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# [The Impact Of Co-Curricular Activities (CCAs) On The Academic Outcomes Of Higher Secondary Students, Karachi]

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**ABSTRACT**

This research investigates the impact of co-curricular activities (CCAs) on the academic outcomes of higher secondary students, specifically the improvement of problem-solving skills and the implementation of practical knowledge. The primary aim is to analyze how involvement in science projects improves the critical thinking capabilities of students and the implementation of new knowledge in everyday life. Data were gathered using a structured questionnaire with Likert-scale items for quantitative analysis of students' involvement in science projects and perceived gains in problem-solving and practical application abilities. The sample was 152 students from FG Boys Inter College in Karachi to guarantee diversified representation of academic background. The respondents were requested to look back on their experience with science projects, particularly the formation of critical thinking and the transfer of practical knowledge. The results showed a statistically significant positive correlation between students' involvement in science projects and problem-solving skills. Students who were involved in such activities claimed to have higher confidence in analytical skills and had a better ability to transfer knowledge in practical situations. The results indicate that participation in science-related CCAs is an important factor in contributing to students' academic achievement and facilitating their overall intellectual and personal growth.

**Keywords:** Co-Curricular Activities (CCAs), Academic Outcomes, Higher Secondary Education, Federal Government

**Introduction**

These activities help the students to be more involved, connected and engaged in their own groups and growth social and soft skills to encourage well-being (Sultana, Ahmed, & Imran, 2024). These activities can embrace events, voluntary work, sports, and management roles in different committees. Behavior disorders and self-control among students can be developed through curricular and co-curricular activities (Nandita Marshal, et al, 2023). Students may gain practical capability by taking part in co-curricular activities related to their subject matter. Additionally, it is said that contribution in such activities delivers pupils with a competitive benefit on their resumes. However, not all students participate in co-curricular activities. Numerous of them and their guardians think that pleasing in such activities would destructively affect their academic accomplishment. As a result, pupils are often puzzled about whether or not to play a part in co-curricular activities (Ramalingam and Ilakkiya, 2021). This study inspected the psychological effects of contribution in a residential research-oriented learning community on students' awareness and motivation to follow research-oriented careers, self-efficacy beliefs in research and data, logic of community belonging, socialization levels, and career wakefulness in research-oriented sectors (Magana et al., 2021).

The learning model that can be used to progress student knowledge is the Project based learning model (Ainurridho et al. (2021)) stated that Project-based learning is a project based learning model in which pupils are involved in learning activities using projects or activities as mass media. In the Project- based learning model, students study through conditions and settings on actual or contextual glitches. Marufah et al. (2024)

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stated that Project-based learning offers high-level thinking activities. Therefore, the whole thing is carried out in the following ways: group effort dynamics, independent inquiry, achieving a high level of understanding, developed individual and social skills.

Co-curricular activities play a vital role in strengthening the character foundation of students. These activities can be in the method of assignments related to character beliefs, social community projects, educational visits, and easy research. In its organization, aspects such as planning activities that are in link with learning, coordination between substance teachers, an integrated assessment system, and capital and resources need to be considered carefully (Azhar & Imran, 2024; Shah, et al., 2025; Imran, et al., 2023). Co-curricular activities also deliver opportunities for students to spread on the values they learn in a more real context that is appropriate to everyday life (Shaikh Rezwan Rahman et al, 2021). Extracurricular activities refer to activities that pupils participate in outside of the regular academic curriculum. These activities can contain sports, clubs, arts, community service, and different other pursuits. They play a critical role in the overall growth of students by enhancing their expertise, promoting teamwork, and fostering personal development (Buckley & Lee, 2021).

### **Literature Review**

According to the Azhar, Iqbal and Imran (2025) the students who engage the CCAs expose good academic results. CCAs help to build the overall character of the students. It is reality that a lot of the mental growth of student turn-up to increase in the class room itself but different other side of the personality like personal development and sociable experience happen by CCAs to a great amount (Imran, Zaidi, & Rehan, 2024; Khoso, et al., 2024). The study report show how CCAs boost student's academic achievements (Shrutika Dodke, Shubhra Dubey, Dr. Kanchana sattur 2022). This study engaged not only investigate encouragement in co-curriculum activities like it influence educational achievement but also on a broad awareness of co-curricular activities where teachers shares their knowledge with taking part in this activities CCAs supported or distinguished through college which are not part of the educational curriculum but are admitted to be a needful part of the life of an educational foundation. (Othoo & Omondi, 2022).

CCAs improve energy level and self-improvement that attach to the development of student's personality. The study is aimed to determine that CCAs support students to improve their intellectual abilities. There are several advantages of CCAs for students it involves self-trust, better emotional intelligence, boost phenomenal and understanding skills. (Laraib, Abdul Sami & Asmara Irfan (2020). Engagement in different CCAs admit students to examine their passion and presenting to their universal growth (Ahmed, & Imran, 2024; Ahmed, 2023). Larson (2020) Involvement in co-curricular activities such as sports and music emphatically linked with enhanced educational practice. Veenstra et al. (2020). Students engaged in innovative arts and sports experienced lower levels of pressure and fear. The standardized atmosphere and chance for self-reflection provided by CCAs to developed emotional enjoyment. (Johnson & Lee (2023). Students engagement in extracurricular activities declare upper level of encouragement and pleasure with their educational experience which in order connected with better educational results. (Parker et al (2022).

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The development of school culture also plays a key role in the success of character education management. Through the habituation of character values, role models from educators, the creation of a supportive environment, and the involvement of the entire school community, character values can be embedded more strongly in students (Imran & Akhtar, 2023). This shows that character education management is not just about program management but also about creating an ecosystem that supports character formation. A positive school culture will create a conducive environment for the formation of student character. Suwarni Suwarni (2022)

**Research Objectives**

To evaluate the impact of science project participation on students' problem-solving skills and practical knowledge application

**Research Hypothesis**

Participation in science projects improves students' problem-solving abilities and practical knowledge application.

**Methodology**

**Population**

Grades	Strength	Pre. Medical	Pre. Engineering	General Science	Arts
XI	270	90	75	95	14
XII	272	82	78	92	16
Total	542	172	153	187	30

Quantitative survey methods used in present study. Through Stratified Random Sampling 152 students selected for the study. Data collected through questionnaire from F.G Government Boys Inter College, Cantonment that allows participants to response easily and efficiently. Data analysis thorough descriptive statistics, such as percentages and frequency distributions.

**Hypothesis 3 (H<sub>3</sub>)**

*Participation in science projects progresses students' problem-solving abilities and real-world knowledge application*

		t-test for Equality of Means		
		t	df	Sig. (2-tailed)
Working on science projects has enhanced my problem-solving skills and practical knowledge application.	Equal variances assumed	13.861	150	<.001

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### **Interpretation**

The results indicate a statistically significant enhancement in problem-solving skills and practical knowledge application for students who participated in science projects compared to those who did not participate. Having greater value of  $t$  (13.861) showing high degree of freedom (150) and very low  $p$ -value ( $< .001$ ) suggests that working on science projects positively influences both cognitive and practical skills.

### **Conclusion**

The study "The Impacts of co-curricular activities on higher secondary students learning outcomes". This study is done by using quantitative method for the research, in which the questionnaire is used to complete the procedure of survey. For data analysis, quantitative method is used to systematically assess the impact of CCAs on higher secondary students' learning outcomes. This approach entails analyzing numerical facts accumulated from the questionnaire responses, using statistical techniques to discover trends and patterns (Ahmad, et al., 2024; Mohammad, et al., 2024; Rehan, et al., 2024). To acquire data for this research, I will be using Google Forms, a comprehensive online survey tool that allows individuals to reply without difficulty and efficaciously. The questionnaire might be shared with students through a secure weblink, and they'll be capable of post their responses electronically, ensuring comfort and accessibility. The study has got the positive result from the students by participation in co-curricular activities they have gained good results and motivation.

With the realization that instructional fulfillment is most effective one factor of a student's growth, the academic environment has gone through top notch change. Qirat, Naat, Urdu / English Speeches, Tableau, Science Projects (Physics, Chemistry & Biology) and Sports (Cricket, Football and Hockey) are main examples of co-curricular activities (CCAs), which have become increasingly important parts of a well-rounded educational. Moreover, engagement in CCAs has been linked to improved emotional well-being. Participation in CCAs develops critical thinking, problem-solving, and collaborative abilities that are transferable to academic settings. Through participation in team sports, drama clubs, and community service, students develop essential social skills such as teamwork, communication, and leadership.

Students that take part in CCAs have a tendency to document better tiers of intrinsic motivation. One of the observer's most extraordinary findings is the wonderful relationship between CCA involvement and expanded academic achievement. Students who participated in CCAs had better common grades than their non-participating opposite numbers. Despite the glaring blessings, the look at identified several limitations to participation in CCAs, inclusive of time constraints and cultural perceptions.

### **Discussion**

The findings of this study on the impacts of co-curricular activities (CCAs) on higher secondary students at FG Boys Inter College Karachi give considerable evidence of the positive influence that engagement in these activities has on various learning outcomes. This debate will explore the implications of these findings in connection to current literature, addressing the varied benefits of CCAs, the problems experienced in their implementation, and the broader educational context.

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### Academic Performance Enhancement

One of the study's most notable findings is the positive relationship between CCA involvement and increased academic achievement. Students who participated in CCAs had higher average grades than their non-participating counterparts. This is consistent with previous research indicating that participation in CCAs might improve cognitive skills and promote a sense of discipline and responsibility in students (Eccles & Barber, 1999).

### Mechanisms of Improvement

The mechanisms through which CCAs contribute to academic success can be attributed to several factors:

**Increased Motivation:** Students that participate in CCAs tend to report higher levels of intrinsic motivation. This incentive not only increases interest in academic subjects, but it also promotes more active engagement with learning materials.

**Skill Development:** Participation in CCAs develops critical thinking, problem-solving, and collaborative abilities that are transferable to academic settings. For example, students who participate in debate clubs may improve their critical thinking and communication abilities, which will assist their performance in subjects such as English and Social Studies. Personal.

### Development and Social Skills

The studies determined that students who participated in co-curricular activities (CCAs) won tremendous increases in self-esteem, self-belief, and social skills. This is consistent with Social Learning Theory, which emphasizes the importance of observational getting to know and social interaction in person development (Bandura, 1977).

**Social Skill Development:** Engagement in activities including group sports, drama club, and volunteer paintings enables college students to acquire valuable social abilities like teamwork, communicate, and management. These are more and more visible as being crucial to be triumphant now not simply in academic environments however additionally professionally.

**Emotional Well-Being:** Moreover, participation in CCAs is connected to higher emotional nicely-being. Most contributors felt a experience of belonging and satisfaction, which might be critical for desirable mental fitness. This is particularly essential in Karachi, where students generally tend to stand socio-economic issues that can effect their emotional and mental nicely-being.

### Challenges to Participation

Despite the clear benefits, the study identified several obstacles to participation in co-curricular activities (CCAs), including the lack of time and cultural perceptions. Around 60% of non-participation students cited academic pressure as the main cause of lack of participation, emphasizing the need for a balanced approach to integrate CCAs into the academic structure.

**Addressing Time Shortages:** Educational institutions should find out ways to meet the students' educational obligations and promote real -life activities. This may include planning activities in different times or offer short -term initiatives that require short -term commitment.

**Cultural Prerequisites:** In addition, some students considered educational studies as more important than CCA, which reflects a broad social view of education. To solve this,

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institutions should start an awareness campaign to educate parents and students about the value of CCAs in promoting a roundabout education.

### **Integration of CCAs into the Educational Framework**

The findings advise a compelling case for the combination of co-curricular sports into the formal educational framework. By recognizing the role of CCAs in promoting holistic improvement, educational policymakers can create an extra supportive environment for student engagement.

**Policy Implications:** Educational leaders should suggest for rules that prioritize CCAs as imperative components of the curriculum. This should involve allocating sources for the improvement of various packages that cater to various interests and abilities, ensuring that all students have equitable opportunities to participate.

### **Future Research Directions**

Although this study provides practical information, it also emphasizes the need for further study. Future research can see the long-term effects of CCA participation, and analyze how both academic and individual results are affected over time. In addition, qualitative research can provide more intensive understanding of the attitudes and experiences of students participating in CCAs, which increases our understanding of their educational work.

### **Recommendations**

Based on the findings of the study concerning the impacts of co-curricular activities (CCAs) on higher secondary students at FG Boys Inter College Karachi, numerous actionable recommendations are planned to enhance the efficiency and accessibility of CCAs. These recommendations goal to foster a helpful environment that exploits the benefits of co-curricular appointment for all students.

### **Enhancing CCA Offerings**

**Diverse Activities:** Develop the range of co-curricular activities to comprise a variety of choices such as arts, sports, science clubs, and community deal initiatives. This variety will cater to diverse interests and talents, inspiring broader participation amongst students.

**Regular Assessment of Programs:** Implement an orderly evaluation procedure for current CCAs to assess their significance, popularity, and efficiency. Feedback from students and teachers should be assembled regularly to ensure that events meet the evolving needs and goods of the student body.

### **Increasing Awareness and Promotion**

**Awareness Campaigns:** Launch attentiveness campaigns to highlight the aids of participating in CCAs. These movements can include seminars, workshops, and informational sessions for students and parents, emphasizing how co-curricular involvement contributes to academic success and personal growth.

**Peer Mentorship Programs:** Establish peer mentorship initiatives where senior students can guide and encourage younger students to participate in CCAs. This approach can help demystify the activities and foster a culture of participation within the school.

### **Addressing Barriers to Participation**

**Flexible Scheduling:** Review the scheduling of CCAs to minimize conflicts with academic commitments. Offering activities at various times, such as before or after school and on weekends, can help accommodate students' busy schedules.

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**Support for Students with Time Constraints:** Develop a framework that allows students who face significant time constraints to engage in CCAs in a flexible manner. This could include short-term projects, workshops, or weekend events that do not require ongoing commitment.

### Training and Development for Educators

**Professional Development:** Provide training for teachers and staff to enhance their ability to facilitate and support co-curricular activities. Professional development sessions should focus on leadership, mentorship, and the integration of CCAs into the academic curriculum.

**Encouraging Teacher Participation:** Encourage teachers to actively participate in CCAs as sponsors or mentors. Their involvement can enhance the quality of the programs and provide students with additional support and motivation.

### Monitoring and Evaluation

**Establishing Evaluation Metrics:** Develop clear metrics for assessing the impact of CCAs on student learning outcomes. This could include tracking academic performance, self-esteem, and social skills development over time, allowing for evidence-based adjustments to programs.

**Surveys and Feedback Mechanisms:** Implement regular surveys and feedback mechanisms to gauge student satisfaction and perceived benefits of CCAs. This feedback should inform continuous improvement efforts and help tailor activities to student needs.

### Fostering Community Partnerships

**Collaboration with Local Organizations:** Establish partnerships with local businesses, NGOs, and community organizations to expand CCA offerings and resources. These collaborations can provide students with additional opportunities for engagement and real-world experiences.

**Community Service Initiatives:** Encourage CCAs that focus on community service and social responsibility. This not only benefits the community but also enhances students' social awareness and civic engagement.

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