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Assessing Literary Comprehension through Barrett's Taxonomy: A Study of Philology Students' Critical Reading Skills

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ABSTRACT

Students need to be able to read critically, interpret deeply, and interact with literature at higher cognitive levels in today's technologically sophisticated and information-rich world. Barrett's Taxonomy serves as the analytical framework for this study, which examines the critical reading skills of philology students at the Tashkent Institute of Irrigation and Agricultural Mechanisation Engineers (TIAME). Due to its philosophical and thematic depth, Ray Bradbury's short story *The Last Night of the World* was selected as the stimulus text. Written responses to evaluative and appreciative prompts, as well as multiple-choice questions designed to assess literal and inferential comprehension, were used to gather data. Each level's performance was evaluated using a scoring rubric. According to the findings, students' ability to identify

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explicit details at the literal level was moderately successful, but their inferential, evaluative, and appreciative skills declined significantly. Pupils found it challenging to engage with the text's literary and emotional aspects, decipher implied meanings, and examine deeper themes. These findings were supported by qualitative interviews, in which participants expressed confidence in simple tasks but struggled with higher-order comprehension because they had limited experience with critical reading. The combined findings of the quantitative and qualitative data point to a lack of development of advanced comprehension skills in the current curriculum. These results demonstrate the urgent need for curriculum reforms that prioritize critical reading and methodical practice in higher-order thinking to better prepare philology students for the demands of academic scholarship and modern literacy.

Keywords: Barrett's Taxonomy; Critical Reading; Reading Comprehension; Philology Students; Literary Analysis

1. Introduction

In today's academic sphere, being literate is no longer sufficient; instead, higher literacy, critical judgment, and evaluation are required. Students should not only read and write, they should be able to think critically about what they read. Students need to be able to do more than just read and write; they also need to be able to think critically about what they read. The progressive complication of knowledge across various disciplines highlights the importance for learners not only to recall data and work with explicit information, but also to infer meaning, evaluate ideas and multiple perspectives, and recognise the literary and cultural aspects of texts. Remarkably, philology students should be trained to master the skills of sophisticated literary interpretation, thematic analysis, and evaluative judgment.

Although this remains significant, teachers in today's studies and classroom practices tend to concentrate on lower-order thinking skills, which ultimately leads to insufficient attention to higher-order thinking skills. This research paper introduces the application of Barrett's taxonomy to upgrade critical thinking, critical reading, and evaluative judgment. Barrett's taxonomy serves as a model for assessing and fostering various levels of reading comprehension, progressing from basic memory to reflective and appreciative participation. This research implements Barrett's taxonomy to

Barrett's taxonomy of reading comprehension provides a systematic framework for evaluating and supporting various levels of understanding, ranging from basic memory to critical and appreciative participation. This research utilises Barrett's taxonomy to investigate the skills and abilities of students in terms of how they understand and interpret texts at the Tashkent Institute of Irrigation and Agricultural Mecha-

nisation Engineers (TIAME). The study delves into the challenges and problems which prevent students from achieving critical literacy.

This work presents strong pedagogical methods by displaying the functions of Barrett's taxonomy as both an analytical tool and a curricular framework. Furthermore, it suggests practical benefits for curriculum design, assessment instruments, and teacher training in philology and related disciplines.

2. Research Questions

1. What level do philology students' reading comprehension demonstrate when assessed under the framework of Barrett's taxonomy? (literal, inferential, evaluative and appreciative)
2. Which levels of reading comprehension pose the most significant difficulties for philology students?
3. What are the philology students' perceptions and responses to tasks targeting different levels of Barrett's taxonomy?

3. Literature Review

Reading is related to an individual's ability to process, much less to synthesise, and everything is written^[1]. Reading is also considered the ability to comprehend what is written. Many studies use reading comprehension tests to assess how well people understand texts. It could be a test question, a summary, or an interview. People's ability to remember will affect what they remember about what they read. Burns et al. argue that reading is a complex activity comprising two main components: the reading process and the reading product^[2].

The reading process refers to the mental and metacognitive actions that occur while a person reads a text. This includes identifying what symbols represent, generating inferences, maintaining an understanding, and employing various methods to read and comprehend the information. The process is mostly hidden, but it's crucial since it shows how the mind works to understand. On the other hand, the reading product is the result of these mental activities: what the reader ultimately understands, remembers, and can convey or utilise based on what they have read. You can measure the product by using summaries, comments, debates, or tests that show how well and deeply the person understands it. The process and output demonstrate that reading is not merely a passive decoding; it is also an active, purposeful, and reflective interaction with text. Both what happens during reading and what comes from it are essential for developing literacy. Heilman contends that although reading is a fundamental communication skill, it is a highly complex process, and it is challenging to define it precisely^[3]. One could consider reading to be a basic communication skill that connects the reader's comprehension to the writer's message. But even though reading is crucial for communication and education, it is by no means a straightforward or automated activity^[4]. Several mental processes, including decoding, comprehension, interpretation, and critical analysis, must be integrated in this highly complex cognitive process. A single, accurate definition that encompasses the entirety of what occurs when we read is challenging to formulate because reading involves both lower-order processes (such as word and phrase recognition) and higher-order processes (like drawing conclusions, assessing content, and considering meaning). Reading is not a static or consistent process; rather, it is a dynamic and multifaceted experience that is influenced by the reader's prior knowledge, goals, and the type of text being read.

It supports Ruddel's assertion that conveying ideas from the author's mind to the reader's mind is a component of the communication process^[5]. Could you carry on with the concept as though it were my own? According to this perspective, reading is an active, intentional exchange between the writer and the reader that involves more than just deciphering symbols on a page. Reading causes the reader to have a mental conversation in which they decipher, analyse, and piece together the author's intended meaning. Because it depends on the reader's prior knowledge, experiences, and

capacity for connection with the text, this transfer of ideas is not always simple^[6]. Reading thus turns into a shared space where the reader's comprehension and the writer's message converge to produce new meaning that transcends the words.

In essence, reading comprehension is a continuous, cognitive, and productive process^[7]. Put another way, it entails having students participate in reading exercises at a higher level where they actively try to deduce meaning from the text. The primary goal of this process is to fully comprehend the meaning of the text, not merely read isolated passages of it. Reading comprehension, in this context, refers to reading with actual comprehension. Sometimes we read to understand the main idea, and other times we read to find specific details. Our goal is frequently to learn from the text, which necessitates drawing conclusions and deciphering meanings that goes beyond the obvious.

The idea of reading comprehension has been interpreted differently by numerous academics. According to Cooper, readers actively construct or assign meaning to a text through a deliberate and strategic process of comprehension^[6]. The reader creates this meaning by combining their prior knowledge and experiences with the hints and details provided in the text. Stated differently, comprehension involves more than just recognising words or sentences; it involves a deeper level of engagement with the content. As they move through the text, readers make connections between new information and what they already know, constantly improving their comprehension. This procedure emphasizes how reading is dynamic and productive, with meaning being actively shaped by the reader's cognitive processes and contextual factors rather than passively being received^[8].

Klingner, Vaughn and Boardman^[9] assert that the process of reading comprehension is intricate and multidimensional, involving a dynamic exchange between the reader and the text. The reader's background experiences, past knowledge, and the cognitive and metacognitive techniques they employ while reading all influence this interaction. These components enable the reader to monitor their comprehension, make sense of the text, and adjust their strategy as needed. Beyond these internal factors, external factors related to the text itself—such as the reader's interest in the content, the text's clarity and organisation, and the level of difficulty it presents—also affect comprehension. These elements combine to influence how well a reader can create

meaning. To make meaning that transcends the words on the page, reading comprehension requires active engagement with the text, allowing readers to interpret, infer, and integrate information. It is not just about decoding words or recognizing phrases.

Developing a thorough and cohesive understanding of the information presented in the passage is the ultimate aim of reading comprehension, as opposed to merely deriving meaning from words or sentences^[10]. This indicates that in addition to interacting with the text's explicit content, the reader also attempts to decipher the author's intended meanings, both explicit and implicit. To develop a deeper understanding, readers actively interpret the text's underlying messages and make connections between concepts. Thus, reading comprehension is a key metric that teachers use to evaluate how well their pupils use cognitive strategies and assimilate the material. Since reading is fundamentally incomplete without comprehension, comprehension is, in fact, at the heart of reading. Reading is only meaningful when comprehension occurs; the two are inextricably linked. Danny Breswell supports this viewpoint by emphasising the importance of the reader's active participation in reading comprehension to avoid difficulties in deriving meaning from the text. Well-crafted questions are crucial for addressing and overcoming these difficulties because they help readers understand the content, promote critical thinking, and facilitate deeper engagement with it. A thorough comprehension of the text as a whole, as opposed to merely deciphering individual words or sentences, is the primary goal of reading. In this way, readers interact with the author's literal and implied meanings in addition to the text's factual content. Teachers can evaluate their students' ability to apply cognitive strategies and process the information presented in the text by looking at their reading comprehension. Since reading and comprehension are inextricably linked, it is possible to view comprehension as the central component of the reading process itself. Danny and Rasinski^[11] support this viewpoint by emphasising the need for the reader to actively engage in creating meaning from the text to avoid interpretation problems. To overcome these obstacles, careful and intentional questioning is essential, helping readers make sense of the content and increasing their level of engagement.

It can be inferred from the diverse definitions of reading comprehension put forth by different academics that compre-

hension invariably entails an interactive relationship between the reader and the text^[12]. Building meaning and gaining understanding depend on this interaction. Various types of questioning are valuable methods for assessing students' learning outcomes in classroom settings. Teachers can evaluate how well students have understood and processed the material in a text by using these questioning techniques. Since each method is intended to measure a different aspect of comprehension, the particular technique a teacher uses frequently depends on the assessment's goal. There are several methods that teachers can use to assess their students' reading comprehension more effectively. Asking students to answer questions about the reading passage is one of the most popular and successful strategies. These exercises not only assess comprehension but also strengthen the various reading proficiency levels, ranging from simple memory to more complex critical thinking. Students demonstrate that they can interact with the text, understand its meaning, and apply it to their existing knowledge by responding to these questions. Besides, reading is also considered as the ability to make meaning from written text. Many researchers conduct reading comprehension to measure text understanding. It can be through test questions, summaries or interviews. Obviously, what people remember of what they have read will be affected by their ability to remember. Reading is a complex and deliberate cognitive process that extends beyond the decoding of symbols. It involves the negotiation of meaning between the reader and the text, including both literal and implied dimensions^[13]. Reading comprehension, therefore, refers not only to extracting explicit information but also to constructing meaning through interaction with both prior knowledge and textual cues^[14].

Critical reading expands this process further, emphasising the reader's ability to evaluate, analyse, and reflect on the text's structure, message, and intent. It demands more than comprehension—it involves recognising authorial bias, identifying rhetorical strategies, and interpreting hidden meanings^[15]. As Freire^[16] suggests, education should enable learners to “read the word and the world,” highlighting the interpretive and socio-cultural dimensions of literacy. Paul and Elder^[17] also argue that critical reading fosters reflective and conscious engagement with texts by training students to identify ambiguity and bias. Because they enable educators and researchers to differentiate between various levels of a

reader's comprehension of a text, theories of reading comprehension are considered crucial^[1]. These theories offer methodical frameworks for creating questions that evaluate a reader's ability to comprehend, analyse, evaluate, and appreciate the deeper meaning of what they have read, in addition to their recall of information. Teachers can obtain critical insights into how students interpret and interact with a text by classifying questions into different cognitive levels, such as literal, inferential, evaluative, and appreciative. This enables teachers to pinpoint areas where students succeed or falter and deliver focused instruction that develops higher-order thinking skills. Furthermore, well-crafted comprehension questions push students to go beyond rudimentary knowledge by encouraging them to connect concepts, draw conclusions, and apply what they have learned to novel situations. In this sense, comprehension questions serve as practical tools for directing and enhancing the reading experience in addition to being tools for assessment.

The increasing emphasis on critical reading in educational, media, and cultural contexts has led scholars to adopt structured frameworks to guide reading instruction^[18]. Among these, Bloom's taxonomy and Barrett's taxonomy are the most widely recognised. While Bloom's taxonomy categorises general educational objectives across disciplines, Barrett's taxonomy was developed specifically for reading comprehension assessment^[19]. According to Gunning^[20] and Heaton^[21], using taxonomies to structure reading comprehension questions allows educators to assess students' cognitive processing levels more effectively. It is necessary to have theories about reading comprehension questions so that you can tell how well someone understands the content^[1]. There are many viewpoints about Barrett's taxonomy when it comes to taxonomy. Barrett^[19] says that there are five degrees of comprehension questions: literal comprehension, reorganisation, inference, evaluation, and appreciation.

Barrett's taxonomy categorises comprehension into five hierarchical levels:

1. **Literal comprehension**—understanding explicitly stated content. It is the first level where students must recognise ideas, facts, and events that are clearly presented in the text and identify statements that require them to recall those ideas, facts, and events^[22].
2. **Reorganisation**—synthesising and connecting ideas;
3. **Inferential comprehension**—deducing meaning be-

yond the text. This is the next level of this taxonomy, and it usually asks about statements that are implied by the text. Then, the student should infer the meaning of the text by using synthesis and their own expertise^[23].

4. **Evaluative comprehension**—forming critical judgments. It's more complex than the last level since pupils have to think about what the passage means. It doesn't just depend on how the students react to what they've read; it also has to show that they grasp the book as a whole^[11].
5. **Appreciative comprehension**—responding emotionally or aesthetically. It has to do with how well students understand the author's use of form, style, and structure to evoke emotions in readers.

In short, those levels make reading comprehension more of a thinking task than just a remembering task. Studies on how to teach reading effectively in the classroom have shown that good teachers are more likely to focus on inferential and critical comprehension, which are higher levels of understanding, compared to less effective teachers^[24].

The skill of comprehending the text is also the goal of reading in a language instruction^[25]. This model has proven particularly effective for assessing responses to literary texts, which often contain symbolism, metaphor, and nuanced meaning. Barrett's taxonomy also supports differentiated instruction by guiding the development of questions across varying cognitive levels. Reeves further backs this up by saying that Barrett's taxonomy is more complex than Revised Bloom's taxonomy because each level has four to eight subcategories^[22]. Barrett's taxonomy was also well recognised as a way to create reading comprehension questions and activities, as well as to identify and specify reading comprehension instruction^[3]. Recent studies support the pedagogical value of the taxonomy. Applying Barrett's taxonomy in instruction enhances students' interpretive and critical reading abilities. Furthermore, Alvermann and Hoffman^[26] advocate for response-based teaching, aligning closely with the appreciative level, where students articulate personal and emotional engagement with a text—an often overlooked but crucial aspect of literary education.

Since reading comprehension questions are what they are, it is reasonable to presume that Barrett's view should be used to look at how to make questions for reading on final tests^[27].

Empirical application in the last decade. In recent times, numerous empirical investigations have been conducted by scholars who have applied Barrett's taxonomy in their studies to examine the cognitive demands of questions found in textbooks, curricula, and assessments. For example, Riry and Binnendyk^[28] investigated an Indonesian high school English textbook and revealed that comprehension questions were not evenly distributed across levels. Among these levels, almost half were inferential (45%), a quarter was evaluative (26%), but the least percentage of questions were at the reorganisation level (only 3%). Observing this imbalance, it can be inferred that the analysed textbook included some elements of higher-order thinking, but it was scarce with systematic coverage of all comprehension processes. Another work in which Barrett's taxonomy was applied is Ramadea's^[29] article, which compares a teacher's summative exam questions that implement both Barrett's and Bloom's taxonomies. What was interesting from the investigation is that the analysis of Bloom's taxonomy revealed a mixture of lower and higher-order questions. Meanwhile, Barrett's taxonomy showed that low-level literal comprehension questions were 65.6%. The higher-level questions, at the appreciation level, were only 3.1%. This investigation concludes that, in terms of measuring high-level comprehension with Bloom's and Barrett's taxonomies, the latter is more accurate and productive. The authors conclude that reading comprehension questions should be designed under the framework of Barrett's taxonomy, and more evaluation and appreciation questions should be incorporated to cultivate critical thinking in reading.

The following work studied teacher questioning practices. Yude and Zainil^[30], in their article "Evaluating teachers' competence in developing reading comprehension questions based on Barrett's taxonomy", learned secondary English teachers' skills in making questions across Barrett's levels. They found that most teachers excel at creating literal comprehension-level questions, but they rarely focus on evaluative and appreciative-level questions. The study also suggests that by applying Barrett's taxonomy as a framework for their methods and making questionnaires, they give more prompts for inference, critical evaluation, and personal reflection on texts.

There are other studies which analysed student performance under the framework of Barrett's taxonomy. For

instance, Krismadayanti and Zainil^[31] learned the comprehension level of students (at high schools) grounded in Barrett's taxonomy. According to the investigations, it became apparent that students showed the best performance at literal and appreciative levels, with 75% of correct appreciative level answers. The most challenging were evaluative-level questions, which constituted only 56% of the correct answers. Students had difficulty analysing critically the aspects of the text. The study shows that students had rarely practised high-order thinking exercises. Instead, the teacher focused on basic recall questions and detailed remembrance of the text. Some experimental studies indicate that Barrett's taxonomy has been used to design educational programs. For example, Akhir and Marviah, in their article "Barrett Taxonomy Reorganisation To Improve Students' Intensive Reading Ability," applied the "Barrett taxonomy reorganisation method" in one of the middle schools of Indonesia. The research revealed that students who performed exercises based on the Barrett taxonomy showed better results than the other students in the control group.

The researchers, Krismadayanti and Zainil^[31], designed Barrett taxonomy-based questions in the interdisciplinary sphere, specifically examining the relationship between the five levels and math word-problem solving. The novelty of applying Barrett's taxonomy in problem-solving skills showed its significance in other fields. This suggests that literary reading and comprehension can have a profound impact on different academic skills.

In summary, Barrett's taxonomy provides a structured and multidimensional approach to reading comprehension, which is particularly relevant in philological studies. Its integration into the curriculum can foster deeper literary engagement, promote critical thinking, and support students in developing both analytical and affective responses to literature.

4. Methodology

4.1. Research Design

This study employs a quantitative descriptive research design. Gay, Mills, and Airisian mentioned, "Quantitative research is the collection and analysis of numerical data to describe, explain, predict or control phenomena of interest"^[32]. An actual experiment's purpose is to determine how a treatment (or intervention) affects a particular result

while accounting for all other variables that could affect that result^[33]. However, unlike an actual experiment, which analyses the effect of an intervention under controlled conditions, this study doesn't offer any treatments. It observed and learned the comprehension levels of students under typical academic conditions.

4.2. Participants

Four groups of English philology students at the Tashkent Institute of Irrigation and Agricultural Mechanisation Engineers (TIAME) participated in this experiment, with each group comprising approximately 12 to 13 students, totalling 52 participants. All participants had a foundational course in English language and literature, which ensured they shared common, relevant knowledge. The participants voluntarily participated in the research, and it had no effect on their grades. The details about the demographics (age, gender, etc.) were not formally mentioned. Generally, students were female in their early twenties, with the same academic background and language proficiency.

4.3. Instruments

Several different tools were used to test reading comprehension at various levels of thinking, all based on the same literary stimulus:

4.3.1. Stimulus Text

The research is carried out using Ray Bradbury's short story "The Last Night of the World". This short story was chosen because it encompasses numerous themes and hints that can be used to assess a variety of comprehension skills. The stories' narrative content is easy to follow and understandable for undergraduate students. However, the story includes some hidden meanings and stylistic elements, which make it essential for a student to have higher-order thinking skills. The reason for choosing this story is that it is an ideal stimulus for checking students' comprehension levels across various degrees of Barrett's taxonomy. Students were assessed through:

4.3.2. Multiple-Choice Comprehension Questionnaire

16 multiple-choice questions based on Barrett's taxonomy of reading comprehension levels:

- a) Literal comprehension (8 questions);
- b) Inferential comprehension (8 questions).

4.3.3. Summary Writing Task

Besides the objective questions, a writing a paragraph task was included to assess the evaluative and appreciative levels of students' comprehension. The students were assigned to write a summary about the impressions that come from the story. It pushed students to synthesise what they had learnt, think critically about the text's meaning or style, and relate the story to broader ideas or their own lives.

4.3.4. Scoring Rubric

The researcher developed an analytic rubric (20 point scale) to evaluate the written summaries. The rubric comprises four criteria, implying advanced comprehension and critical reading:

- a) thematic judgment,
- b) critical insight,
- c) emotional response,
- d) language use.

The purpose of this experiment was to assess the students' general reading comprehension levels. To make sure the content was valid, the rubric was based on established criteria for critical reading assessments. It was also tested on a few sample summaries to make sure it was clear before being used in full.

4.4. Data Collection Procedure

Data collection was carried out two days in a controlled classroom setting.

The students were given one day to read the story beforehand. Students were introduced to the instructions for the reading assignment. Besides, they were instructed to finish reading the story on the assigned period, and they were allowed to annotate and take notes if needed. The next day, the students became familiar with the test conditions and were reminded of the test format. They did the multiple-choice test and wrote a summary in a supervised classroom setting. The time limit was 50 minutes. The researcher monitored the session to control time management and ensure academic honesty.

4.5. Scoring and Data Analysis

After collecting and scoring the students' responses, they were analyzed using quantitative methods, which are

suitable for a descriptive study. Multiple choice questions scoring: Each question was scored as 1 for a correct answer, and 0 for an incorrect answer, eight questions for the literal level and eight questions for the inferential level. Also, performance was broken down into subcategories within those sets, following Barrett's taxonomy: for literal comprehension, scores were tallied according to details, sequence and character traits. For the inferential level, the scores were tallied according to stylistic, symbolic, psychological and thematic interpretation questions.

Scoring of summary responses: As mentioned above, the 20-point rubric was used to grade each student's written summary separately. Summaries were given 0–5 points for each of the four criteria: thematic understanding, critical insight, personal response, and language use. These points were then summed to obtain a total comprehension score. For some analyses, the total summary score was turned into Performance categories, such as Excellent, Good, Satisfactory, and Needs Improvement, to figure out how well students understood higher-order concepts. For instance, 20 score was given to those who met all the requirements in the assessment rubric, and "Satisfactory" was given to the students who performed in the middle range.

A quantitative descriptive research design was employed in the study, complemented by a qualitative component. Initially, numerical data were collected to describe students' comprehension levels, supplemented by interviews to obtain a clearer picture of the quantitative findings.

4.6. Qualitative Data Collection

To supplement the quantitative data, interviews were conducted with 10 volunteers using a structured, yet open-

ended, approach. The purpose of the interview was to collect students' viewpoints on reading tasks and their experiences with different levels of Barrett's taxonomy. The questions were in the following order:

1. What was the most straightforward and challenging question for you? Why?
2. How was your tendency to deal with inferential or evaluative questions?
3. Does practising such questions assist in literary studies?

Before analyzing the themes, the students' responses were audio-recorded and transcribed.

4.7. Sample Size and Selection

The research involved 52 undergraduate students. The participants of the study were students (a total of 52) majoring in philology from the Tashkent Institute of Irrigation and Agricultural Mechanisation Engineers. The selection of participants was carried out from four different groups in the English Philology program, each class including 12–13 students. All participants had a foundational course in English language and literature, which ensured they had a common baseline of relevant knowledge and reading proficiency across the sample. The students participated in the experiment voluntarily, without direct impact on their academic grades, which helped to promote transparency and fairness. To observe significant patterns, the number 52 is sufficiently large, encompassing sufficient data for thorough evaluations and analyses. **Table 1** illustrates the information as mentioned earlier. **Table 1** and **Figure 1** display accurately the layout of the study participants.

Table 1. Demographic Profile of Student Groups (Classes A–D).

Group	Number of Students	Average Age	(Female%)	(Male%)
Class A	13	21	70	30
Class B	12	22	75	25
Class C	13	21	80	20
Class D	14	22	72	28

4.8. Participant Demographics

The sample group of participants mainly comprised undergraduate students in the age group of 20–23, with a higher percentage of females. The experiment attendees ma-

jored in English philology, with a focus on language and literature. The research benefited from the similarity within a field of study and language proficiency. Because all students attended the English training courses, this provided an opportunity to assess the students' skill variations rather

than their diverse academic backgrounds. Although the study doesn't include detailed demographic data, instead, a demographic overview of participants (20–23-year-old women, with similar educational backgrounds) is well-associated with the study goal. Selecting students with uniform language proficiency and education is fitting, as they serve as the population's understudy to enhance critical reading skills. Implementing Barrett's taxonomy for literary comprehension is particularly effective in this academic setting.

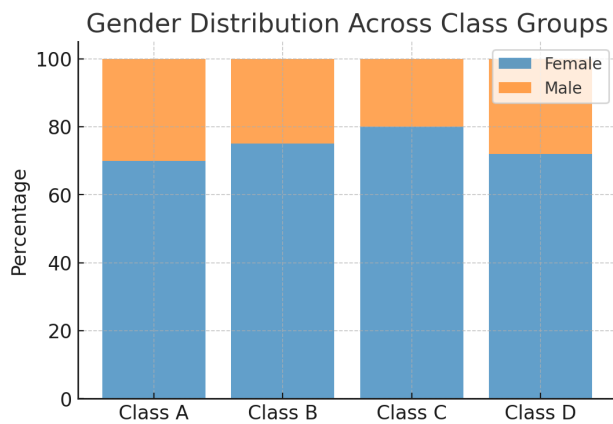


Figure 1. Gender distribution across class groups.

4.9. Assessment Procedure

The assessment strategy of the study was under the framework of Barrett's taxonomy of reading comprehension, with both objective and open-ended measures utilised. The participants were distributed the reading material "The Last Night of the World" by Ray Bradbury as the reading prompt. This story was chosen for its rich philosophical and thematic content, and it could draw out different layers of comprehension. As for the detailed process of the testing system, students performed two types of lower-level comprehension questions, a total of 16 multiple-choice questions: eight literal-level questions, eight inferential-level questions. Higher comprehension levels of students were measured by assigning an open-ended summary writing task. This task encouraged students to share their impressions and analytical responses to the story, with the intention of the evaluative and appreciative levels of Barrett's taxonomy. This instrument of measurement covers four levels of comprehension, associated with the study's goal, from recalling details to critical evaluation.

4.10. Instrument Validity and Reliability

Thorough measures were implemented to ensure the validity and reliability of assessment tools. The questions and summary writing tasks were grounded in the framework of Barrett's taxonomy, which is suitable for measuring the students' critical and analytical abilities and guarantees strong content validity. Specifically, an analytic scoring rubric was designed to assess the summary task, encompassing four criteria — thematic judgement, critical insight, emotional response, and language use. This assessment model was developed to determine advanced comprehension and critical reading abilities. Initially, the rubric was reviewed according to expert guidelines, and then it underwent pilot testing with a small number of students. This operation helped to diminish the vague criteria and proved that the rubric is reliable enough to assess evaluative and appreciative levels of comprehension. As for the reliability, a structured analytic rubric was consistently scored by comparing each student's summary to the same set of detailed benchmarks. This reduced the chance of bias. A single trained researcher did the scoring to make sure it was done the same way every time, but the rubric's clearly defined criteria would also help inter-rater reliability if there were more than one evaluator. For the objective test, each multiple-choice question was marked as correct or incorrect, and total scores were found for both literal and inferential comprehension. You could demonstrate the reliability of this section further by examining its internal consistency using tools like Cronbach's alpha.

4.11. Ethical Considerations

This study was approved by the Ethics Committee of THIAME. The goal of the study was revealed to all participants. The attendees voluntarily took part in the research and provided their consent before involvement. All stages of the research were carried out anonymously and handled with strict attention to confidentiality.

4.12. Data Analysis

The researcher used descriptive statistical methods to analyze the quantitative data. We used descriptive statistical methods to look at all of the quantitative data. The percentages of correct answers for the objective questions

and performance category for the summary task were taken as the main metrics for this study. To easily categorize and analyze results, they were illustrated with percentages in bar charts and pie charts. For example, a bar chart was created to display sub-categories of literal comprehension, as well as the proportion of students who answered the questions right or wrong. The proportion of the performance level of the writing task was illustrated in the pie charts on the evaluative and appreciative tasks. The program of Microsoft Excel was used to analyze all data, like calculating percentages and creating graphs.

5. Results and Findings

Although there are 5 levels of Barrett's taxonomy (literal level, reorganization level, inference level, evaluation level, and appreciation level), 4 levels were used to make the test and summary writing guide, which are the literal level, inference level, evaluation level, and appreciation level. Multiple-choice questions were used to assess the students' literal and inferential levels, and a summary was assigned to write, checking the students' evaluation and appreciation levels.

5.1. Literal Level

The researcher used 3 parts of the literal level:

- Recognition and recall of details;
- Recognition and recall of sequence;
- Recognition and recall of character traits.

The participants were asked to answer the questions at this level. The following table shows the results.

Figure 2 illustrates student performance in three literal comprehension classifications from Barrett's taxonomy. The green bars represent the percentage of correct answers, and the red bars show the percentage of incorrect answers for each category:

- Recall of details: 62.5% correct, 37.5% incorrect.
- Recall of sequence: 63.9% correct, 36.1% incorrect.
- Recall of character traits: 66.4% correct, 33.6% incorrect.

It is apparent that students showed average comprehension across the three parts of literal comprehension from

Barrett's taxonomy, which range from 62,5% to 66,4%. A little higher performance was observed in recall of character traits with 66,4% correct answers. The indications for recall of details showed a slightly lower percentage, which means students might have difficulty remembering factual elements from the text.

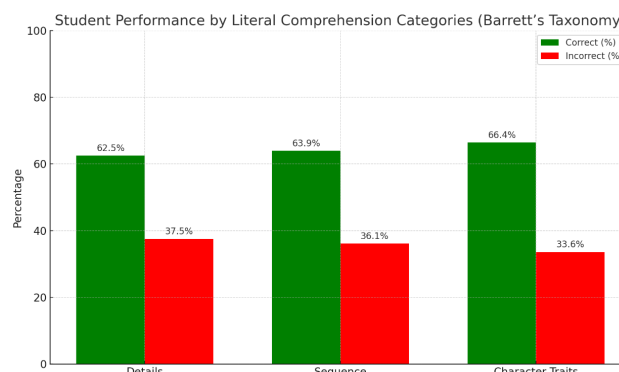


Figure 2. Student performance by literal comprehension categories (Barrett's Taxonomy).

5.2. Inferential Level

In order to assess the students' inferential level of comprehension, the questions were classified into the following categories of interpretation:

- Psychological;
- Symbolic;
- Stylistic;
- Thematic.

Figure 3 illustrates student performance in four interpretation categories of inferential level of comprehension classifications from Barrett's taxonomy. The green bars represent the percentage of correct answers, and the red bars show the percentage of incorrect answers for each category:

Stylistic Interpretation: 43.8% correct, 56.2% incorrect.

Psychological Interpretation: 68.8% correct, 31.2% incorrect.

Symbolic Interpretation: 62.5% correct, 37.5% incorrect.

Thematic Interpretation: 60.5% correct, 39.5% incorrect.

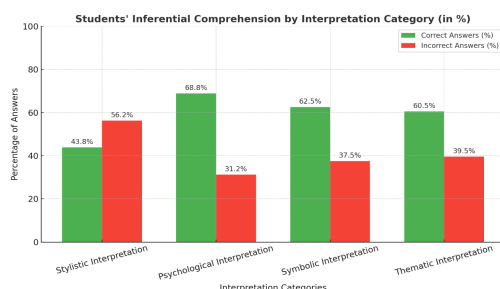


Figure 3. Students' inferential comprehension by interpretation category (in %).

Students showed the lowest comprehension in stylistic interpretation with only 43,8 % performance. However, the highest comprehension level comes in psychological interpretation, with 68.8% correct and 31.2% incorrect answers. Thematic and symbolic interpretation are in a moderate position, which shows that students have average comprehension levels in both interpretation categories. It can be easily inferred that students performed best in interpreting psychological and thematic aspects, while stylistic interpretation caused difficulty.

5.3. Evaluative and Appreciative Levels

Figure 4 illustrates the percentages of evaluative and appreciative comprehension levels of philology students. It is readily apparent that most students struggle to analyze texts critically. They are limited by their low-order thinking skills, and they are less engaged with high-order thinking skills. The students were asked to write a summary to assess their evaluative and appreciative levels. The students were assessed with the following criteria:

Evaluative comprehension:

- Thematic and philosophical judgement — the percentage of students who comprehend this point 28%.
- Analysis of categorization — the percentage of students who comprehend this point is 32%.
- Structural and stylistic evaluation — the percentage of students who comprehend this point is 24% .
- Literary value judgement — the percentage of students who comprehend this point 16%.

Appreciative level:

- Personal reaction and engagement — the percentage of students who comprehend this point is 33%.
- Relatability and life insight — the percentage of students who comprehend this point is 27%.

- Language and aesthetic awareness — the percentage of students who comprehend this point is 40%.

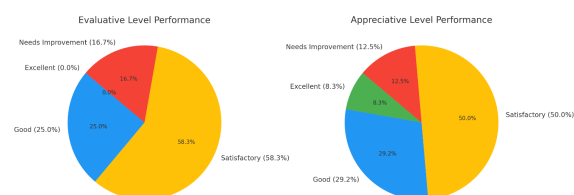


Figure 4. Left: Evaluation level performance; Right: Appreciative level performance.

Performance level is as follows:

- Excellent;
- Good;
- Satisfactory;
- Needs improvement.

In the evaluative level, no students achieved an “excellent” rating. In contrast, the appreciative level included a small proportion (8.3%) of students who reached the excellent category. In both pie charts, the “satisfactory” category accounted for the largest share—50% in the evaluative level and 58.3% in the appreciative level. Additionally, nearly a quarter of students in both categories were classified as “needs improvement,” indicating consistent challenges in higher-order comprehension tasks.

Figure 5 illustrates how well students in the “good” and “excellent” performance groups comprehended each sub-criterion. In evaluative comprehension, the highest percentage was observed in “analysis of categorization.” In appreciative comprehension, “language and aesthetic awareness” emerged as the most successfully addressed criterion, accounting for 40% of responses—surpassing the other categories.

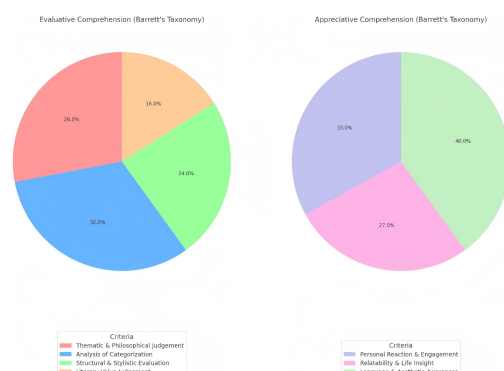


Figure 5. Left: Evaluation comprehension (Barrett's Taxonomy); Right: Appreciative comprehension.

5.4. Qualitative Data

The following three themes were revealed during the interview:

1. Excellence at the literal level: students mentioned that remembering details was the easiest. One of them explained: “I didn’t have difficulty answering fact-based questions.”
2. Challenges with inference and evaluation: A lot of students acknowledge the difficulty with questions of hidden meaning. Another student answered: “I couldn’t infer the symbols in the story.”
3. Restrictions with critical reading: The students emphasised the lack of previous practice. One of the attendees noted, “We were never asked to give our judgments about the texts, so I was unaware of how to do that.”

Overall, the four pie charts and the interview held among students present the fact that they are poorly engaged with literary depth. Even though students understand the structure, language, tone and emotions of the story, most of them are not able to critically analyze the text.

The gap in higher-order comprehension is not only confined to philology students, but it also reflects challenges in interdisciplinary spheres. The other education disciplines also require critical reading and thinking skills. The findings of this research carry implications beyond the philology context. In STEM subjects, students should have problem-solving skills and be able to analyse challenging scientific writings. The researchers found that in spheres like mathematics, students’ comprehension abilities can impact their problem-solving skills. The mutual relationship between literacy and disciplinary learning implies that teachers of STEM should design questions that not only require literal level, but also inferential reasoning and analytical thinking. Future educators should be trained to develop students’ higher-order comprehension skills. The teachers should participate in teacher preparation programs to design questions across all levels of Barrett’s taxonomy, moving students beyond memorisation toward analysis and evaluation. These skills are highly required in the social sciences, which are highly interconnected with achieving success through interpreting arguments and assessing evidence. These skills are associated with inferential and evaluative levels of Barrett’s taxonomy. The educational challenge is observed in students

through the prism of limited advanced comprehension. It highlights the necessity for designing curricula objectives, which are intended to promote critical literacy across all disciplines.

Turning back to philology, the results of the research make it indispensable to associate the curriculum with critical reading and advanced comprehension. For upgrading the analytical and evaluative skills, to encourage reading “beyond the lines”, literature programs should include things like literary criticism activities, thematic and stylistic analysis, guided conversations, scaffolded writing, and metacognitive reading practices. The findings reveal that to assess students’ ability to make inferences, evaluate information, and apply themes, the testing system should comprise critical essays, open-ended questions, and projects. These modifications to the curriculum, related to Barrett’s taxonomy, will enhance students’ analytical skills and ensure that they graduate not only with subject knowledge but also with the ability to analyse and evaluate critically.

6. Discussion

With the help of Barrett’s taxonomy, it became clear how well students understand what they read. It was found that students would show better results at the level where remembering essential details from the text is the only requirement. This confirms the earlier-mentioned literature, which says literal comprehension is the most straightforward level, as it only requires remembering the specific details without any extra processing^[1,2]. One of the researchers Gunning, mentioned that at schools, the reading tasks are focused on lower-order thinking skills, and there are no elements of higher-order thinking skills^[3].

Through Barrett’s taxonomy, the results of this study give a complete picture of how well philology students understand what they read. As expected, students performed better at the literal level, with many accurately recalling specific details from the text. This aligns with earlier studies that suggest literal comprehension is the easiest cognitive level, as it requires only the direct retrieval of information without additional processing^[1,2]. Gunning^[20] also noticed that reading tasks in the classroom often focus on these lower-order skills, which could explain why students are better at this level.

On the other hand, Students demonstrated lower proficiency when taking the comprehension test at the inferential level. This level presented a slight challenge, as the students had to consider stylistic, symbolic, psychological, and thematic interpretations. Students struggled to understand abstract and underlying ideas, as evidenced by their moderate performance in symbolic and thematic interpretation. This pattern is what Klingner, et al.^[9] say is a common problem for readers who haven't been taught how to use metacognitive strategies while reading. Meanwhile, their psychological interpretation was slightly higher, suggesting they can recognise different character traits and distinguish between characters. The difference between literal and inferential comprehension could be distinguished through Bloom's taxonomy, between lower-order and higher-order thinking skills.

Moving on to the evaluative and appreciative levels, students showed the most concerning results, with most of them being classified as "satisfactory" and "needs improvement". A tiny percentage of students were "good", none of them achieved an "excellent" degree. The studies, according to Barrett's taxonomy, suggest that to excel at the evaluative and appreciative levels, one must develop one's critical thinking abilities and emotional engagement, which are facilitated with teachers' support and mentoring^[19]. Literary value judgement was the most suffering criterion, with a 16% performance, which indicates that students had a limited ability to assess a text's broader philosophical or cultural significance.

When it comes to the appreciative level, students showed better results in the criteria of language and aesthetic awareness, as well as personal reaction and engagement, which indicates that students are more responsive to the emotional and stylistic dimensions of literature. The criterion of relatability to real-life experience seemed to be challenging for students, as they showed limited ability in reflective and experiential reading. The results indicate that the education at schools lacks a crucial aspect of learning, which is associated with higher-order thinking skills. As Freire^[16], Paul and Elder^[17] mention that being high literate demands not only being able to read and write, but also to interrogate, analyze, criticize and synthesize and most importantly, connecting it to bigger ideas^[16]. The investigations make it evident that philology sphere of education needs to experi-

ence some changes in terms of its curriculum, by focusing more on teaching critical reading. This can be associated with additional activities, which would help develop evaluative judgement, thematic analysis, and aesthetic appreciation. As a result, students might be able to understand the text more deeply. Some strategies could include guided literary discussions, scaffolded critical writing tasks, and teaching students how to reflect on their own reading. These kinds of changes could help close the gap between what students can do now and what they need to do to be literate in today's world.

These results indicate that students are missing a crucial component of learning higher-order reading skills. Freire^[16], Paul, and Elder^[17] argue that fundamental literacy entails not only reading and understanding texts, but also questioning, critiquing, and connecting them to broader ideas^[16]. The study suggests that philology education should revise its curriculum to place greater emphasis on teaching critical reading. Adding activities that help students develop evaluative judgement, thematic analysis, and aesthetic appreciation could help them understand more deeply. Some strategies could include guided literary discussions, scaffolded critical writing tasks, and teaching students how to reflect on their own reading. These kinds of changes could help close the gap between what students can do now and what they need to do to be literate in today's world.

The current study's finding—that philology students excel at the literal level but exhibit a significant decrease at inferential, evaluative, and appreciating levels—corresponds with patterns observed in earlier empirical research. For instance, Riry and Binnendyk's^[28] examination of Indonesian high school textbooks indicated a predominance of literal and inferential questions, but evaluative and appreciating tasks were notably scarce. Similarly, Ramadea^[29] discovered that more than 65% of comprehension questions on final exams were at the literal level, with only 3% at the appreciation level. This indicates that higher-order comprehension is not being addressed systematically. Our findings corroborate these disparities: pupils essentially instructed on literal-level tasks excel in factual memory yet lack experience in evaluative or appreciative involvement. Research conducted by educators further validates our findings. Yude and Zainil^[30] demonstrated that English teachers excelled in formulating literal questions but infrequently developed evaluative or

complimentary ones. This corresponds with our students' challenges in higher-order activities, as limited classroom exposure likely contributed to their poor performance.

In contrast, specific studies, including Krismadayanti and Zainil^[31], noted more robust appreciative reactions (75% right) among high school pupils, whereas appraisal was the most challenging aspect (56%). In comparison to their results, our participants exhibited diminished appreciative engagement, suggesting that philology students—despite being prospective specialists—are not inherently privileged in critical or aesthetic reading unless specifically educated.

Lastly, studies that employ interventions demonstrate the importance of curriculum improvement. Akhir and Marviah^[34] showed that using a reorganised Barrett's taxonomy improved middle school students' performance on intensive reading tests. This aligns with our assertion that specific curricular interventions (such as guided discussions, scaffolded writing, and metacognitive methods) are essential to enhance higher-order understanding in philology education.

The qualitative findings, together with the quantitative results, provide a deeper understanding of the study. The following three recurring things emerged from the interview:

Initially, it was reported that students showed consistent excellence at the literal level. According to them, remembering details was easy.

Secondly, Students reported that they struggled with evaluative and inferential-level questions. They admitted that they hadn't developed their ability to understand and interpret symbols and inferences.

Lastly, students' perspectives on their previous learning experiences revealed that they struggled with critical reading. One of them mentioned that they were never asked their opinions about the text during literature classes. This means that the current curriculum was limited in its opportunities to practice judgment-based or critical reading activities.

When we combine these qualitative observations with quantitative findings, it can be inferred that philology students are confident at the literal level. In contrast, they encounter some challenges when dealing with inferential, evaluative, and appreciative-level questions.

The results indicate that pedagogical approaches in literary studies should transcend mere factual understanding and offer organised chances for students to participate in critical, interpretative, and evaluative reading activities.

The Barrett taxonomy analysis reveals a distinct pattern in students' understanding: philology students can easily answer literal questions (such as recalling facts from the book), but their performance significantly declines when they must make inferences, evaluate, or appreciate complex concepts. The shows that curricula in high schools focus on fundamental recollection, which leads to the limited advancement of higher-order skills. The figures and numbers in the study indicate that lessons are primarily focused on lower-order (literal and reorganisation) levels, but evaluation and critical analysis are not sufficiently robust. Suggesting Barrett's framework in designing curricula provides a classification of comprehension, ranging from literal remembrance to evaluation and judgment, and critical understanding. The findings in this research show that literature classes at schools haven't applied these advanced levels in classroom practice. This means that teachers should have guidelines to conduct courses with analytical question instructions for debates that prompt students to infer the authors' intended message and then critique it. This educational strategy is expected to yield exceptional outcomes, surpassing the effectiveness of merely requesting narrative information and simple text repetition.

According to the study's findings, these methods are suggested as essential for the curriculum:

- A) Guided literary discussion: The organisation of Socratic seminars and literature circles, where students exchange their impressions about the story, including themes, symbols and their interpretations.
- B) Scaffolded writing tasks: design assignments under the framework of Barrett's taxonomy. The questions are designed according to the level of complexity, ranging from answering questions on data recall to writing critical essays, which require them to delve deeply into the content of the story.
- C) Acquire metacognitive skills: teach students how to read the material, not to be restricted to surface-level understanding. One of the methods, "Here, hidden and in my head", is particularly useful as it helps students contemplate what is implicitly stated in the text. This model will help to promote learners' autonomous critical reading abilities.
- D) Design assessment tool, which best fits with Barrett's taxonomy: Adapt the current assessment system with five levels of Barrett's taxonomy. To observe if stu-

dents are excelling at higher-order abilities, formative assessment, including analytic rubrics and portfolios, is particularly handy.

The above-mentioned tactics and strategies, which are aligned with theory and practice grounded in Barrett's taxonomy, become a valuable instrument to create a curriculum. This will guide students not only in remembering narrative information but also in engaging in critical analysis. It helps language and literature classes meet the requirements of modern literacy goals.

7. Conclusions

Based on the findings and discussions presented in the previous sections regarding the students' comprehension levels through the lens of Barrett's taxonomy, using Ray Bradbury's *The Last Night of the World* as the test text, it can be concluded that philology students at TIAME demonstrated strong performance at the literal level. This research focuses on evaluating students' comprehension levels across four levels: literal, inferential, evaluative, and appreciative. The results revealed that the students' results declined throughout the levels, as each higher level required more sophisticated and deeper thinking. The last two tasks, in which students failed to achieve good results, required higher-order thinking and interpretive skills.

In inferential comprehension, students showed contrasting results, with good performance in psychological interpretation and not satisfactory performance in stylistic analysis. However, students faced the most significant challenges when performing the evaluative and appreciative levels, as most students struggled to engage critically or connect the text to broader human or literary themes.

All in all, the study emphasise the fact that there is an urgent need to upgrade the philology curricula at TIAME with instructional strategies that foster deeper analysis, literary judgment, and reflective engagement.

Grounded in language teaching methodology, this gap may be addressed by redesigning the curriculum within the framework of Barrett's taxonomy, thereby fostering deeper and more critical reading. Fundamental components of the curriculum can be enriched by including the following explicit interventions: guided analytical discussions, scaffolded writing assignments, and metacognitive strategy courses.

Moreover, the 3Hs methodology — Here, Hidden, in my Head — which helps students gain a deeper understanding. This supports improved comprehension and cultivates critical reflection. Ultimately, this approach to reforming the curriculum will produce graduates who are not only proficient readers but also thoughtful analysts. These students will be trained for complex literary interpretation and the real-world challenges of reading, which comprise understanding complex arguments and recognising the stylistic and cultural significance of text. In this regard, the findings of this study bridge the gap between theoretical insights and practical applications in language education, emphasising a thorough and reflective paradigm for reading education.

Author Contributions

B.T. participated in nearly every aspect of the study. B.S. wrote the literature review; M.R. was responsible for the methodology; D.R. wrote the abstract and keywords; G.G. wrote the introduction; U.J. wrote the conclusions; and D.N. compiled the references and prepared the tables and figures. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement

Institutional Review Board Statement was waived for this study because it involved standard educational practices with voluntary student participation, and did not include any interventions posing risk to participants' health or rights.

Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

Data Availability Statement

The data supporting the findings of this study are not publicly available due to privacy and ethical restrictions involving student participants. Anonymised datasets may be

obtained from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

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