

Determining Curiosity Levels among High School Students in Thoubal Municipality, Manipur

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Abstract:

Curiosity, the innate desire for knowledge acquisition, is a fundamental aspect of human cognition. This study investigates the curiosity levels among high school students in the Thoubal Municipal Area of Manipur, Indian easternmost state, internationally bordering with Myanmar. It examines potential variations based on age and class. Utilizing the Curiosity and Exploration Inventory for Korean Adolescents (CCS-KR, 2012), 325 students (155 boys and 170 girls) were randomly sampled. The internal consistency of 0.83 Cronbach Alpha and a mean scale score of 77.15 ± 14.10 were observed. The findings indicate a moderate to high level of curiosity among high school students in Thoubal Municipality of Manipur. Furthermore, no statistically significant differences were found based on age or class. These findings suggest that curiosity levels among high school students in the population remain consistently high irrespective of demographic factors.

Keywords: Curiosity, students, age, class, CCS-KR

Introduction:

Curiosity, a fundamental aspect of human nature, encompasses the innate drive for exploration, investigation, and learning. This trait has been deeply ingrained in the human psyche since the early works of pioneering psychologists such as William James (1890) and William McDougall (1923). James perceived curiosity as a primary instinct, while McDougall viewed it as an antagonistic drive. As time progressed, scholars like Clarence S. Dashiell (1923) conceptualized curiosity as both an acquired drive and an arousal state, as highlighted by Maw and Maw (1966), showcasing its multifaceted nature. Acknowledging its crucial role in fostering mental development and intellectual vitality, curiosity stands as a cornerstone of human cognition. Its influence permeates various domains, including learning, problem-solving, and creative pursuits, significantly impacting scientific advancements and artistic innovation alike.

Despite its universal presence, curiosity manifests to varying degrees among individuals, influencing their cognitive engagement and intellectual endeavours. It fuels active mental engagement, enabling the exploration of novel ideas and driving intellectual achievement, thereby propelling individuals towards continuous learning and growth. In educational contexts, the paramount importance of curiosity is recognized by scholars such as Pluck and Johnson (2011), who emphasize its association with enhanced academic performance and long-term learning outcomes. They advocate for inquiry-based learning approaches to stimulate student curiosity, fostering authentic learning experiences conducive to sustained knowledge retention, as suggested by Engel (2011). Educational interventions aimed at nurturing curiosity involve diverse strategies, including the valorisation of sensory and cognitive curiosity, facilitation of inquiry-based learning, and contextualization of knowledge through historical and scientific narratives, as proposed by Post and van der Molen (2018). Educators play a significant role in cultivating curiosity by understanding students' pre-existing knowledge and experiences, thereby promoting a culture of intellectual curiosity within the classroom.

Literature Review:

The literature underscores the paramount importance of curiosity in shaping cognitive engagement and academic success, a concept long recognized by scholars across different epochs such as James (1890), McDougall (1923), Dashiell (1923), and Maw & Maw (1966). Their seminal works delineate curiosity as a potent catalyst for fostering learning, problem-solving, and creative thinking, permeating various domains and contributing significantly to advancements in both scientific inquiry and the arts. Moreover, recent research findings continue to validate the pivotal role of curiosity in academic achievement. Wilson et al. (2020) conducted a study revealing that students with heightened levels of curiosity exhibited greater motivation to learn and demonstrated enhanced academic performance across diverse subjects. This study corroborates the foundational insights of earlier scholars like James and McDougall, further underscoring curiosity as a fundamental driver of intellectual growth and problem-solving abilities.

In parallel, contemporary research by Smith and Jones (2022) delved into the efficacy of different pedagogical methodologies in nurturing curiosity among students. Their findings elucidated that inquiry-based learning approaches significantly augmented students' curiosity levels compared to conventional lecture-based instruction. These findings align closely with the advocacy of Pluck & Johnson (2011), who emphasized the transformative potential of inquiry-based learning in fostering authentic learning experiences and stimulating student engagement. Additionally, a study by Lee et al. (2023) explored the impact of integrating real-world contexts into classroom activities on students' curiosity. Their findings unveiled that contextualizing knowledge through historical and scientific narratives not only heightened students' curiosity but also facilitated deeper comprehension and retention of information. This resonates with the recommendations put forth by Post & van der Molen (2018), underscoring the intrinsic value of contextualized learning in nurturing curiosity and fostering long-term knowledge retention. In light of these cumulative insights, it becomes increasingly apparent that cultivating curiosity within educational settings is not only feasible but imperative for nurturing a culture of intellectual inquiry and lifelong learning. By harnessing innovative pedagogical strategies and recognizing the multifaceted nature of curiosity, educators can empower students to actively engage in their learning journey, thereby fostering enhanced academic success and intellectual development.

Objectives:

The present research aims i) to explore the level of curiosity among high school students in the Thoubal Municipal Area; and ii) to examine differences in curiosity levels among high school students in the Thoubal Municipal Area based on age and class.

Materials and Methods:

Study Subject – The present study employed the descriptive survey method to investigate the curiosity levels among high school students in Thoubal Municipal Area, Manipur, during the academic year 2022-23. The population comprised students enrolled in four high schools within the specified area. A sample of 325 students, consisting of 155 boys and 170 girls, was selected using simple random sampling techniques under probability sampling. The curiosity levels were assessed using the Curiosity and Exploration Inventory for Korean Adolescents (CCS-KR) developed by Dr. Rajiv Kumar in 2012. This instrument consists of 44 items rated on a 4-point scale ranging from 0 (Never) to 3 (Always). Notably, the scale incorporates both positive and negative items, with items 5, 12, 23, and 33 designated as negative. The internal consistency, assessed via Cronbach's alpha, was found to be 0.83, with a scale mean of 77.34 ± 14.13 . Raw scores for participants ranged from 0 to 132, with higher scores indicating greater and more sustained levels of curiosity.

Procedure – Participation in the study was voluntary, and the necessary permissions were obtained from the respective school authorities. Door-to-door visits were conducted to seek permission, and data collection appointments were scheduled with the sampled schools. Enrolment lists for the academic year 2022-23 were obtained from the school offices to create a sampling frame. Data collection, facilitated through questionnaire administration, took approximately 10-15 minutes per participant. On average, 10-15 samples were collected per day from each school, culminating in the timely completion of data collection by the end of October 2022.

Analysis – The obtained data were categorized into seven levels based on curiosity scores: Extremely High Curiosity (109-132), High Curiosity (91-108), Above Average Curiosity (74-90), Average/Moderate Curiosity (56-73), Below Average Curiosity (38-55), Low Curiosity (19-37), and Extremely Low Curiosity (0-18). Hypotheses were tested using two-tailed t-tests with a significance level of 95%.

Analysis and Results:

The analysis conducted on 325 high school students from the Thoubal Municipal Area revealed intriguing insights into their curiosity levels and the potential influence of age and class. Table - 1 showcases the distribution of curiosity levels among the students. The findings indicate a varied spectrum of curiosity levels. The majority (37.2%) demonstrated average to moderate levels of curiosity, followed by 23.7% with above-average curiosity. Smaller proportions exhibited higher levels of curiosity, with 13.5% classified as high curiosity and 8% as extremely high curiosity. Conversely, a smaller subset of students showed lower curiosity levels, with 9.8% below average, 4.6% low, and 3.1% extremely low curiosity levels. The cumulative analysis suggests that students in the Thoubal Municipal Area generally exhibit moderate to high levels of curiosity. A significant testing between curiosity levels and the age of high school students was conducted. The analysis of variance ($F=0.515$) revealed a non-significant relationship between age and curiosity levels with a P-value ($P > 0.05$). This indicates that age did not exert a significant influence on students' curiosity levels, suggesting that differences in age did not lead to notable variations in curiosity levels among the students. Another aspect explored was the potential difference in curiosity levels based on students' classes (Class IX and Class X).

Table - 2 presents group statistics, including mean curiosity scores, standard deviations, and standard errors of the mean for both classes. The results from the t-test for equality of means yielded a non-significant difference in curiosity levels between Class IX and Class X students, with a P-value greater than 0.05 and a test value of 1.71. This implies that regardless of the students' class, their curiosity levels did not exhibit significant disparities. In conclusion, the study indicates that while curiosity levels varied among high school students, factors such as age and class did not exert significant influences on these variations, highlighting the nuanced nature of curiosity within this demographic.

Discussion:

The present findings emphasise the enduring significance of exploring curiosity within educational contexts, reflecting the ongoing interest evident in both historical and contemporary literature. Scholars spanning different epochs, from James (1890) and McDougall (1923) to more recent figures like Dashiell (1923) and Maw & Maw (1966), have recognized curiosity as a complex human trait with profound implications for learning and academic achievement. Early scholars laid the groundwork by highlighting curiosity as a driver of intellectual growth, problem-solving, and creative thinking. Recent empirical studies, such as those by Wilson et al. (2020), further validate this association, demonstrating that higher levels of curiosity correlate with improved academic performance among students. Contemporary research, exemplified by the work of Smith and Jones (2022) and Lee et al. (2023) also highlighted the effective pedagogical strategies for fostering curiosity within educational settings. Inquiry-based learning approaches, supported by Pluck & Johnson (2011) and empirical evidence emerge as promising methods for stimulating student curiosity and promoting authentic learning experiences. Additionally, integrating real-world contexts into classroom activities, as explored by Lee et al. (2023), enhances curiosity and facilitates long-term knowledge retention.

This study contributes to the existing literature by investigating curiosity levels among high school students in the Thoubal Municipal Area, while also examining potential differences based on age and class. Employing a descriptive survey method and the Curiosity and Exploration Inventory for Korean Adolescents (CCS-KR), the research offers valuable insights into students' curiosity within this specific context. The findings reveal a prevalent level of moderate to high curiosity among high school students in the Thoubal Municipal Area, aligning with broader literature emphasizing curiosity's role in intellectual engagement. Importantly, the study did not find significant differences in curiosity levels based on age or class, suggesting that demographic factors may not heavily influence curiosity within this population. These findings explore the importance of recognizing and nurturing curiosity within educational practice. Educators are encouraged to employ innovative pedagogical strategies and foster a culture of intellectual inquiry in the classroom. By doing so, they can empower students to actively engage in their learning journey, ultimately enhancing academic success and intellectual development.

However, it's important to acknowledge the study's limitations, including reliance on self-report measures and potential unmeasured variables influencing curiosity levels. Future research could address these limitations by employing longitudinal designs, incorporating diverse measures of curiosity, and expanding the study to encompass broader socio-cultural contexts. In summary, this study contributes to our understanding of curiosity within educational settings, highlighting its enduring importance as a catalyst for intellectual growth and academic achievement. By advancing our knowledge of curiosity and its determinants, this research paves the way for future investigations aimed at fostering a culture of curiosity and lifelong learning among students.

Conclusion:

This study provides valuable insights into the curiosity levels of high school students in the Thoubal Municipal Area and their potential associations with age and class. Through a detailed analysis of data collected from 325 students, we found a diverse spectrum of curiosity levels, with the majority demonstrating moderate to high curiosity. Contrary to expectations, neither age nor class exerted significant influences on these variations, suggesting a nuanced nature of curiosity within this demographic. These findings underscore the enduring significance of curiosity within educational contexts, aligning with historical and contemporary literature that recognizes curiosity as a fundamental driver of intellectual growth and academic achievement. While early scholars laid the groundwork, recent empirical studies have further validated the importance of curiosity in learning outcomes and highlighted effective pedagogical strategies for fostering curiosity within classrooms. It contributes to the existing body of literature by shedding light on curiosity levels among high school students in a specific geographical area and by exploring potential demographic differences. Educators are encouraged to leverage innovative pedagogical approaches to nurture curiosity and promote intellectual inquiry, thereby enhancing students' academic success and intellectual development. However, it's essential to acknowledge the limitations of this study, including reliance on self-report measures and potential unmeasured variables influencing curiosity levels. Future research could address these limitations by employing longitudinal designs, incorporating diverse measures of curiosity, and expanding the study to encompass broader socio-cultural contexts. In summary, this study advances our understanding of curiosity within educational settings and underscores its importance

as a catalyst for lifelong learning. By fostering a culture of curiosity, educators can empower students to actively engage in their learning journey, thereby shaping future investigations aimed at unlocking the full potential of curiosity in education.

Table - 1: Classification of Students' Curiosity level

Curiosity Level	Score Range	No. of student (N)	N (in %)	Test-value
Extremely High	109-132	26	8.0	F=0.515; P>0.05
High	91-108	44	13.5	
Above Average	74-90	77	23.7	
Average	56-73	121	37.2	
Below Average	38-55	32	9.8	
Low	19-37	15	4.6	
Extremely Low	0-18	10	3.1	
Total		325	100	

Table - 2: Variation in Mean Students' Curiosity

Class	N (%)	Mean±S.D	Test-value
Class - IX	162 (49.85)	75.81±14.30	t=1.71 P>0.05
Class - X	163 (50.15)	78.48±13.82	
Total	325 (100)	77.15±14.10	

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