



Examining the Critical Thinking Skills of Public Secondary School Students

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ABSTRACT:

The articles was intended to examine the critical thinking skills of the students of teaching and learning process at the public secondary schools in Dera Ismail Khan. The article followed critical argumentative method to examine and analyze the secondary sources of data. Study was descriptive and ample size was 770. Five Likert scale questionnaire was used as an instrument of the study having the responses i.e. Strongly Disagree, Disagree, and Undecided, Agree and Strongly Agree. The data was analyzed by using Percentage, Mean, and Standard Deviation as descriptive Statistics. Therefore, it was the dire need of the time to examine the critical thinking skills of students implemented by the teachers. Cultivation of productive and receptive skills plays a vital role in the promotion of teaching and learning skills. Therefore, the researcher recommended investigating the Critical Thinking Skills of Female Students in Public Secondary Schools in Dera Ismail Khan in order to identify the prospective issues of the twenty-first century.

Key words: Critical Thinking Skills, Public Secondary Schools, Teaching and Learning Process, Descriptive Study, Teaching Methods, Co-curricular Activities.

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Introduction

The article focuses on the importance of teaching and learning process. The findings encourages the study of Berger, Woodfin & Vilen (2016), Brookfield (2017), Kohnke (2023), and Krein (2023) likely focus on instructional methods, student engagement, and effective classroom practices. Moreover, Critical Thinking, Scheuer (2023) likely delves into the importance of critical thinking skills in a liberal arts education and its connection to responsible citizenship. Social Justice, Gott (2020), Silberstein (2022), and Tan (2021) might explore issues of racism, whiteness in education, and using problem-based learning to address 21st-century challenges. Research: Manutscheri (2020) potentially discusses the structure and format of a diploma thesis. Kohnke (2023) might delve into how technology can be used for effective micro learning activities in language learning. Student Experiences: Vuojärvi *et al.* (2019) might explore student experiences with cross-boundary collaboration and problem solving in relation to developing 21st-century skills. Teacher Practices: Yi *et al.* (2023) might focus on how middle school teachers utilize questioning methods to promote dialogue-based learning.

Statement of the Problem

This study centers on the development of critical thinking abilities about instructional strategies and extracurricular engagement in female public secondary schools located in Dera Ismail Khan. 21st century is facing a big challenge in the recognition of critical thinking in educational sector. Therefore, it was the dire need of the time to examine the critical thinking skills of students implemented by the teachers. Cultivation of productive and receptive skills plays a vital role in the promotion of teaching and learning skills. Therefore, the researcher recommended investigating the Critical Thinking Skills of Female Students in Public Secondary Schools in Dera Ismail Khan in order to identify the prospective issues of the twenty-first century.

Objective

To assess the critical thinking abilities of female students enrolled in Dera Ismail Khan public secondary schools.

Research Question

Which critical thinking abilities do female students in Dera Ismail Khan's public secondary schools possess?

Significance

The study to examining critical thinking skills in public secondary schools in Dera Ismail Khan holds significant importance for the knowing the

Delimitations

The study was limited to the:

1. Female Public Secondary Schools.
2. Variables of:
 - a. Teaching Methods
 - b. Co-Curricular Activities

Literature Review

Critical Thinking Skill

Critical thinking is the bedrock of intelligent living. It is not just about memorizing facts or regurgitating information. It is the ability to analyze information objectively, question assumptions, and draw sound conclusions. A critical thinker is a detective of ideas, sifting through evidence, identifying biases, and forming well-reasoned arguments. This mental agility empowers us to navigate the complexities of the world, solve problems effectively, and make informed

decisions in all aspects of life. Tan. (2021). Developing critical thinking skills is an ongoing process, but it is a worthwhile investment. By actively engaging with information, you can hone your analytical abilities. Ask probing questions, consider alternative viewpoints, and seek out diverse sources. Do not be afraid to challenge the status quo and explore unconventional perspectives. Embrace healthy skepticism, but remember to back it up with evidence and reason. Brookfield (2017).

Critical thinking empowers you to become a more discerning individual. You will be less susceptible to manipulation and propaganda, and able to identify logical fallacies and hidden agendas. It fosters intellectual independence, allowing you to form your own beliefs based on sound reasoning. Ultimately, critical thinking equips you to be a more engaged citizen, a well-informed decision-maker, and a lifelong learner. Scheuer (2023).

Teaching Methods

A powerful teaching method that fosters critical thinking and lively discussions. In this student-centered approach, the teacher acts as a facilitator, posing thought-provoking questions that challenge assumptions, encourage analysis of evidence, and guide students to explore diverse perspectives on a complex topic. Through respectful dialogue and careful examination of ideas, students develop their ability to articulate arguments, identify logical fallacies, and reach well-reasoned conclusions. This method not only deepens their understanding of the subject matter but also equips them with valuable critical thinking skills that will benefit them throughout their lives. Yi, Nasri, and Jiao (2023). Developing metacognition, or "thinking about thinking," empowers students to become self-directed learners. One effective method is the "think-pair-share" strategy. Students first grapple with a question or problem individually, prompting them to identify their thought processes and learning strategies. They then pair up to discuss their approaches, fostering collaboration and the sharing of different perspectives. Finally, they share their insights with the class, allowing the teacher to address common challenges and model effective learning strategies. This approach equips students with the tools to assess their strengths and weaknesses, set learning goals, and adapt their study habits for lifelong learning. Berger, Woodfin, and Vilen (2016). This approach encourages students to brainstorm unique solutions, break down complex tasks, and explore diverse approaches. Collaboration is key, as students learn to communicate their ideas effectively, negotiate solutions, and adapt to unexpected challenges. Project-based learning fosters not only creativity but also teamwork, problem solving, and critical thinking in a dynamic, hands-on environment. Vuojärvi, Eriksson, and Vartiainen (2019).

Co-Curricular Activities

The pursuit of critical thinking skills does not end at the classroom door. Co-curricular activities offer a rich and diverse landscape to further develop these valuable abilities. Co-curricular activities are more than just a way to fill free time. They offer a vibrant space for students to explore their passions, develop new skills, and build meaningful connections beyond the classroom. These activities can cater to diverse interests, from artistic pursuits like theater or choir to strategic challenges of chess club or math competitions. Participation in co-curricular activities fosters a sense of belonging, promotes teamwork, and provides valuable leadership opportunities. Here are four unique ways co-curricular activities can nurture critical thinkers. Silberstein (2022).

Debate Teams

Stepping into the shoes of opposing viewpoints is a hallmark of debate teams. Students research complex topics, dissect arguments, and learn to formulate persuasive counter-arguments. This not only hones their research and communication skills but also strengthens their ability to analyze evidence, identify logical fallacies, and think strategically. Manutscheri (2020).

Model United Nations (MUN)

MUN simulations take students into the heart of international diplomacy. Representing different countries, students research global issues, negotiate solutions, and draft resolutions. This activity fosters critical thinking by encouraging them to consider diverse perspectives, navigate complex power dynamics, and find common ground on pressing global challenges Krein (2023).

Science Olympiads and Robotics Club

Hands-on co-curricular activities like science Olympiads or robotics clubs provide fertile ground for critical thinking. Students tackle open-ended problems, design creative solutions, and experiment with different approaches. These activities not only develop problem-solving and analytical skills but also encourage students to think outside the box, adapt to unexpected challenges, and learn from trial and error Gott (2020).

Student Publications and Media Clubs

Engaging in student publications or media clubs allows students to explore diverse viewpoints and communicate complex ideas effectively. Whether researching and writing articles, creating engaging podcasts, or developing thought-provoking documentaries, students learn to analyze information critically, present arguments persuasively, and consider the potential impact of their work on an audience. These co-curricular activities cultivate critical thinking alongside valuable communication and collaboration skills Kohnke (2023).

Method

The study was descriptive in nature. Population of the study was comprised of 3850. Stratified sampling technique was used for the selection of sample. Sample of the study was 770 according the Gay sample size selection. A point-Five Likert scale questionnaire was used as an instrument of the study having the responses i.e. Strongly Disagree, Disagree, and Undecided, Agree and Strongly Agree. The data was analyzed by using Percentage, Mean, and Standard Deviation as descriptive Statistics.

Major Findings

Findings of the study regarding teaching methods

Students generally agree (average 67.52%) that teachers encourage critical thinking. Statements related to this include encouraging students to ask critical thinking questions (statement), giving opportunities to work on critical thinking projects (statement), and encouraging students to challenge their own thinking (statement). Students feel comfortable sharing ideas and confident in their critical thinking (average 74.36%). This is reflected in statements like students feeling comfortable sharing different ideas (statement) and feeling confident in their ability to think critically (statement). Overall, the average rating is 3.25, indicating a generally positive perception of critical thinking methods. Over all, it appears that most students agree that teachers are incorporating critical thinking into their classrooms. Students feel comfortable participating in class discussions and confident in their critical thinking abilities.

Findings of the study regarding Co-Curricular Activities

Students mostly agree (average 69.23%) that co-curricular activities benefit critical thinking skills. Statements related to this include participation in co-curricular activities enhancing critical skills (statement 20), co-curricular activities helping to develop critical thinking skills (statement 21), and participating in co-curricular activities being beneficial for students' critical thinking skills (statement 23). Students agree (average 74.36%) that co-curricular activities promote social responsibility and leadership. Co-curricular activities that foster students' feeling of social responsibility (statement 25) and their development of leadership abilities (statement 26) are examples of how this is expressed in the statements. Overall, the average rating is 3.17, indicating a generally positive perception of co-curricular activities. In conclusion, the findings suggests that students believe co-curricular activities are beneficial for developing critical thinking, social responsibility, and leadership skills

Conclusion

Traditionally, teaching often focused on transmitting knowledge. Critical thinking emphasizes student engagement with the material. Techniques like Socratic questioning (structured inquiries that challenge assumptions) and problem-based learning (presenting real-world problems for students to solve) encourage students to analyze, evaluate, and form their own conclusions. Thinking routines are frameworks that guide students through critical thinking processes. Examples include "See, Think, Wonder" (observing an image and generating questions) and "Five Whys" (asking "why" repeatedly to reach the root cause of a problem). These routines provide structure for students to engage in deeper analysis. Technology can be a powerful tool for critical thinking. Simulations, educational games, and online debates can create interactive learning environments. However, it is crucial to choose tools that encourage critical analysis, not passive consumption. Debate fosters critical thinking by requiring students to research arguments, identify biases, and construct persuasive counter-arguments. MUN simulations place students in the role of diplomats, requiring them to analyze global issues, negotiate solutions, and think critically from multiple perspectives. Science Olympiads and Robotics Clubs activities encourage problem solving, experimentation, and innovation, all essential aspects of critical thinking. E-sports (Competitive Video Gaming): can develop critical thinking through strategic planning, quick decision-making under pressure, and teamwork.

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Declaration of Interest: The authors declare that there is no clash of interests.

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