# DEVELOPING CRITICAL THINKING SKILLS USING COMMERCIALS: A QUANTITATIVE STUDY

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## Abstract

*The pandemic and the post-pandemic situations have created an urgency in the world, wherein, especially, in today's education, students need a mix of crucial skills. They should think critically to solve problems and be creative for innovative ideas. Communication helps express thoughts, while collaboration teaches teamwork. Information literacy helps navigate the digital world, and tech proficiency ensures using digital tools. Being flexible and adaptable prepares for changes in career and life, and social awareness promotes empathy. Collectively, these skills prepare students to build their character for success and challenges in the 21st century. Critical Thinking is one of the most crucial 21st Century Skills. It is a skill that allows one to question, analyze, interpret, evaluate, and judge information. Critical Thinking is not just a theoretical concept but is a practical tool that can enhance various aspects of life, including one's career. Critical thinkers become well-rounded individuals by considering all options and potential solutions before making a decision. In the context of language learning and media consumption, critical thinking is extremely valuable, as it enables an individual to navigate the subtle manipulations of language and persuasive messaging. This research paper delves into the practical application of critical thinking, specifically through commercials. The study, a quasi-experimental design with a pre-test, post-test, non-randomized controlled group, includes an intervention program for the experimental group. The data analysis was conducted using SPSS 26 and MICROSOFT EXCEL.*

**Keywords***: Critical thinking skills, 21st Century Skills, Commercials*

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## INTRODUCTION

The 21st century has shown remarkable advancements in the field of science and information and communication technologies. Technology has also affected the education system to a greater extent. Until the dawn of the 21st century, education systems across the world focused on preparing students to acquire a heap of content and knowledge passively. This resulted on educational bodies focused on providing literacy and numeracy as an essential pedagogical and learning skills to gain necessary content and knowledge. But as information and knowledge are easily accessible in the 21st century with the help of Internet these skills such as numeracy and literacy are no longer considered sufficient to cope up the demands of the ever-expanding challenges of the competitive world. The curriculum of educational bodies need not focus only on prescribed syllabus or coursebooks but also prepare students to meet the demands and survive by making their mark in the constantly changing and updating scenario of professional and economic surrounding at an international level.

In order to respond to these technological, demographic and socio-economic changes, education systems have to make a shift from traditional ways of teaching to providing their students with a range of skills that relied on the interdependencies of cognitive, social and emotional aspects. In other words, to prepare students in an overall manner so that they can not only succeed in their all phases of life but also learn how to maintain success and cope up failure, as failure in any form is an inevitable part of life in this rapidly changing digital society of the 21st century. P21 (Partnership for 21st Century Skills) came into existence by the American Association of Colleges and Universities (AACU) and Secretary of Labour's Commission on Achieving Necessary Skills (SCANS) as a result of the educational report i.e. A Nation at Risk: The Imperative for Educational Reform in 1983 which measured the quality of education in the United States. Figure 1 and TABLE-1 explain this clearly:
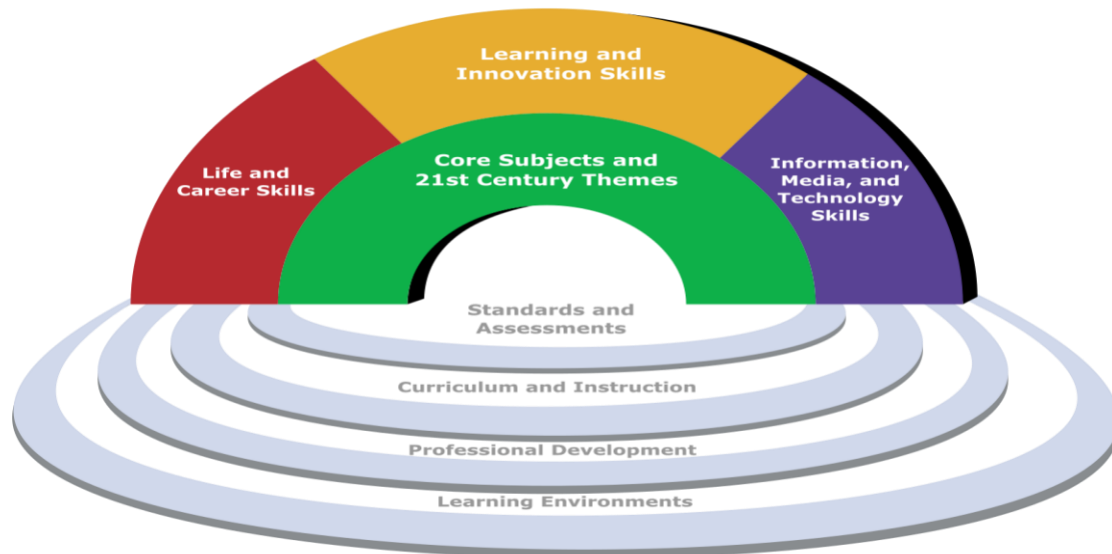
**FIG.1:  P21 Framework For 21st Century Learning (source adapted from the Internet)**



| Learning and Innovation "The 4 C's" | Digital Literacy | Career and Life |
|---|---|---|
| Critical thinking & problem solving | Information literacy | Flexibility & adaptability |
| Creativity and innovation | Media Literacy | Initiative & self-direction |
| Communication | ICT Literacy | Social & cross-cultural interaction |
| Collaboration | | Productivity & Accountability |
| | | Leadership & responsibility |

**Table 1: P21 Skills**

The above figure and table predict the following:

- Learning and Innovative Skills: critical thinking and problem-solving, communication and collaboration, creativity and innovation.
- Digital Literacy Skills: information literacy, media literacy, information and communication technologies (ICT) literacy.
- Career and life Skills: interpersonal relationships, flexibility and adaptability, initiative and self-direction, social and cross-cultural interaction, productivity and accountability, leadership and responsibility.

21st-century skills consist of skills, abilities, and learning dispositions that have been recognized as being required for success in 21st-century society and workplaces by educators, academicians, business leaders, and governmental agencies. Many of these skills are associated with deeper learning, which is based on mastering skills such as interpretation, analysis, reasoning, complex problem-solving and teamwork, in short, critical thinking. These skills differ from traditional academic skills in that they are not primarily part of it.  The following figure describes the 21st-century skills essential for students or professionals to be successful:
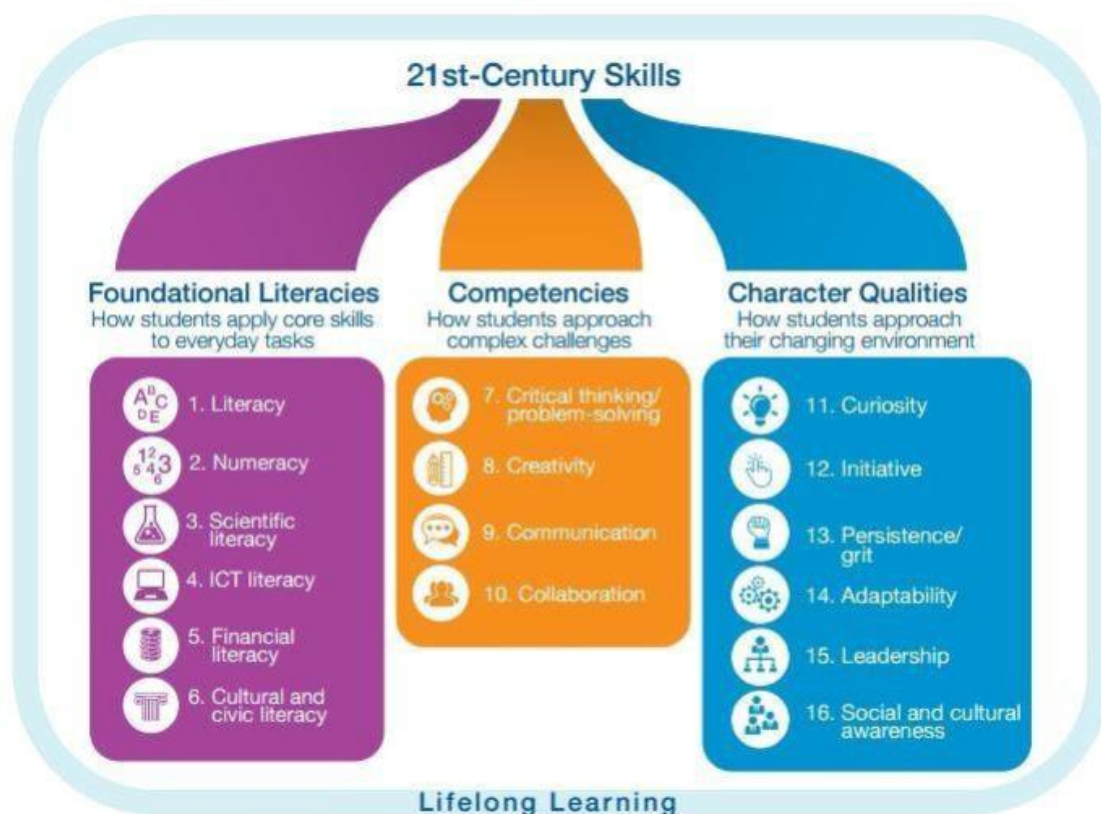


Figure 2: 21st CENTURY SKILLS (source adapted from Internet)

REVIEW OF RELATED LITERATURE

WHAT IS CRITICAL THINKING?

The word "critical" in the term critical thinking comes from the Greek word, 'kritikos'

from which the English word critic is derived. The word identifies the intellectual capacity of "judging," "making judgments or to make sense of, to recognize and comprehend," and "for judging or ability to discern." Here the word is not used in a negative sense of the term. But the term critical thinking means intelligent reasoning with aiding evidence or facts to help make wise decisions. Internationally renowned for his work in this field, Richard Paul (1992:1) describes critical thinking as:

"An understanding of the relationship of language to logic, leading to the ability to analyze, criticize and advocate ideas, to reason inductively and deductively and to reach factual or judgement conclusions based on sound inferences drawn from unambiguous statements of knowledge or belief."

In simple words, critical thinking can be said to be about challenging either one's own or another person's opinions with the purpose of finding out what to believe or disbelieve and what to do or not to do. Robert Ennis (Norris and Ennis, 1989:1), one of the most prolific contemporary writers on critical thinking, defines critical thinking as reasonable and reflective thinking that is focused on deciding what to believe or do.

Critical thinking helps to make decisions based more on reason rather than on reactive behaviour. As H. Goldhor-Lerner (1990) emphasized people do better on a daily basis when they operate more on reason than unthinking reaction. Diane Halpern (1996:5) added a new dimension to the definition of critical thinking by embedding it into cognitive theory. According to Halpern (as cited in O'Hare, 2004), critical thinking means making use of those cognitive skills that help to leverage the probability of the desired outcome. It is used to define thinking that is purposeful, reasoned, and goal-oriented. The type of thinking involved in problem-solving, formulation of inferences, calculating likelihood and decision-making when the thinker is using skills that are discreet and productive for the particular context and the type of thinking task. For Cottrell (2005), critical thinking is a cognitive activity that focuses on argumentation and requires the use of the mind. Facione (2000) characterized critical thinking as a self-adjustment process involving the use of cognitive skills in order to make sound judgements or to improve the quality of judgements. Sternberry (2007) states that this process of using mind often relates to reasoning and reflection. When engaged in critical thinking, one needs to think reasonably and reflectively.

These definitions illustrate critical thinking as a self-adjusting cognitive process in which the mind is used to make honest or fair decisions. Cottrell (2005) and above researchers also laid emphasis on the fact the reasoning (which includes the analysis of evidence and drawing conclusions from it) lies at the heart of critical thinking. These authors also emphasized the notion that the goal of critical thinking is to make sound judgements based on sound reasoning and, in thinking critically one needs to be open-minded. Commenting upon the characteristics of a critical thinker, Siegel (1998) asserted that the critical thinker is the one who is moved by reason and not by emotions. Richard Paul (1992: 282) also exemplifies the attributes of a critical thinker as:

"a passionate drive for clarity, accuracy and fair-mindedness, a fervor for getting to the bottom of things, to the deepest root issues, to listening sympathetically to opposite points of view, a compelling drive to seek out evidence, an intensive aversion to contradiction, sloppy thinking, inconsistent application of standards, a devotion to truth as against self-interest- these are essential commitments of the rational person."

Yue Lin (2018) mentions John Chafee (cited by Facione et al. 2000:65) who stated that a critical thinker is not merely someone who is able to reflect, analyze and explore, but the one who opts for thinking in these advanced and sophisticated ways. To wrap up, these definitions demonstrate that for people to be critical thinker, a positive and open-minded attitude, internal motivation which is widely known as a disposition, relevant skills and knowledge of how to use these skills are all required.

BLOOM'S TAXONOMY

As mentioned earlier and by Lizarraga et al. (2010) and Swartz (2003), thinking skills are essential skills for students in order to achieve success in their academic, professional, and social lives. Martin and Halpern (2011) have also appealed to incorporate critical thinking to be the core part of the education system. Learning critical thinking skills helps students to select relevant information, to generate and evaluate the received information, to frame one's own right decisions at the right time, and thus become better problem-solvers and decision-makers. Researchers in this field have provided many critical thinking taxonomies that can be utilized in education for the betterment of students. One such taxonomy is Bloom's taxonomy. In 1956,

Benjamin Bloom headed a group of educational psychologists who developed a classification system for levels of cognitive skills and learning behaviour. The classification system they created is often referred to as Bloom's Taxonomy. The word taxonomy means classifications or structures. Bloom's Taxonomy categorizes thinking into six cognitive levels of complexity.
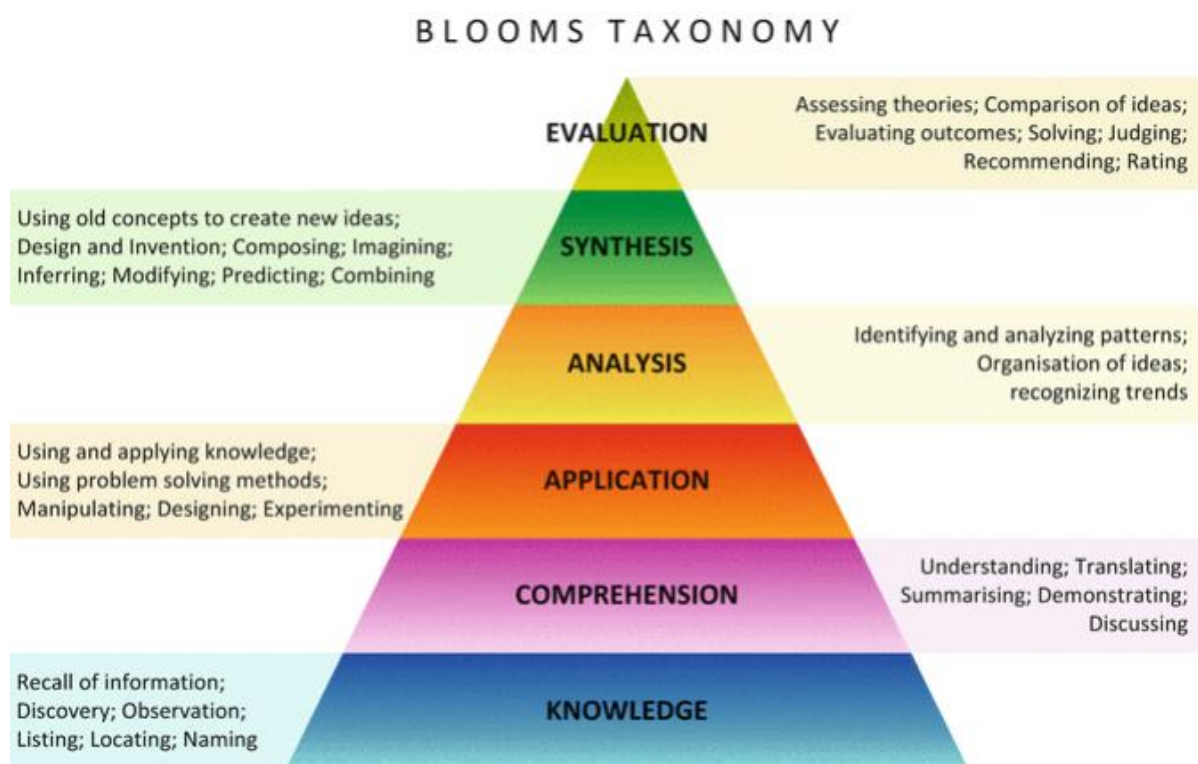


Figure 3: Original Bloom's Taxonomy

In the old version of Bloom's Taxonomy, the categories are arranged from simple to complex level and from concrete to abstract. The classification is often referred to a progressive climb to a higher level of thinking i.e. from knowledge to evaluation. The basic or lower level of thinking in the taxonomy deals with simple knowledge, its acquisition or understanding and its application. Analyzing, combining and evaluating are higher order thinking skills in the taxonomy. The level of complexity increases as one moves from one level to another higher level. Finally, reaching the highest level i.e. evaluation. The figure below shows changes made in the new version.
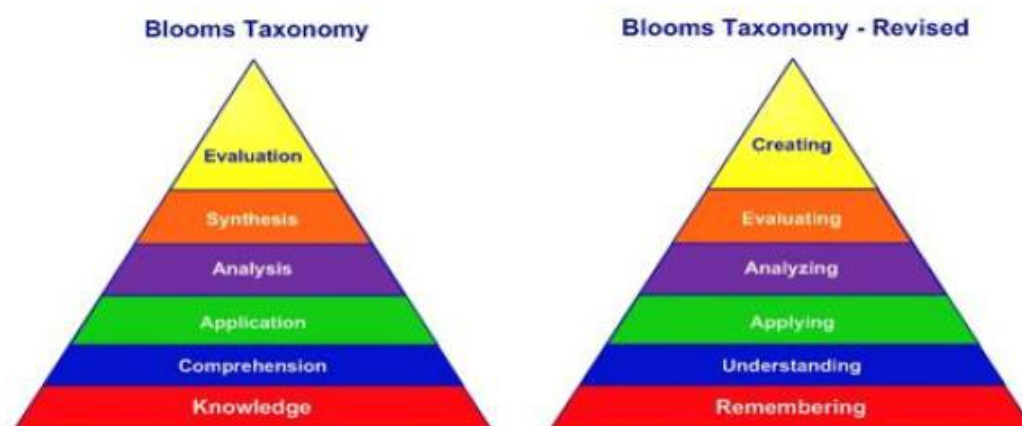
Figure 4: Changes in Bloom's Taxonomy

A revised Bloom's Taxonomy with a title A Taxonomy for Teaching, Learning, and Assessment was published by a group of cognitive psychologists, curriculum theorists and instructional researchers, and testing and assessment specialists in 2001. During the 1990's, Lorin Anderson and a group of cognitive psychologists updated the taxonomy. The changes they made can be divided into three categories: structure, terminology and emphasis. For example: the lowest level of the original taxonomy i.e. 'knowledge' was renamed and classified as 'remembering' because knowledge is an outcome of thinking but not a form of thinking. The higher and the highest level of the old taxonomy was swapped in to the new version. The revised taxonomy moved down the level of evaluation stage down and the highest level of the revised taxonomy becomes 'creating'. The following is the figure of the revised version of Bloom's Taxonomy (2001).
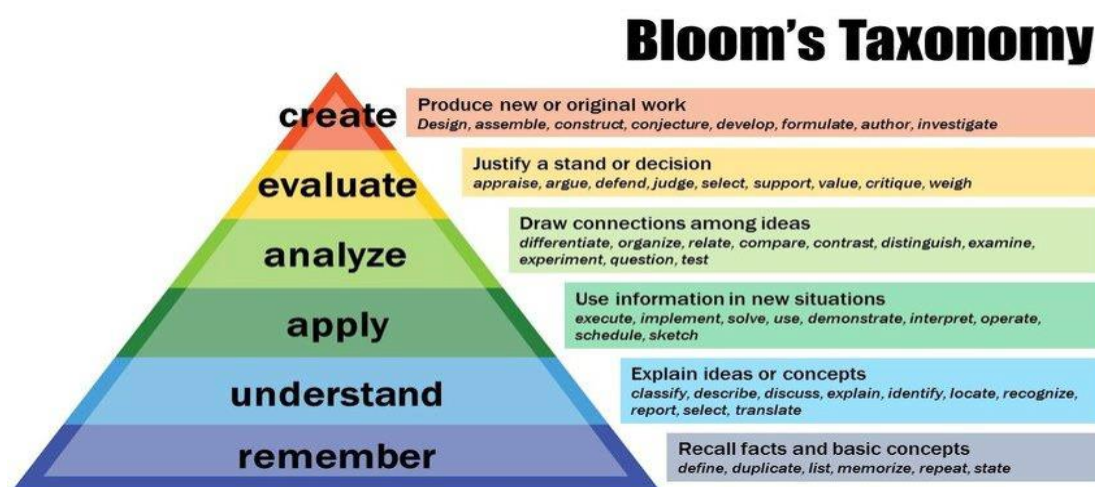


Figure 5: Revised Version of Bloom's Taxonomy (2001)

The new terms are defined as:

| Level | Description |
|---|---|
| Remembering | Retrieving, recognizing and recalling relevant knowledge from long-term memory. This level is just recalling previous learned knowledge. |
| Understanding | Comprehending and constructing meaning from oral, written and graphic messages through interpretation, classification and summarizing, comparing and inferring. This level demonstrates the understanding of the information by explaining its concepts or ideas. |
| Applying | This level deals with the implementation or carrying out or using the acquired knowledge or information in another similar situation. |
| Analyzing | This level deals with deconstructing the received information into parts and with the study of the relationship of the parts with one another and to the whole. It also includes organizing and attribution. |
| Evaluating | This level is about making decisions or judging knowledge or the information based on criteria and standards through checking and critiquing. |
| Creating | This level is about putting elements together to form a coherent or functional whole into new form or pattern or structure through generating and planning. This includes producing innovative ideas, products or perceptions based on the learnt knowledge or gained information. |

## TELEVISION COMMERCIALS AS AUTHENTIC MATERIAL

Marshall Mcluhan (Understanding Media 1994: 232) says:

*The historians and archaeologists will one day discover that the ads of our time are the richest and the most faithful daily reflections that any society ever made in its entire range of activities.*

McLuhan put forwards a perspective that advertisements/commercials are the potent daily reflections of our society because they are enriched with our routine life and socio-cultural, economic, political issues. In this sense, TV commercials are the richest and authentic document portraying human life belonging to a particular culture or country. TV Commercials are short video clip that uses both visual (what you see) and aural (what you hear) input with a purpose to convince their target audience to buy a product or a service. TV commercials are considered to be the most effective form of advertising or communication to mass audience. Mostly, TV commercials tend to appear repetitively during popular TV programs and are equally charged for day or night time depending on which channel they are shown. The duration of commercials ranges from 30 to 90 seconds per ad film. The majority of TV commercials feature a song or a jingle accompanied with music or dance or a series of events performed by actors, dialogues or scenes are shown that viewers will soon relate to the product. Commercial advertising is mostly done by the advertising agencies on the behalf of a company or any other organization. It is connected with buying or selling of products or services. Different types of media can be used to deliver these messages, for instance, newspapers, magazines, TV, radio, billboards and e-mail spam. In this kind of advertising, commercial advertisers seek to leverage the consumption of the product or its market by repetition of the ad or the product's name either through branding or testimonial with the intention and efforts to strike the minds of consumers and persuade them to use or buy the product.

Since, television commercials are produced by the people for the people to perform some social function in society, can be used wisely for language learning purposes. If exploited wisely they can become an effective and potential teaching material in language teachers' tool box. Karpova (1999) and Lawrence (1987) had pointed out the benefits of integrating authentic materials ranging from print to audio-visual by stating

that it helps students/learners to communicate naturally and encourage them to become critical thinkers. Lawrence (1987:837) stated that TV commercials 'provide a refreshing alternative to the traditional textbook'. TV commercials can provide a treasure trove of language learning opportunities. Commercials are short, funny, entertaining, persuasive, informative and memorable acts of communication that not only capture their audience attention but also has the ability to capture the attention of language learners of all levels. Commercials can help students/learners to develop their critical skills along with stimulating their socio-cultural linguistic abilities. TV commercials can aid in satisfying the needs to diverse or multilevel or mixed-ability class because their visual features greatly increase students/learners' comprehension. As cited in Multilevel and Diverse Classrooms (2010), Chapter-6: Go to Commercials: Using Television Commercials in multilevel EFL Classrooms, a tiny group of TV commercial researchers (Erkaya,2005; Smith & Rawley, 1997; Davis, 1997) has recommended the use of commercials in language learning for years. TV commercials has potential to improve listening skills and leverage motivation of students/learners. According to Mishan (2005), "the audio-visual appeal of commercial/advertisement targeted at the consumer and the combination of linguistic simplicity and semantic complexity makes them ideal subjects for language study by learners of all levels." Mishan (2005) presents certain set of principles for the use of commercials/advertisements for language learning. They are:

? Exploit the appeals of advertisement/commercials.

? Exploit the linguistic density of commercials.

? Exploit intertextuality as a 'way into' other discourse types.

? Exploit the affective appeal of commercials e.g. emotions like sex, humour, fear through audio and visual components.

? Exploit the advertisers/commercial creators' strategies for creating interest like enigma, information, eutopia, etc.

? Analyze cultural behaviours and values indirectly stated in the commercial/advertisement.

? Advertising is the litmus paper of society; analyze societal changes and trends portrayed in commercials/advertisements.

Finally, according to the author, the exploitation of linguistic and cultural potential of

commercials in language learning is unmarred by any other material.

## RATIONALE FOR USING TV COMMERCIALS IN LANGUAGE CLASSROOMS

The literature on authentic materials provides several reasons to incorporate authentic materials in language classrooms. Lutcavage (1992), (quoted in Picken, 1999:250) gives the first reason that they are authentic and up-to-date. As Lynch (1985:119) and Davis (1995:1) affirms that TV commercials are short, focused and thematic in content. They display various characteristics like limited duration i.e. snippet length, repetition, completeness of story. According to Picken (1999:249), commercials introduce specific vocabulary. Smith and Rawley (1997:2) stresses upon the fact that the language of advertising/commercial exposes learners to different kinds of registers, reduced speech, idiomatic expressions and suprasegmental features like intonation and stress. Further, the authors state that commercials acknowledge learners with different accents and dialects of English or in other words, Englishes. The comprehension of commercials or advertisements is made easier for the learners/students because of their audio-visual features, verbal and non-verbal language and the context. The commercials help learners/students to understand the values, beliefs, gender roles, customs, preferences, life-style of the people shown in the commercial and their culture and thus helps to understand trans-cultural issues. Commercials help learners/students to communicate in the target language in a natural way. They help learners/students to engage in critical thinking. McGee and Fujita (2000) as cited in Tuzi & Mori (2008), lay emphasis that the teachers can use the original intent of the commercial and the cultural elements therein to teach culture and critical thinking. Finally, according to the findings of Chavez (1998), commercials motivate learners/students since they enjoy them. Students view television commercials as authentic materials as an essential tool for language learning.

## RESEARCH METHODOLOGY

The research method used for this research study is Quasi-Experimental research design. The key feature of this research design is that one cannot do random assignment of participants into groups. Under this research design, the pre-test post-test non-randomized control group design was chosen. In this type of research design, pre-test

and post-test are administered on both the groups but without random assignment of the participants. Only the experimental group received the treatment or teaching intervention.

The participants chosen were first year semester-II, B.Ed in English under graduate students of H. M. Patel Institute of English Training and Research, Vallabh Vidyanagar, Anand, Gujarat. The total number of students participants participated in the research study were 30 in both the control and the experimental group. The Sem-IV B.Ed in English undergraduate students (N=30) as the control group and Sem-II B.Ed in English undergraduates students (N=30) as the experimental group were selected through convenience sampling. A pre-test and post-test were conducted before and after the intervention program. The intervention program was conducted on the participants of the experimental group only. During the intervention program, selected commercials were shown and tasks were given to the participants of the experimental group. And, then the post-test was given to all the participants after the completion of the intervention program to figure out their development in critical thinking skills. Apart from these, other research tools like questionnaire, semi-structured interviews and feedback forms were also used to enrich the research study.

**FINDINGS: QUANTITATIVE ANALYSIS**

The quantitative analysis of the research study as aforementioned includes the pre-test post-test non-randomized control group design along with the intervention programme given to the experimental group. The paired sample t-test was done to analyze the results of the intervention programme on students' scores on the Authentic Material for Language Instruction (AMFLI). A statistically significant increase was noted in AMFLI scores from Pre-test (M= 19.23, SD= 4.89) to Post-test (M=25.53, SD = 2.95), t = 6.17, df = 29, p < .05 (two-tailed).

In other words, statistically significant difference in the means was observed. The mean increase in AMFLI scores was 6.3 with a 95% confidence interval ranging from 4.21 to 8.38. The eta squared = 0.56 indicated a large effect size of the intervention.

Also, the increase in the critical thinking skills of the students' participants of the experimental group is graphically presented below. The graph shows skill-wise analysis within the group:
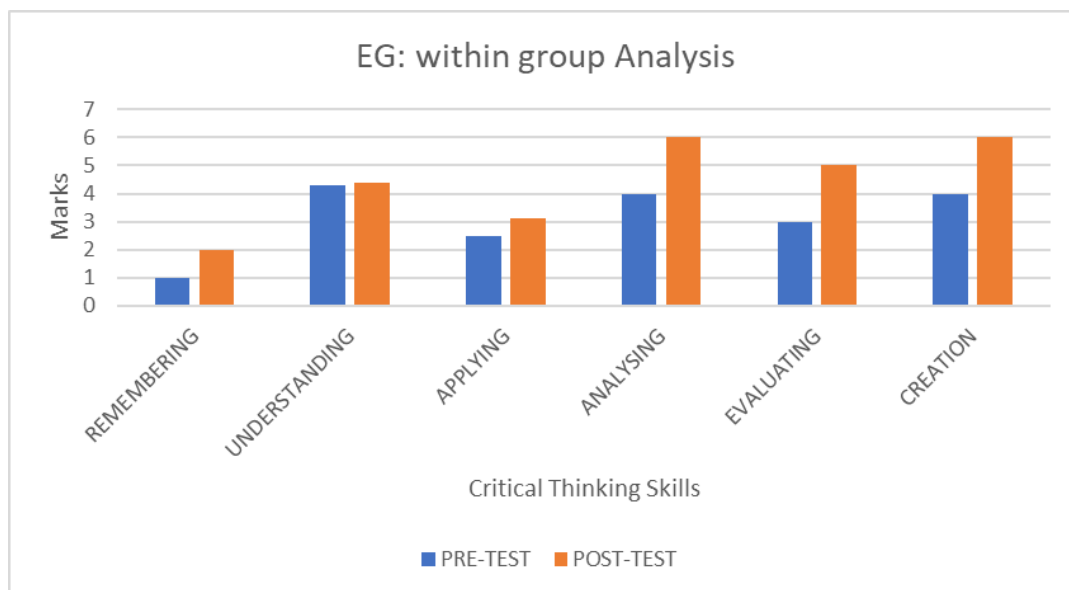
Graph 1: Skill-Wise Analysis Within the Group
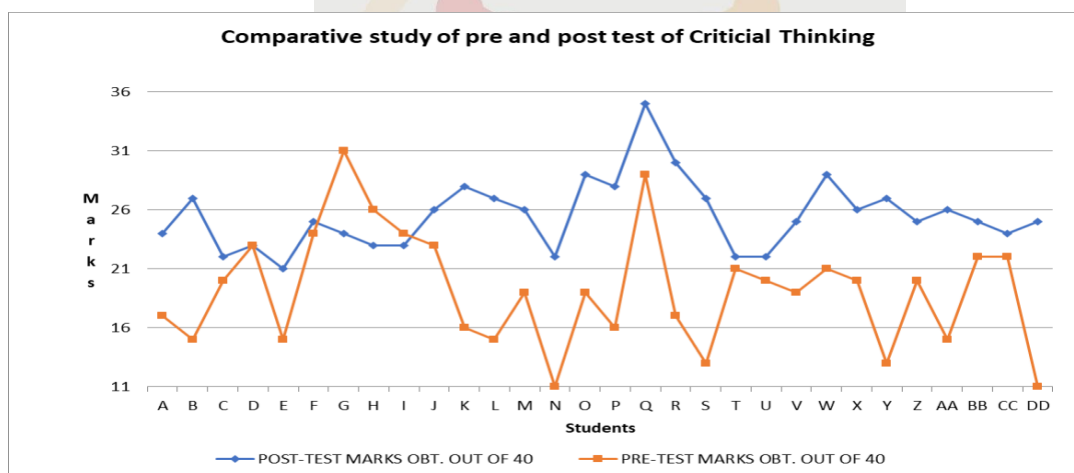


Graph 2: student-wise analysis of pre-test and post-test scores within the group

The overall analysis of the test scores is given below:

ANALYSIS OF CRITICAL THINKING FOR A SAMPLE SIZE OF 30 STUDENTS

| Total students | 30 |
|---|---|
| Gain in Critical Thinking | 26 |
| Loss in Critical Thinking | 3 |
| No change in Critical Thinking | 1 |

| Rise in Critical Thinking (in %) | 87 |
|---|---|
| Fall in Critical Thinking (in %) | 10 |

| No change in Critical Thinking (in %) | 3 |
|---|---|

The above table is presented in the pie-chart below:
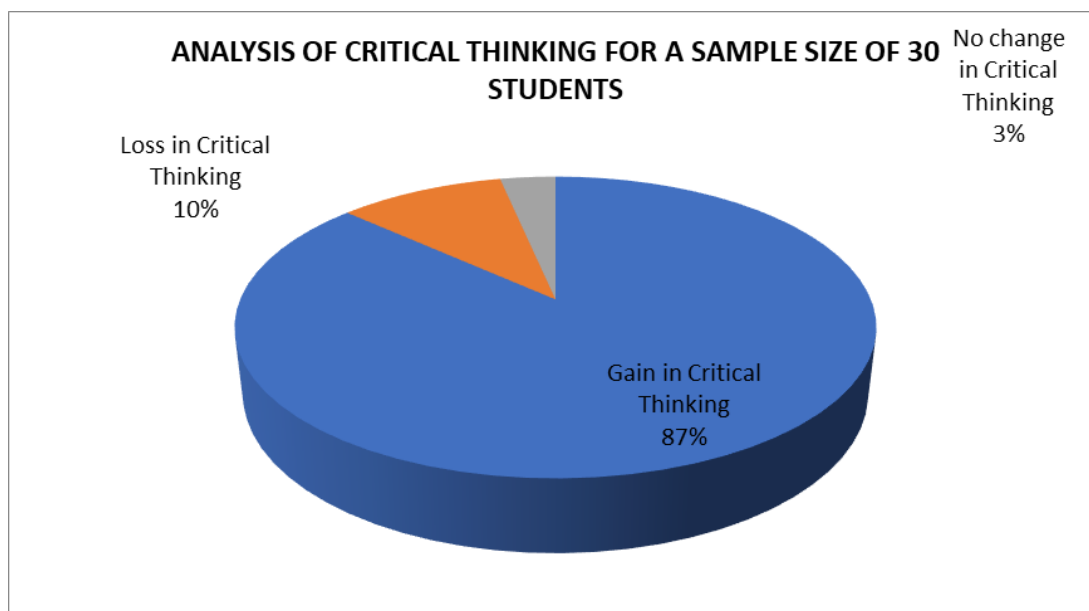


The above analysis shows very clearly that the increase or difference gained in the test scores is not by any chance but due to the intervention programme offered to the students' participants of the experimental group.

According to the comparative analytical study between the experimental and the control group, it was found that the experimental group mean increase in AMFLI scores was 6.3 as against ( -.37) the mean decrease in AMFLI scores of the control group. In other words, a statistically significant difference or increase was observed in the means of the experimental group whereas, no statistically significant difference was observed in the means of the control group. Hence, the means of the control group were same. The difference in the mean scores of the experimental group indicated that there was higher level of development found in the AMFLI scores of the students' participants as compared to that of the control group students' participants.  The observed improvement was not due to chance but due to the intervention programme which was offered to the students' participants of the experimental group. The obtained eta squared value confirmed the large effect size of the intervention programme. Moreover,

the p value (two-tailed) obtained of the experimental group was .000 which was substantially smaller than the specified alpha value of .05, that is, α =0.05 as against that of the control group whose p value (two-tailed) obtained was larger than the specified alpha value of .05. In simple words, the experimental group p value is p < 0.05 and the control group's p value is p > 0.05. The hypothesized mean difference was "0" which means that it was assumed that the means of the group are equal. But on the basis of the mean score calculated and the obtained p-value through the T-test, it was concluded that there was a statistically significant difference in the mean of the test scores at pre-test and post-test of the experimental group and there was no statistically significant difference in the mean of the test scores at pre-test and post-test of the control group. Hence, the hypothesis that critical thinking skills of undergraduate students can be developed with the help of authentic television material is thus accepted.

**CONCLUSION**

English language teachers have a vast variety of teaching materials around them. Teachers can make use of commercials or other kinds of authentic television materials in their day -to-day teachings in order to make their sessions more interesting and griping. Such kind of teaching materials can be used to address students with different learning needs, abilities and level since heterogenous classrooms are found more in the Indian Educational System. Only one thing matters the most is that it requires extra efforts and time consumption when used for the language teaching purposes. Also, the form of commercials or authentic television materials should be kept and used in its original form and not modified at all. Thus, sometimes, teachers feel that commercials are more expensive, time consuming and requires additional efforts on their part. Commercials or authentic television materials are not easy to access in their original form. This also worsens the problem for teachers to utilize them in their language classroom teachings. The process model for teachers will be helpful to them in choosing and utilizing authentic materials or authentic television materials for their language teaching purposes in the classroom. The eight stages of the process model of selecting authentic materials for teachers are explained below:

Stage-1: The teacher should keep in mind their students' age, needs, interests, goals, socio-economic educational background, learning level or syllabus and their familiarity

with digital tools.

Stage-2: Entering the physical/digital world

Stage-3: The teacher should be familiar with one's own knowledge of digital tools and should be ready for personal development.

Stage-4: Then, the teacher should select the apt kind of authentic material and digital tools for students from the vast arena of authentic materials around them. Only one important thing to be kept in mind while using authentic materials in the language classroom is that their original form should be retained and not modified at all.

Stage-5: Thereafter, the teacher should design one's own teaching session/s. That is, developing teaching tasks and micro-tasks for their students/ learners.

Stage-6: Deliver the teaching.

Stage 7: The teacher should also introspect and evaluate one's own teaching not only from the professional point of view but also from the students/learners' perspective.

Stage-8: Finally, the teacher should modify one's own teaching and continuously update one's own database of knowledge, digital tools, and digital platforms.

Hence, teachers can make use of authentic materials or authentic television to their fullest and enjoy the teaching-learning process with their students/learners in the classroom.

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