



ORIGINAL RESEARCH PAPER

Unveiling the divide: Analyzing critical thinking skills in literature and commerce students

Indrani Sengupta*, Marilyn Gomes

Abstract

Skill-oriented education molds learners in a holistic manner, where they are challenged to think critically, reflect analytically, interrogate precisely and contemplate from various dimensions. The goal of the current work is to examine the insightful analysis of undergraduate literature learners with those of commerce students. Sixty high-performing students were selected from various colleges located in Bengaluru. Feedback on undergraduate literature/commerce students' level of critical thinking has been gathered through a questionnaire. According to the study, gamification and digital storytelling might enhance the critical thinking abilities of these students. Here, three different pedagogies, case studies, logical reasoning questions, and multiple-choice questions (MCQ) were used to assess the skill sets of these two groups. The study suggests methods that can be used to help undergraduate literature and commerce students become more adept at critical thinking.

Keywords: Creative thinking, Critical thinking, Higher education, Gamification, Digital storytelling.

Introduction

Questioning and drawing conclusions after a dispassionate analysis of the data at hand are hallmarks of critical thinking (CT). Approaching a problem, developing relevant questions, analyzing and arguing opposing views and coming up with a recommendation are all the steps in CT process. It's time to create instructional strategies for CT that go beyond the traditional classroom, teaching aids, and textbooks (Angelelli, 2023). Critical thinking, a kind of information literacy, provides a means of engaging critically with content by evaluating the arguments' plausibility and looking for supporting data. Since Bloom's Taxonomy (Bloom, 1956) defines CT in a unique way as problem-solving, decision-making, and creative thinking, CT necessitates both autonomous thought and the capacity to form opinions from a variety of positions [4]. Students can improve their

ability to confirm the reliability of the sources they utilize for projects, homework, research, and other tasks by applying CT techniques. The majority of the students do not have CT skills among undergraduate literature and commerce students. Through this research, educational institutions will be encouraged to instill and reinforce CT skills in their curriculum. The paper includes simple graphs, charts, and assessments to understand, evaluate, analyze and infer the distinct levels of CT among students.

Definition of critical thinking:

Finding a solution to an issue requires thought. Students must immediately acquire a range of thinking skills given the corruption of information and technology in this day and age. Table 1 summarizes multiple definitions of CT from various figures and articles (Miterianifa et al., 2021). Rather, they assert that they are a type of intelligence that is teachable (Behar-Horenstein et al., 2011).

While there are variances in the definitions of CT found in different publications, it is generally accepted that CT entails temperament, creativity, problem-solving, decision-making, and metacognition. According to some of the viewpoints in Table 1, critical thinkers are accountable for their decisions and have a strong problem-solving and efficient problem-solving abilities. Butler (2012) makes the assumption that the majority of scientists agree that CT aims to achieve desired results through objective deduction in an objectively organized manner. Students with CT skills

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Table 1: Definition of CT

Expert	Definition
Michael Scriven and Richard Paul, 2003	"The intellectually disciplined process of actively and skilfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or dialogue, as a means of directing belief and behavior" [1].
Hullfish & Smith, 1961	"An ability to question; to acknowledge and test previously held assumptions; to recognize ambiguity; to examine, interpret, evaluate, reason, and reflect; to make informed judgments and judgments; and to explain, justify, and communicate stances" [1].
Edward Glaser, 1942	"An attitude and the rational use of skills in situations that need problem-solving" [1].
Linda Elder, 2007	"Self-guided, self-disciplined thinking which attempts to reason at the highest level of quality in a fair-minded way" [1].
Facione, 2012	"A deliberate, self-regulatory decision that is supported by evidentiary, conceptual, methodological, criteriological, or contextual factors that leads to interpretation, analysis, evaluation, and inference" [1].
Mulnix, 2010	"Includes a commitment to using reason in the formulation of our beliefs" [1].

are more equipped to handle social, logical, and practical problems in the twenty-first century (Miterianifa et al., 2021)

History

The intellectual foundations of CT date back in time with respect to its etymology. These roots may be traced back to Socrates, who taught 2,500 years ago and saw that individuals could not properly defend their confident claims to knowing through a system of probing questioning. He demonstrated the value of probing ideas deeply and deeply with questions before we decide they are worthy of belief. Critical thinkers such as Plato, Aristotle as well as the Greek radical thinkers stressed that life's experiences breathe not just the bare facts but there is a deeper meaning and learning takeaways where trained minds can recognize deception and identify the truth.

During the Renaissance period, a wave of European thinkers started questioning faith, art, society, human nature, liberty, and practices. These philosophers continued with the presumption that a thorough examination and critique were necessary for the majority of spheres of human existence. Francis Bacon was interested to find out how intellect can be abused when pursuing knowledge. The development of science, along with the advancement of autonomy, human rights, and intellectual liberty, was made possible by the CT of the Renaissance scholars and the Early Modern thinkers (Paul et al., 2006).

American philosopher John Dewey (1910), who first coined the word "critical thinking" to describe an educational objective, is credited with coining the phrase "reflective thinking." It seems that he was by no means the foremost advocate for the shaping of a logical mindset as an academic objective, given the numerous allusions to John Stuart Mill, John Locke, and Francis Bacon (Hitchcock et al., 2018).

Numerous schools that participated in the Progressive Education Association's Eight-Year Study (Aikin 1942) in the 1930s made CT a curriculum goal, and the study's assessment staff formulated tests to assist them in achieving this (Smith,

Tyler, & Assessment Staff 1942). Glaser (1941) demonstrated how pupils in high school could improve their CT abilities through experimentation. CT abilities were incorporated into Bloom et al.'s groundbreaking taxonomy of cognitive educational objectives in 1956.

Components of Critical Thinking

Fundamental components make up CT, just like any other method or process. When combined, these factors offer the process structure and enable captivating, honest, and encouraging verbal communication that has a major impact on others' perceptions and message acceptance. Perception, presumptions, emotion, language acquisition, contention, fallacy, reason, and problem-solving faculties are the main elements of CT [2].

Gamification

Kolb's empirical learning proposition states that learning is a deliberate process that requires ceaseless engagement with and adjustment to one's environment. Individuals learn from experience in addition to following instructions to acquire knowledge. Gamifying the study of literature adds flavor to the learning process. An approach to confronting the problem of inadequate CT in the classroom is to incorporate games and their components into the teaching of literature [Shavab, 2023].

By employing a systematic approach that incorporates game features and advances learning objectives, educators can create their own gamification resources for CT exercises. The teacher should include games that encourage participation and engagement. By giving themselves points and badges for doing tasks and hitting goals, students may be motivated to participate more actively in the subject. Leaderboards not only encourage competition but also push pupils to improve. Tasks that require CT are offered by challenges and quests, such as solving riddles or completing scenario-based assignments that relate to the learning objectives. Questions, puzzles, and scenarios are examples of engaging content that an instructor can

create. Logic puzzles and games like Sudoku are beneficial for students [3].

Digital Storytelling

Narrative has always been an integral part of Indian culture, spanning several generations. The main method of passing down cultural values, customs, and historical information has always been through storytelling, from regional folktales to epics from antiquity, like the Ramayana and Mahabharata. Unquestionably, digital storytelling has become a potent teaching tool that helps students develop their CT abilities, especially in places like India, where narrative has long been an integral element of culture. This approach creates an engaging learning environment that encourages critical thought and creativity by fusing traditional storytelling approaches with contemporary technologies. Digital storytelling serves as an effective approach in teaching for magnifying students' CT skills. Digital storytelling is a popular and adaptable method for improving students' CT skills [4].

Digital storytelling acts as a link between traditional narratives and modern educational approaches in India, a country where storytelling has always been an important aspect of cultural legacy. It enables students to investigate global narratives and establish connections with their cultural heritage. Students are motivated to reflect critically about both their own account along those of others as a result of this duality, which enhances the educational process and fosters a wider perspective [5].

Literature Review

Eons ago, teachers accepted the value of CT skills as a probable result in the educational process. According to the Partnership for 21st Century abilities, CT is specifically one of the creative and learning capacities needed to get pupils ready for college and the workforce (Lai, 2011). By engaging pupils in a range of activities, teachers can support intellectual growth in general and CT development in particular, claims MacKnight (2000). CT could be employed in everyday encounters and it included all aspects of communication, including speaking, listening, reading, and writing. It should not be viewed as a separate endeavor from research, ingenuity, solving problems, or cooperative learning. These skills are intended to provide a framework for instruction (Alsaleh, 2020). Activities that are centered around the CT concept can empower CT. Problem-based learning is one style of instruction that can help CT (PBL). According to Margetson (1991), the PBL model's characteristics can encourage critical, open, reflective, and active thinking as well as the use of problem-solving can encourage the development of effective and efficient reasoning skills (Miterianifa et al., 2021). Comparative study on CT skills revealed a better degree of understanding

of CT in EFL learners as against students of Humanities, however, the importance of including CT skills in the education system is imperative (Mohammadi, M. et al., 2017). Comparative studies have also identified CT abilities to be more dominant among senior students when compared to New joiners/freshers and the education system must streamline courses where CT can be enhanced from secondary grades and onwards (Bagheri, M. et al., 2015). CT abilities show no variation in gender, grades, or knowledge and a country like Iran must include in the assessment system parameters, which can assess problem-solving skills, decision-making skills and application-based questions, which gives a better dimension to learning rather than the conventional "theoretical based curriculum (Azizi-Fini, I. et al., 2015). National Education Policy 2020 in India has introduced OBE, which has done away with the traditional rote learning where students will be assessed on problem-solving CT, thereby equipping them to be prepared for the industry (Maiti, A. et al., 2020). Emotional intelligence plays a significant part in molding undergrad students towards CT as EQ gives them a positive attitude to blend with innovative ways of learning (Sk, S. et al., 2020)

Statement of the Problem

Thinking skills form an integral aspect of learning in students' educational journey and beyond. It begins right from the womb to the tomb. Furthermore, creative thinking and CT have been explicitly one of the emphases of modern learning. This research is an attempt to comprehend the CT abilities of learners at the undergrad level as well as to investigate the reason for either a lack of such skills and the possible reason for the same.

Objectives of the Study

- To comprehend and measure the CT abilities of undergraduate students of both Commerce and Literature.
- To analyze the most effective tool in augmenting the CT abilities in literature.

Research Methodology

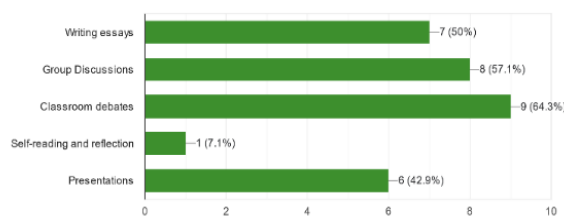
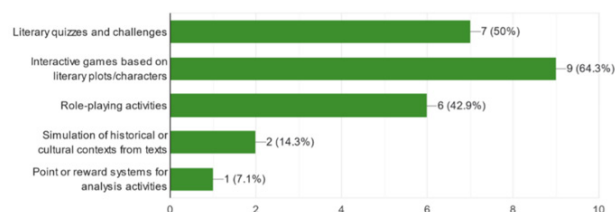
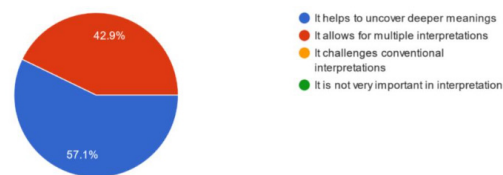
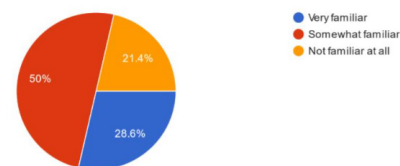
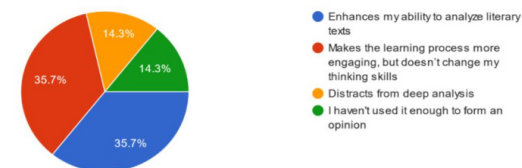
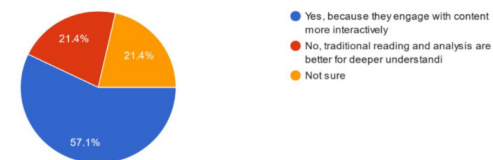
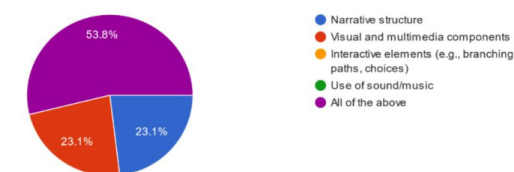
The present study scrutinizes the CT prowess among undergraduate literature students. The research design of this paper involves a hybrid pattern incorporating qualitative and quantitative methods. The primary data was compiled through a questionnaire which was administered to 30 students each, from undergraduate Literature and Commerce students, who are high performers in their academics. The Data collected from 60 students was analyzed using statistical tools such as pie charts, bar graphs and simple tables highlighting the demographic and qualitative details of the students. In addition, multiple choice questions (MCQ), case studies, and logical reasoning tests were employed to evaluate CT abilities.

Table 2: Showing the profile of the participants' demographics

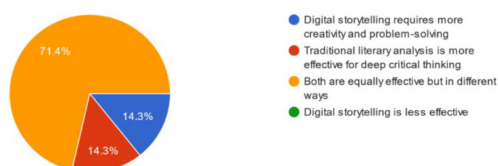
Particulars	No of respondents	Percentage (%)
Age		
17–19	24	40
20–22	36	60
23 and above	0	0
Total	60	100
Educational qualification		
Undergraduate	60	100
Total	60	100
UG Levels		
I year	30	50
II year	0	0
III year	30	50
Total	60	100

Table 3: Showing the results of respondents in Critical Thinking Tools

Description	B. A	B. COM
Comprehension	15%	10%
Logical reasoning	80%	75%
Case study	70%	50%

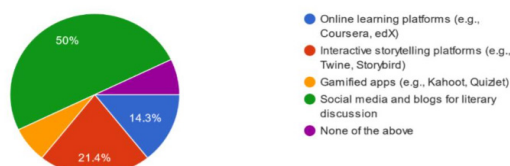
Which of the following activities help you apply critical thinking to literature?
14 responses**Graph 1:** shows the application of CT in literatureWhich types of gamification activities have helped you think more critically about literature? (Select all that apply)
14 responses**Graph 2:** shows gamification activities applied in the literatureWhat role do you think critical thinking plays in interpreting the themes of a novel or poem?
14 responses**Graph 3:** shows the impact of CT in novels and poemsHow familiar are you with digital storytelling (e.g., multimedia narratives, interactive stories) in the context of literature?
14 responses**Graph 4:** shows student's familiarity with digital storytellingHow do you think gamification affects your critical thinking skills in literature?
14 responses**Graph 5:** shows the impact of gamification in CTIn your opinion, can gamified approaches provide better insight into literary themes, symbols, or characters?
14 responses**Graph 6:** shows students' opinions of gamified approaches toward literary themes, symbols, or charactersWhich elements of digital storytelling are most useful for critical thinking in literature?
13 responses**Graph 7:** showing elements of digital storytelling most suitable in literature

How does creating or analyzing a digital story compare to traditional methods of literary analysis in fostering critical thinking?
14 responses



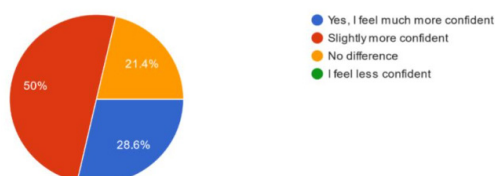
Graph 8: shows the comparison between traditional and skill-oriented methods

What type of digital tools or platforms do you use to engage with literature?
14 responses



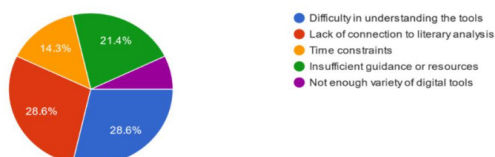
Graph 9: showing digital platforms used by students

Do you feel more confident analyzing a literary text after participating in gamified or digital storytelling activities?
14 responses



Graph 10: shows student's feedback on gamified/digital storytelling activities

What challenges do you face while using gamified or digital storytelling techniques in literature classes?
14 responses



Graph 11: showing the challenges faced in adopting gamification and digital storytelling

Results

Based on the preceding tables, graphs and pie charts, it can be inferred that 75% of respondents are between 20 to 22 years of age and 25% of them are between 17-19 years of age. The study shows that 35.7% of the respondents (BA Students) state that CT involves logical reasoning, 28.6% stated evaluating assumptions, while 35.7% stated that CT involves logical reasoning, questioning assumptions and

evaluating assumptions. It can be thus inferred that less than 50% of the respondents' perception of the notion of CT needs to be revised. Nearly 50% of the respondents (50%) stated the various aspects of literature, such as plot and structure, character development, themes and ideas, language and style, and cultural or historical context, reflect CT skills. 50% of the respondents were unaware or never felt that cultural and historical texts could be critically analyzed as well. The majority of the BA students stated that group activities such as classroom debates were extremely beneficial in bringing out their analytical skills and the activity that gave the least exposure to CT was self-reading and presentations. The majority (57%) of the respondents stated that CT helps to uncover deeper meaning to poems and Novels, while 43% stated it allows for multiple interpretations, and none of them stated that it challenges conventional interpretations

79% of the respondents are familiar with gamification in literature, which states that these techniques and strategies are used in their curriculum. 35.7% stated gamification techniques enhance their ability to analyze literary text while an equal number 35.7% stated that gamification makes the learning process engaging but does not change their thinking skills. 64.3% of the respondents stated that gamification activities such as interactive games based on literary plots / characters helped them to think more critically in literature, while point or reward systems for analysis activities never helped in thinking. About 57.1% of the respondents stated that gamified approaches provide better insight into literary themes, symbols, or characters because they engage with content more interactively, which traditional reading and analysis may not be so. 57% of the participants clearly asserted that learning platforms such as digital storytelling enhance their prowess to contemplate critically in literature. Hence, such approaches must be introduced in class more often. The majority of the respondents stated that the various elements in digital storytelling, such as Narrative structure, Visual and multimedia components, Interactive elements (e.g., branching paths, choices), and use of sound/music, were essential in the CT process. Greater emphasis was placed on narrative structure and Visual/ Multimedia components. 71.4% of the respondents a blend of Traditional literary analysis and digital storytelling will create more impact in fostering CT. Social media and blogs (50%) for literary discussions and interactive storytelling platforms enhance students' engagement in literature. 28.6% of the respondents were confident analyzing a literary text after participating in gamified or digital storytelling activities. 28.6% of the respondents stated that gamified/digital storytelling tools must be well explained and, students must be given guidance and probably a demonstration could be done to ensure these platforms are more effective in a literature class.

Discussion

From the above data, it is implied that less than half of the respondents thought they understood what CT was all about. About 50% of the participants never knew or believed that texts with cultural and historical content might also be subjected to critical analysis. This indicates that they rely more on mainstream literature to hone their critical skills. It is true that students must develop their self-reading abilities and understand that reading is a fundamental component of CT. Students should be exposed to another aspect of CT which is about challenging conventional interpretations.

Gamification techniques such as quizzes, interactive platforms and challenges must be incorporated in the literature classes more often to unravel their CT skills, as the majority stated that such techniques are used occasionally. Steps must be taken to help students understand that gamification can help them in enhancing their CT skills. Gamified approaches provide better insight into literary themes, symbols, or characters because they engage with content more interactively, which traditional reading and analysis may not be so. Hence, these approaches must be followed to catch the interest of the students and involve them in CT. Students were confident analyzing a literary text after participating in gamified or digital storytelling activities. Classroom exposure to such platforms could enhance their skills.

In order to boost students' exposure to CT skills, more digital storytelling should be used in literature classrooms. This is because learning platforms like digital storytelling help students develop their CT abilities in literature. Narrative structure and visual/multimedia components received more attention, indicating that the learners are both auditory and visual. A blend of Traditional literary analysis and digital storytelling will create more impact in fostering CT. Social media and blogs (50%) for literary discussions and interactive storytelling platforms enhance a student's engagement in literature. The curriculum must encourage literature students to create their blogs and encourage interactive and CT where different perspectives in literature can be analyzed and explored. Gamified/digital storytelling tools must be well explained and students must be given guidance and probably a demonstration could be done to ensure these platforms are more effective among students.

Deliberation on the CT tools – Comprehension, Logical Reasoning and Case Study

Comprehension

The analysis revealed that, with most of them receiving just a 6 out of 60 and only two receiving a 9 out of 10, self-reading is an indispensable capacity that students need to be taught.

Logical reasoning

Most students were effective in logical thinking since it is addressed in the curriculum and they practice it. Arithmetic

and logic questions are used more often in classrooms. Instructors of foundational subjects should be motivated to read cases independently and compose case studies. Thus, it is imperative that case study writing be taught in the curriculum to encourage CT and independent reading.

Case study

After the case study was evaluated, it was discovered that a moderate percentage of students expressed their opinions clearly and in writing. 15% of the students, on the other hand, came across as careless and insensitive because they couldn't empathize and didn't know how to read for themselves.

Conclusion

In today's intensely competitive environment, the significance of skill development for students cannot be undervalued. This study examines strategies that educators could employ to assist undergraduate literature/ Commerce students in expanding their CT abilities. Critical and creative thinking can be incorporated simultaneously in the classroom. The study suggests gamification and digital storytelling tools to help students become more adept as critical thinkers. Reliance on information from established, reputable and traditional methods implemented in education is no longer adequate. The acquisition of skills is essential to a student's overall growth. Beyond scholastic success, it promotes the development of a well-rounded individual who can competently and skilfully navigate life's challenges. There is further scope for study on the CT skills of boys and girls as well as the way they relate in real-life situations.

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Conflict of Interest Statement

The authors state that there are no conflicts of interest regarding the release of this paper. No ties in terms of money, people, or professional relationships have influenced the research process, analysis, or results reported in this study. All analyses were conducted objectively and are free from any external bias.

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