates an acceptable result are all examples of problem solving skills (Bonder & McMillen, 1986). Solving a problem begins internally in a person's cognitive system and ends indirectly with the person's movements and goods. In cognitive system problem solving, it entails explaining and manipulating various forms of information (Wittrock, 2006). Skills are necessary to play various roles in life; thus, students in Secondary School must have a basic understanding of life skills in order to solve their everyday problems.

Problem solving ability is the ability of a person to participate in intellectual processing in order to understand and solve problems in which a solution process is not immediately apparent. It also entails a willingness to collaborate with certain governments in order to reach one's maximum potential as a responsible citizen. One of the most critical life skills that can be taught and exercised so that students are used to coping with challenges in the classroom and in daily life is problem solving skill (Effendi, 2017). The curriculum of most schools include problem solving skills in term of “structured conceptual problem solving” (Sutherland, 2002; Vermeer, Boekaerts & Seegers, 2000), not ill-structured problem solving (Dixon & Brown, 2012; Sternberg, 2001). Learners managed in the classroom with the aid of problem solving skills through their active participation in various learning activities with their peers, which proved essential in laying the foundation for the development of problem solving skills in the minds of the learners (Vygotsky, 1978). According to Sternberg (2009) there are seven phases in the problem solving cycle: (1) problem recognition, (2) problem

description, (3) plan design, (4) knowledge organisation, (5) resource distribution, (6) tracking, and (7) assessment. The problem solving process was described by Hennessy & McCormick (1994) as an idealised process that included the sub-processes of identifying a problem, producing and implementing a solution, and evaluating the results. According to Mioduser (1998) defining needs and challenges, researching and creating a concept brief, generating and exploring substitute solutions, choosing and modelling a solution, designing the chosen solution, assessing the outcomes, and going forward, are the problem solving process. Therefore the researchers categorised the following six stages of a systematic problem solving technique:

a. The classification or description of the problem is the first step in the problem solving process. A difference between the actual and expected condition is referred to a problem. It means that knowing where a problem is supposed to be and having a good view of where it is now in relation to the observed problem are both essential for problem identification. Many studies have shown that the ability to identify a problem, collect data, and analyse the viability of possible solutions is the main difference between experienced and inexperienced problem solvers (Atman, Adams, Cardella, Turns, Mosborg & Saleem, 2007; Conley, 2011; Crismond & Adams, 2012). According to Whitten & Graesser (2003), problem solving abilities are linked to problem defining abilities, and teachers should help students define the problem first.

b. The second step in problem solving is to examine the situation. By taking an effective overall view of the situation in this phase, it becomes much easier to make a decision that will aid in the adoption of more measures to address a specific issue. Before making an initial decision, it's a good idea to look at all of your choices (Situational analysis, 2017). The assessment–modification loops, according to Mioduser & Kipperman (2002) included discovery, execution, target adjustment and evaluation.

c. At third stage problems arise as a result of a variety of factors. In this stage, the causes of the problems were established in order to close any gaps in the problem solving process as quickly as possible. It is a vital level that aids in ensuring that solutions to problems discuss the authentic causes rather than indicators of real causes; otherwise, the chances of problems reoccurring are increased, and it seems that they were not truly solved. Students must take into account the social sense of the learning world as well as the actual context of knowing, all of which are critical to knowledge acquisition and processing (Yu, Fan & Lin, 2015).

d. Considering the solution is an essential element of problem solving skills. It is a realistic and innovative phase in which the challenges are varied and potential solutions are found. The brain stage method is used in the classroom to create a solution in this step. Suggestions were identified at the conclusion of the

brainstorming process; however, no judgments were made on problem solving. According to Whitten & Graesser (2003) cultivating students' ability to identify problems and evaluate solutions is a key factor that influences problem solving efficiency.

e. Acting and testing are both critical aspects of problem solving skills. This phase determines which problem solution is most useful to implement. It is ensured that steps be taken to solve problems. Often the remedy was as simple as taking action or requesting assistance from others. It is an important idea to create a plan of action in the problem solving skill (PSS), and it is considered a minor assignment. Teachers must provide students with correct procedural information and assist students in connecting PSS to real-life contexts, which is the core of PSS (Yu, Fan & Lin, 2015).

f. In the teaching method, troubleshooting is a formal and systematic strategy for correcting and finding problems. This move necessitates a basic understanding and awareness of the problem. It starts when the instructor guides the students through the process of identifying the study's issue. The design and implementation of solutions is a valuable source of subject material for educational purposes. Troubleshooting is the process of identifying and resolving issues while developing and implementing solutions (Baker & Dugger, 1986).

In light of the current situation, content analysis is the best way to determine the degree to which problem solving skills are included in High School textbooks. For this reason, the researchers chose the current subject for research.

Methodology

Content analysis is a research technique for decoding the (often unstructured) content of messages, whether they are text, photographs, symbols or audio data. In a nutshell, it's an attempt to analyse textual context. There is only one research approach that promises to accomplish this, although there are several other analyses of text, messages and their content and context (such as conversational, rhetorical or discourse analysis). Content analysis, on the other hand, is distinct for a variety of purposes, as can be shown, and its definition is a research technique for making replicable and true inferences from texts (or other meaningful matter) to the contexts in which they are used (Krippendorff, 2004) The method of interpreting information is referred to as latent content analysis (Holsti, 1969). The aim of this study is to identify the underlying meanings of the terms or material (Babbie, 1992). The current research used content analysis to determine how much content in textbooks for 9th and 10th grades is relevant to problem solving skills. For the first five research questions, lessons from 9th and 10th grade English books were examined using reviewed literature, and for the sixth research question, both books were compared.

The text book is the data source in the content review. For the sake of research, Azad Jammu & Kashmir has released a 9th and 10th grade English text book and a 10th grade English text book. The study's sample was Muzaffarabad's text book board. The books were published in 2017.

Data Collection Tool and Procedure

The WHO problem solving skill and its sub-components were included in this report. The literature on problem solving skills and its sub-components provided insight into the degree to which problem solving skills-related material was used in textbooks. A code book related to problem solving skills was created in order to better understand problem solving skills. Coding is a technique for connecting primary data to an idea, and then connecting the idea to all of the data associated with it (Richards & Morse, 2012).

Validity of Code Book

Validity or trustworthiness of the findings is another critical feature of content analysis quality. The consistency of the content analysis was linked to the research's credibility being tested and increased. A process or procedure is considered legitimate if it calculates what it claims to measure and performs the functions it claims to perform (Patton, 2002). The texts of the books were analysed and concepts were taken from the literature that was studied relevant to problem solving skills. The self-developed code book was offered to two educational experts for input. The specialists were asked to review the content of the textbooks for the relevance and consistency of both meanings and terms of problem solving professional components. The experts reviewed the content of the textbooks to ensure that the definitions and terminology of problem solving skills element were both relevant and consistent. The experts suggested that some unclear statements be updated, and the expert input was considered item by item for each part and revised accordingly. The accuracy of the code book, the sense in the text, and the relevance for evaluating problem solving qualified relevant components in the English textbook for 9th and 10th grades were all evaluated by the experts. The first edition of the codebook was updated in response to the specialists' suggestions. The classifications in the codebook were also derived from the literature on problem solving skills.

Reliability of Code Book

The intracoder reliability protocol was used, which applies to two separate methods for analysing written materials. Intracoder reliability refers to the materials being coded separately by at least two examiners (Lombard, Synder-Duch & Bracken, 2005). After a period of time, the same text was reanalysed to determine intracoder reliability. The time between the two analyses was long enough for the researcher to forget how the text had been coded previously. After fifteen days, one chapter (Famous Festivals in the World) from

English Textbook 9th and one chapter (Muhammad (SAW) A Rasool of Peace and Mercy) from English Textbook 10th were chosen at random and recoded to see how much problem solving content was included in the books. The relevance and clarity of the codes were determined by analysing two chapters from each text book. With the assistance of an education expert, the first and second drafts of the code book were contrasted.

Results and Discussion

Table 2: Frequency of Problem Solving Skill in ETB - 9th

S. No	Lessons	PSS						
		Define problem (DP)	Examine the situation (ES)	consider the Causes(CCs)	consider the Solution (CS)	Act and Test(AT)	Review the troubleshooting(RTs)	Total
1	Hazrat Khadija	1	0	0	0	1	0	2
2	Quaid e Azam	1	1	1	0	0	0	3
3	Pollution and its Impact	1	1	1	0	1	0	4
4	Golden Touch	0	0	0	0	0	0	0
5	The Wizard of Menlo Park	1	0	0	0	1	0	2
6	The Road Safety Code	0	1	0	1	0	0	2
7	Ants and Their Ways	0	0	0	0	1	0	1
8	Health is Wealth	1	1	0	0	1	0	3
9	Population Growth and its Impact	0	0	0	0	0	0	0
10	Kashmir - A Paradise on Earth	0	0	0	0	0	0	0
11	Famous Festivals in the World	0	0	0	0	0	0	0
	Total	5	4	2	1	5	0	17

Table 1 shows that content related to DP (define the problem) was included only 5 times, ES (examine the situation) four times, CCs (consider the causes) two times, CS (consider the solution) one time, AT (act and test) five times and TS (review the troubleshooting) is totally

missing in the entire textbook of 9th class. So the content covered problem skills were not enough to develop this capability in students.

Table 2: Frequency of Problem Solving Skill in ETB - 10th

Frequency of Problem Solving Skill in ETB- 10th

S. No.	Lessons	PSS						Total
		Define problem	Examine the	consider the	Causes consider the	solution Act and	Test review the	troublesh	
1	Muhammad (SAW) A Rasool of Peace and Mercy	0	0	0	1	1	0		2
2	Dignity of Labor	0	1	1	1	1	0		4
3	Place of Women in Our Society	1	1	1	1	0	0		4
4	A Women of Distinction	0	1	0	0	1	0		2
5	Badshahi Masjid	0	0	0	0	0	0		0
6	A Journey by Train	0	0	0	0	1	0		1
7	Professions	0	0	0	0	0	0		0
8	Justice of Hazrat Umer (R.A)	0	1	1	0	1	0		3
9	Mass Media	0	0	0	0	1	0		1
10	Health is Wealth	0	0	0	0	0	0		0
11	Gulliver's Travels	0	0	0	0	0	0		0
	Total	1	4	3	3	6	0		17

Table 2 shows that content related to DP (define the problem) was included only one times, ES (examine the situation) four time, CCs (consider the causes) three times, CS (consider the solution) three times, AT (act and test) six times and TS (review the troubleshooting) is totally missing in the entire textbook of 9th class. So the content related problem skills in the 10the grade English textbook were not enough to develop this capability in students.

Conclusion and Discussion

Since students do not grasp the problem solving process, it can be difficult for them to solve problems. Problem solving is covered in eleven chapters of ETB - 9th and seven chapters of ETB - 10th, with various aspects such as identifying the problem, analysing the issue, considering the causes, considering the solution, acting and checking, and reviewing the

troubleshooting, according to the report. Students must develop and practice problem solving skills so that they are prepared to deal with challenges in the classroom and in daily life (Suryawati, Osman & Meerah, 2010). It is critical because it has the potential to instil academic, physical, social, emotional, and other abilities in students at the adolescent level (Guha, Maliye & Gupta, 2019). It is possible to provide material related to problem solving skills in textbooks in order to maximise their ability. Dejene (2018) believes that preventing violence through the development of life skills in students, which include academic, demonstrative, and social skills that help students cope effectively with challenges in everyday life. Students spend the majority of their time in school reading course books; if these skills were included in the subject book, students' comprehension of life would improve and they would be better prepared to face challenges. The ability to solve problems is a necessary life skill. Learners in developed countries are taught problem solving techniques as part of the school curriculum. Learners' overall success is enhanced by their ability to solve problems. Students need skills to increase their awareness of study topics in today's world, where human knowledge has doubled. Problem solving ability necessitates the application of information from various fields, critical thinking, and the solution of various problems (Fashy & Kirkley, 2003). The content of problem solving skills in English textbooks for 9th and 10th grades was found to be inadequate for students to make good decisions in their lives to meet challenges; however, when these skills are present in the content of books, students learn how to solve their problems without creating a stressful situation (Parand, Zamani, Lotfi & Ayazi, 2011). In order to improve problem solving skills in Secondary School students, it is necessary to include problem solving skills in textbook material. This will allow students to perform better in their studies and meet the challenges of everyday life.

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Types of problem-solving activities. Problem-solving activities can be just â€˜theoreticalâ€˜, when students discuss and present the solution, or â€˜practicalâ€™ when they come up with an idea and try it out at work (e.g. which objects sink and which swim). Such practical activities can be more physical when students actually have to move more. Problem-solving activities can also serve different purposes in the lesson both linguistic such as agreeing, disagreeing, introducing ideas and social such as ice-breaking, team-building, etc.Â Letâ€™s have a look at some â€˜Physicalâ€™ problem-solving activities first, which can be great for English summer camps. For each of these tasks, you need teams of equal numbers. #1. Group photos. Hence, internalization of problem solving skills is an important step for using them effectively. An individual will become more successful once he/she internalizes that behavior. MacGregor and Stacey.Â primary school studentsâ€™ mathematical achievement and problem solving skills. The study carried out on the. 107 fifth grade students of two schools selected in Ã‡ankaya Region in Ankara, Turkey. Analyses have shown. that there is a significant and positive relation between mathematical achievement and problem solving skills. Thus, the emphasis on problem solving is in addition to, and does not replace, the emphasis on basic literacy skills in the schools. In national standards and tests, problem solving â€œraises the barâ€ from minimum competency to world-class skills. Even basic problem solving skills are scarce in the work force, as well.Â They found that mastery of generalized problem solving skills did not differentiate well between good and poor problem solvers. In fact, researchers concluded that knowledge of context was the most critical feature of skill in problem solving. Thus, current research supports problem solving as a situational and context-bound process that depends on the deep structures of knowledge and experience (Palumbo, 1990). As a result of the analysis of theoretical and experimental data on development of critical thinking of the studying elementary and middle classes of comprehensive schools it is possible to mark out the most significant features process of training in thinking. Let's list only those which are expedient for using in practice when developing technology of training or to include in the methods chosen by the teacher, ways and receptions.Â 2. Inability to apply the knowledge obtained by students in the school and skills in real life situationsÂ 5. Carry out practical testing of developed methods at teaching students English language elementary school and make recommendations for teachers. Critical thinking is the ability to think clearly and rationally about what to do or what to believe. Strong problem-solving skills can be hugely beneficial for your career. In every sector, problems are inevitable and will arise in one form or another as you go about your day-to-day duties. When problems do occur, employees are expected to use their initiative and develop suitable solutions to avoid the situation escalating into something more serious. What Kind of Problems Typically Arise in a Professional Context?Â Employers look for hires who can demonstrate each of these skills in the workplace to deliver positive outcomes. Managers would far rather employ a member of staff who can take action to resolve a problem than someone who doesn't act and relies on someone else to think of a solution.