

Research Paper

Educational Enrichment Beyond Academics: Investigating the Impact of Co-Curricular Activities on Cognitive Abilities, Motivation, and Managerial Skills in Students

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Abstract: The study delves into the impact of co-curricular activities on students' cognitive abilities, academic performance, and managerial skills, emphasising the distinction between externally and internally focused learning. It underscores the pivotal role of cognitive abilities, intrinsic motivation, and Asian cultural values in student success. Managerial skills are identified as crucial for future career readiness, aligning with leadership development. Despite the emphasis on academic achievements, the study argues for the necessity of co-curricular activities for holistic student development. Addressing a research gap, the research quantifies the specific influence of these activities on cognitive abilities, motivation, leadership, and academic outcomes. A longitudinal study involving 2,000 students utilised action research, implementing a "Principle of Management" course with real-life projects. The cyclic nature of planning, implementation, evaluation, and adaptation aligns with action research principles. Findings challenge prescriptive strategies, advocating for descriptive strategies in managing 21st-century challenges. The study concludes that co-curricular activities significantly enhance learning capabilities, recommending an integrated approach for educational institutions and policymakers. The study also stresses diverse activities, intentional learning objectives, communication, inclusivity, as well as a balance between academics and extracurricular pursuits for comprehensive student success.

Keywords: Extracurricular activities, descriptive strategy, student learning, holistic development

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Introduction

Learning literature has developed along two themes depending on internal and external learning sources. Based on a broad and general knowledge search, externally-focused learning, which entails the pursuit of knowledge not already existent within an organisation, enables it to react to unforeseen changes (Amarakoon et al., 2018). Internally-focused learning, on the other hand, entails constructing and integrating knowledge within an institution and is based on a localised and in-depth search for knowledge in specific knowledge domains, enabling less diverse, more certain outcomes in generally stable environments (Eisenhardt & Martin, 2000). Cognitive abilities are the mental processes that are involved in learning, such as attention, memory, reasoning, and problem-solving. Students who are intrinsically motivated to learn are more likely to succeed than those who are motivated by external rewards or pressures (National Research Council, 2000). Many Asian cultures place a high value on education and view academic success as a pathway to future success and prosperity. This cultural emphasis on education can motivate students to work hard and prioritise their academic pursuits (Balestrini & Stoecker, 2018).

Regardless of the career path students choose, they will likely be expected to manage projects, collaborate with others, and make decisions. Thus, developing managerial skills can help students become more prepared and competitive in the job market (Tseng et al., 2019). Managerial skills are closely tied to leadership development. By developing these skills, students can learn how to motivate and inspire others, delegate responsibilities, and communicate effectively (Daniëls et al., 2019). Managerial skills often involve critical thinking, problem-solving, and decision-making. By developing these skills, students can become more adept at identifying and solving complex problems, evaluating options, and making informed decisions (Isen, 1999). Managerial skills refer to the abilities and competencies that enable individuals to effectively manage and organise resources, people, and processes to achieve desired goals.

Additionally, the community must have the capacity to recognise the value of competitive thinking and skills for maintaining students' learning capacities (Sukadari & Huda, 2021). Due to the paradigm shift driven by the age of globalisation, the crucial course of action is to prepare for the anticipated decline in awareness of co-curricular activities. A stronger effort is required to integrate these activities into the lives of younger generations (Ayu et al., 2019). Extracurricular activities refer to activities that students participate in outside of the regular academic curriculum. These activities can include sports, clubs, arts, community service, and various other pursuits. They play a crucial role in the overall development of students by enhancing their skills, promoting teamwork, and fostering personal growth (Buckley & Lee, 2021). Using a co-curricular learning program, the student's learning capacity must be reviewed. To retain the ability to learn, ongoing support should

start early on because it has a significant impact on raising awareness (Ingale, 2014). When implemented effectively, individuals within the community would possess a structured method to identify and enhance their learning capabilities. This not only aids in maintaining their motivation and morale on a day-to-day basis but also ensures that they are adequately supported in their educational endeavors. Such a system would be particularly valuable in nurturing a positive learning environment and promoting continuous personal growth, contributing to the broader objectives of societal development (Duxbury et al., 2017). This requires enhancing co-curricular activities as a strategic pathway to reform society towards particular goals.

The aim of this paper is to examine how co-curricular activities contribute to enhancing the learning capacities, academic excellence, and managerial skills of students. The paper posits that involvement in co-curricular activities can positively impact cognitive abilities, motivation, and leadership development, ultimately influencing academic outcomes. Further, the study emphasises the importance of recognising the value of competitive thinking and skills within the community and calls for an integrated approach to co-curricular activities, starting from a young age. The goal appears to be using co-curricular activities as a strategic pathway to reform society and achieve positive educational outcomes. Moreover, the study employed both quantitative and qualitative methods to gather data from a sample of students from diverse backgrounds and educational levels. The findings of this research will contribute to the development of effective learning strategies and educational policies that can promote student success and improve academic outcomes.

Research Gap

The current education system is focused mainly on academic achievements, with little emphasis on the role of co-curricular activities in promoting student learning and development. Previous research suggests that participation in debate clubs and similar activities positively correlated with improved critical thinking skills among high school students (Newman & Latifi, 2021). Students involved in drama and public speaking activities show significant improvements in their communication skills (Johnson et al., 2021). Another study highlighted that student engaged in leadership and team-based activities demonstrate enhanced leadership qualities and teamwork skills (Kath et al., 2020). Moreover, Warhuus et al. (2017) indicated that participation in creative arts and innovation-focused clubs positively influence students' creativity.

The proposed research aims to address this gap by specifically investigating and quantifying the impact of co-curricular activities on the mentioned learning capabilities. The results are anticipated to contribute valuable insights that can inform educational institutions about the potential benefits of incorporating or enhancing co-curricular programs in their overall educational framework. This

research could serve as a foundation for the development of evidence-based policies and practices that promote a more balanced and comprehensive approach to education.

Research Question

How do co-curricular activities impact students' cognitive abilities, motivation, and leadership development, and how do these effects contribute to enhanced learning capacities, academic excellence, and managerial skills?

Research Objectives

- (a) Investigate how participation in co-curricular activities influences cognitive abilities, including attention, memory, reasoning, and problem-solving.
- (b) Examine how involvement in co-curricular activities contributes to the development of managerial skills such as critical thinking, problem-solving, decision-making, and effective communication.
- (c) Explore the correlation between participation in co-curricular activities and academic outcomes, emphasising the potential positive influence on academic excellence.

Literature Review

In today's fast-paced and highly competitive world, learning capabilities are more important than ever for students to succeed. Developing strong learning capabilities can help students acquire knowledge, think critically, and solve problems effectively. However, the traditional methods of teaching and learning may not be enough to build these capabilities. Thus, it is essential to explore and build new learning capabilities that can aid students in developing the necessary skills and mindset to excel academically and professionally. By delving into this literature, educators can gain insights into the latest research and best practices for enhancing students' learning capabilities, and students can discover new ways to become better learners and achieve their goals.

Learning Capabilities

The literature on learning has developed along two themes, depending on internal and external learning sources. Based on a broad and general knowledge search, externally-focused learning, which entails the pursuit of knowledge not already existent within an organisation, enables it to react to unforeseen changes (Amarakoon et al., 2018). Internally-focused learning, on the other hand, entails constructing and integrating knowledge within an institution and is based on a localised and in-depth search for knowledge in specific knowledge domains, enabling less diverse, more certain outcomes in generally stable environments (Aiken & Becker, 2023). Both externally

and internally-focused learning can work synergistically to facilitate innovation (Weerawardena et al., 2006).

Cognitive abilities are mental processes that are involved in learning, such as attention, memory, reasoning, and problem-solving. Strong cognitive abilities are important for acquiring and retaining new information and applying it in various contexts (Peng & Kievit, 2020). Students have different learning styles, such as visual, auditory, or kinaesthetic, which influence how they best learn and process information. Understanding one's learning style can help students identify strategies that will help them learn more effectively (Lövdén et al., 2020). Motivation is a key factor in learning, as it determines a student's willingness to engage in the learning process and persist in the face of challenges (Tsai et al., 2020). Students who are intrinsically motivated to learn are more likely to succeed than those who are motivated by external rewards or pressures (Talukder et al., 2022). Moreover, self-regulation refers to the ability to manage one's own thoughts, emotions, and behaviours to achieve a desired goal. Students who can regulate their own learning are better able to stay focused, set goals, and monitor their progress (Robson et al., 2020). Further, social and emotional skills, such as empathy, communication, and self-awareness, are important for developing positive relationships with teachers and peers, managing stress and anxiety, and resolving conflicts (Bai et al., 2021). Prior knowledge and experiences can influence a student's ability to learn and understand new information. Additionally, students who come from backgrounds that provide rich experiences and exposure to diverse ideas and perspectives are more likely to succeed academically (Adaku et al., 2022).

Many Asian cultures place a high value on education and view academic success as the pathway to future success and prosperity. This cultural emphasis on education can motivate students to work hard and prioritise their academic pursuits (Balestrini & Stoeger, 2018). In some Asian countries, there may be a high level of pressure on students to perform well academically, both from their families and from society. While this pressure can be challenging for some students, it can also motivate them to work hard and achieve their goals (Feld & Shusterman, 2015). Some Asian education systems place a strong emphasis on rote learning, or memorisation of information. While this approach may have limitations, it can help students develop a strong foundation of knowledge that can be built upon later (Yang & Dai, 2011). Moreover, in many Asian countries, there may be a strong network of support for students, including after-school programs, tutoring, and mentoring. This support can help students develop their academic skills and stay motivated to succeed (Mishra, 2020).

Co-curricular Activities

Activities and programs that support students' formal academic learning in educational institutions are referred to as co-curricular activities. Although these

activities have nothing to do with the academic curriculum, they are still intended to help students understand their learning materials and complete their various skill-development tasks (Dhanmeher, 2014). According to past research, co-curricular activities are a set of activities related to an institute's program that help students develop fundamentally outside of the topics for the examination schedule (Siddiky, 2020). According to (Vos et al., 2018), these are learning opportunities outside of the classroom that support classroom learning. Thus, co-curricular activities are programs and events that, while they support the curricula or core educational activities, are typically conducted outside of the classroom. These activities are crucial components of educational institutions because they help students to develop their moral values, personality, integrity, and ethics while also enhancing classroom instruction (Singh, 2017). Along with extracurricular activities, co-curricular activities are essential for students' physical, mental, moral, intellectual, behavioural, and civic development (Siddiky, 2019). Due to their beneficial effects on students' academic performance, development of a variety of skills, and personality, co-curricular activities have drawn considerable attention from researchers and academics around the world (Brandfon, 2018; Ivaniushina & Zapletina, 2015; Ivanova et al., 2017; Siddiky, 2019).

Student self-development activities held at academic institutions as one of the co-curricular activities is a potential medium for developing the character and mindset of students (Sukadari & Huda, 2021). Co-curricular activities are learning opportunities outside of the classroom that help students to grow in accordance with their needs, potentials, abilities, and interests by engaging in activities that are specifically planned by teachers in educational institutions (Kholid et al., 2018). Students are expected to enhance their potential, competence, and achievement through co-curricular activities, as well as their skills and a sense of social responsibility (Ivanova et al., 2017). In elementary school children, co-curricular activities assist their topic learning and development in accordance with their needs, potentials, talents, and interests (Huda et al., 2021). As such, co-curricular activities for art can become a medium for developing the potential of students so that they can hone their decision-making skills for life, with honesty, discipline, responsibility, and tolerance. As such, guidelines with clear instruction play a significant role in helping learners to master their practices.

Managerial Skills

Regardless of the career path students choose, they will likely be expected to manage projects, collaborate with others, and make decisions. Thus, developing managerial skills can help students become more prepared and competitive for the job market (Tseng et al., 2019). Managerial skills are closely tied to leadership development. By developing these skills, students can learn how to motivate and inspire others, delegate responsibilities, and communicate effectively (Daniëls et al., 2019). Moreover, many

students are interested in starting their own businesses or pursuing entrepreneurial ventures. In this respect, managerial skills are crucial for entrepreneurs, as they need to be able to manage finances, plan and execute strategies, as well as build and lead teams (Fayolle, 2018). Managerial skills can also benefit students in their personal and professional lives. These skills can help students become more organised, efficient, and effective in their work, as well as better able to manage their time and resources (Baticulon et al., 2021). Managerial skills often involve critical thinking, problem-solving, and decision-making. By developing these skills, students can become more adept at identifying and solving complex problems, evaluating options, and making informed decisions (Isen, 1999).

Managerial skills refer to the abilities and competencies that enable individuals to effectively manage and organise resources, people, and processes to achieve desired goals. First, leadership skills is the ability to inspire, motivate, and guide others to achieve a common goal (Adair, 2007). Co-curricular activities often provide opportunities for individuals to develop and practise their leadership skills. Second, communication skills is the ability to convey information clearly and effectively, and to listen actively to others (Sen, 2007). In co-curricular activities, students often need to collaborate with others, communicate effectively, and build relationships. Third, decision-making skills is the ability to identify problems, evaluate options, and make informed decisions (Greenbank, 2010). Co-curricular activities often present individuals with challenges and problems that require quick thinking, analysis, and decision making. Fourth, planning and organising skills is the ability to create and implement plans, prioritise tasks, and allocate resources effectively (Shariff et al., 2013). Co-curricular activities offer a practical platform for applying managerial skills in real-life scenarios.

Fifth, financial management skills is the ability to manage budgets, track expenses, and analyse financial data (Falahati et al., 2011). Co-curricular activities often require financial resources to organise events, trips, or projects. Sixth, human resource management skills is the ability to hire, train, develop, and manage employees (DeCenzo et al., 2016). Co-curricular activities often involve teamwork and collaboration, which are fundamental aspects of human resource management. Seventh, time management skills is the ability to manage one's own time and prioritise tasks effectively (Alvarez Sainz et al., 2019). Co-curricular activities often require balancing multiple commitments alongside academics. Eighth, problem-solving skills is the ability to identify problems, analyse data, and develop solutions (Snyder & Snyder, 2008). Engaging in co-curricular activities can help individuals develop and hone their problem-solving abilities. Ninth, project management skills is the ability to plan, organise, and oversee projects from start to finish (do Amaral et al., 2015). Co-curricular activities often involve organising and executing projects, events, or initiatives. Engaging in these activities provides individuals with hands-

on experience in project management. Lastly, negotiation skills is the ability to communicate and negotiate effectively with others (Rolloff et al., 2003). Engaging in co-curricular activities provides individuals with opportunities to develop and practise negotiation skills to resolve conflicts and reach mutually beneficial solutions.

Methodology

Design Overview

This is a longitudinal study which was conducted in three phases throughout 2022 and 2023. Based on the theoretical understanding of the phenomenon, it has been observed that learning capabilities can be developed through different strategies. To investigate the phenomenon and to generate evidence-based arguments, the “Action Research” approach was adopted for this study. Action research is a method for enhancing strategies for teaching. Its techniques include action, assessment, and reflection. To modify or enhance practices, a process of evidence gathering must be employed (Coghlan, 2023). Action research is characterised by its emphasis on action, assessment, and reflection. It involves a cyclic process of planning, acting, observing, and reflecting to improve practices (Ahmadi, 2023). This study aligns with the goal of producing practical knowledge that can be useful in the everyday conduct of education. It is useful to consider action research as a different paradigm of educational research when considering its goal. Further, we prefer to consider action research as a subset of the more general idea of living knowledge.

Living knowledge has been characterised as “a quest for life, to understand life and to create knowledge which is valid for the people” (Reason & Bradbury, 2001, p. 1). Why should educators care about living knowledge as part of educational research? As mentioned above, action research is meant “to produce practical knowledge that is useful to people in the everyday conduct of their lives and to see that action research is about working towards practical outcomes” (Koshy, 2009). Since action without reflection and understanding is blind, just as theory without action is meaningless, this involves developing new forms of understanding. Due to its participatory nature, action research can only be done with, by, and for people and communities. Ideally, all stakeholders should be included in both the questioning and sense-making process that informs the research as well as the action that the study is focused on (Reason & Bradbury, 2001).

Participants

The participants of the study were students from three different classes. The sample size for this study was determined as 2,000 participants. The selection of this sample size was based on the need for a robust and diverse dataset that adequately represents students from various backgrounds and educational levels. The selected participant

must be an enrolled student at college who attends class regularly. The participant must also not leave the term before completion and must attend all the classes and activities during the study observation period.

Intervention Design

The primary purpose of this intervention design is to provide students with a practical and hands-on experience. A course called “Principle of Management” was designed using the outcome-based framework, and the students were supposed to plan and execute a real-life event as their final project. By planning and executing real-life events, students are expected to gain insights into strategy formulation, implementation, and evaluation. The study used the action research methodology to select a suitable school of strategy formation for formulating the strategy for these events. The entire process is structured in a cyclical manner (as shown in Figure 1). The cyclical nature of the intervention, involving continuous planning, implementation, evaluation, and adaptation, aligns with the principles of action research. The goal is not only to impart theoretical knowledge, but also to develop students’ practical skills in strategic management. Additionally, a structured questionnaire with a 5-point Likert scale was administered to assess students’ satisfaction, providing valuable feedback for further refinement of the intervention. The questionnaire was distributed to students who had completed the “Principle of Management” course and participated in a real-life event project physically and through online means to reach a broader audience (Rahman & Lee, 2022). Once the survey responses were collected, we conducted a quantitative data analysis using Microsoft Excel to derive insights into the levels of satisfaction among students.



Figure 1. Action research methodology

(a) Step 1: Plan the Event, Formulate the Strategy

Strategy formulation involves using the knowledge already at hand to record the anticipated course of a firm and the practical procedures to achieve its objectives. This procedure is used to allocate resources, set priorities, align the entire organisation, and validate business objectives.

(b) Step 2: Implement the Strategy

Implementing the strategy is the process of putting plans into practice to achieve the desired result. In essence, it is the art of accomplishing things. Every organisation's ability to carry out decisions and crucial procedures effectively, consistently, and efficiently determines how successful it will be.

(c) Step 3: Evaluate the Strategy

Strategy evaluation is the process of analysing a strategy to see how successfully it has been implemented and carried out. When making decisions about your strategy, a strategy evaluation is a tool for internal analysis that should be used as a component of a larger strategic analysis for the organisation.

(d) Step 4: Incorporate Changes

Including or integrating a part into the whole is what it means to incorporate. A more active variant of the word "include" is "incorporate," which means to add something to the mix. In the world of business, incorporation is a legal procedure.

Implementation and Data Collection

Phase 1

Project Cricket League (CL) was executed in September 2022, as a part of the students' final project in which they are supposed to plan and execute an event. In this phase, the prescriptive strategic stance was used to formulate and implement the strategy for the project. Prescriptive strategy is a management strategy in which the company's goals are precisely outlined in advance and a thorough plan is created and followed to achieve them. The main benefit of this technique is that goals can be set, and progress can be tracked. The Cricket League project was an initiative with the objectives to collect funds for flood relief in Pakistan, to promote the sport of cricket and to provide a platform for enthusiasts to showcase their skills. The project involved organising a competitive cricket tournament involving multiple teams. The project involved team selection, tournament format, event management, and audience engagement. A total of 0.3 million PKR was collected with the registration of 15 teams and an audience size of 60.

Phase 2

After the drastic failure of the Project Cricket league, the Technical Symposium IEEE project was executed in December 2022, and based on the reflections of Project CL, students adopted the descriptive strategy instead. The descriptive strategy focuses on the requirement for organisations to assess how their strategies are really implemented in practice. According to this method, it is critical to comprehend how a strategy is applied by actual businesses in the real business environment. The aim of the symposium was to create an intellectual platform for knowledge-sharing and discussion on a specific subject or theme. Typically, a symposium involves a series of presentations, lectures, and panel discussions. This project consisted of topic selection, speaker invitation and coordination, event planning, marketing, and promotion. A total of 1.6 million PKR was collected with the participation of seven universities and an audience size of 1,123.

Phase 3

After the successful execution of Project Technical Symposium IEEE, to confirm the effectiveness of the descriptive strategy, Project Societies Fair was executed in February 2023 using the same approach. The event was again successfully executed. The Societies Fair aimed to showcase the diverse range of student societies and clubs in an educational institution. The fair provided an opportunity for students to explore their interests, discover new hobbies, and join societies aligned with their passions. The project consisted of society recruitment, fair logistics, promotion, engagement, and registrations. A total of 0.64 million PKR was collected with the registration of 1,280 participants and an audience size of more than 800.

Data was then collected from students who had completed the “Principle of Management” course and participated in real-life event projects using a questionnaire. Once the survey responses were collected, we conducted quantitative data analysis using Microsoft Excel to derive insights into the levels of satisfaction among students.

Results and Findings

The results for Project Cricket League (shown in Table 1) indicate that the project was a total failure and imply that the strategy adopted (Prescriptive Strategy) was not successful. The event did not achieve its full potential, so the students were unable to acquire the expected managerial competencies.

Table 1. Project Cricket League

Objectives	Learning Mode	Target	Results
1. Impart managerial skills in students	Conventional classroom	Funds collected: 1 million	Funds collected: 0.3 million
2. Promote positive image of institution	learning	No. of teams registered: 55	No. of teams registered: 15
3. Provide a day of festivity to students		Audience size: 300 Satisfaction rate: 85%	Audience size: 60 Satisfaction rate: 45%

The results for Project Technical Symposium IEEE (shown in Table 2) indicate that the descriptive strategy was successful as compared with prescriptive strategy. The event was successful and totally self-sustained, while students developed managerial skills.

Table 2. Project Technical Symposium IEEE

Objectives	Learning Mode	Target	Results
1. Impart managerial skills in students	Learning through real-life	Funds: 1.5 million	Funds: 1.6 million
2. Promote positive image of institution	extra-curricular/	No of universities participated: 5	No. of universities participated: 7
3. Provide a day of festivity to students	co-curricular activities	No of projects exhibited: 35	No. of projects exhibited: 42
		Audience size: 1,000	Audience: 1,123
		Satisfaction rate: Above 80%	Satisfaction rate: 83%

The results for Project Societies Fair (shown in Table 3) reveal that the event was historical and highly profitable, and students developed managerial skills. The positive image of the institution was also amplified as it was a very successful event. Even the students from other institutions were interested to buy tickets. Beyond the expected 1,000 target, 1,200 registered, resulting in a houseful event. The success of the event also demonstrated that the descriptive strategy is more powerful and flexible in coping with the dynamics of the 21st century.

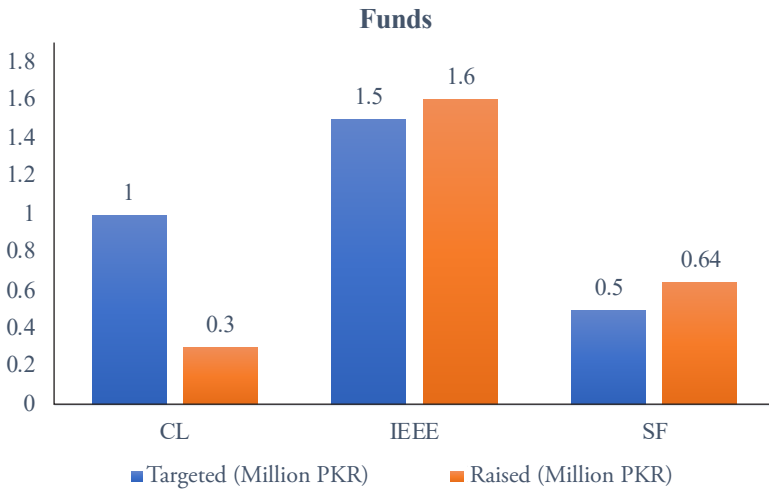


Figure 2. Targeted and actual funds raised for all three projects

Table 3. Project Societies Fair

Objectives	Learning Mode	Target	Results
1. Impart managerial skills in students	Learning through real life extra-curricular/ co-curricular activities	Funds: 500, 000 PKR	Funds: 640,000 PKR
2. Promote positive image of institution		No of societies: 18	No. of societies: 19
3. Provide a day of festivity to students		No of registered students: 1,000	No. of registered students: 1,280
		Audience size: 600	Audience size: 800
		Satisfaction rate: Above 80%	Satisfaction rate: above 86%

Table 4. Three projects at glance

Intervention Strategies (Project)	Conventional Classroom (Cricket League)		Teaching through real-life exposure (Technical Symposium)		Teaching through real-life exposure (Societies Fair)	
Variables	Target	Results	Target	Results	Target	Results
1. Funds (PKR)	1 M	0.3 M	1.5 M	1.6 M	0.5 M	0.64 M
2. Audience size	300	60	1,000	1,123	600	800
3. Satisfaction rate	85%	45%	80%	83%	80%	86%
4. Evaluation	Failure		Success		Success	

Implementation Challenges

There were several implementation challenges as reported by the students:

- (a) Securing sufficient resources such as cricket grounds, equipment, and qualified umpires
- (b) Ensuring that matches were evenly spaced and accommodating the availability of players
- (c) Securing of renowned experts and speakers for the symposium due to scheduling conflicts, travel constraints, or other professional commitments.
- (d) Organising a symposium often involves expenses related to speaker fees, travel, accommodation, venue rental, audio-visual equipment, and marketing.
- (e) Encouraging active participation from attendees and ensuring their engagement throughout the symposium.
- (f) Coordinating logistics for numerous society stalls, ensuring they were adequately set up, and managing the flow of visitors
- (g) While the fair serves as a platform for student societies to attract new members, ensuring the retention of members in the long run can be challenging.

Discussion and Conclusion

The current study demonstrates that the dynamics of 21st century cannot be handled through the prescriptive school of strategy formation — an explicit strategy that bounds strategists to a particular plan and not allowing change according to arising situations. On the other hand, the descriptive school of strategy formation with emergent strategies provides room for change, and the strategy can be modified according to arising issues or situations. Conventional strategic planning is one of the main concerns of academic institutions. This process is challenging as it is important for the institution to acquire a competitive edge and for students to learn. In this respect, the current study explored the role of extracurricular activities in enhancing learning capabilities among students. From the results, it is evident that participating in extracurricular activities positively impacts students’ various aspects of learning and development. The prescriptive strategy is not able to meet the demands of the 21st century, as the results indicate. Further, the descriptive strategy proved to be more successful and productive in helping students develop managerial skills and this aligns with the findings of a previous research (Isen, 1999).

Table 5. Results of phases/projects

Phase	Time	Project	Teaching Mode	Results
Phase 1	September 2022	Cricket League (CL)	Conventional Classroom teaching	Failure

Table 5. (con't)

Phase	Time	Project	Teaching Mode	Results
Phase 2	December 2022	Technical Symposium IEEE	Teaching through real-life exposure	Successful
Phase 3 (Confirmation Phase)	February 2023	Societies Fair (SF)	Teaching through real-life exposure	Successful

The study began by comparing the prescriptive and descriptive schools of strategy formation in the context of managing 21st-century challenges. Results indicate that the descriptive strategy, with its emergent nature that allows flexibility and adaptability, is more successful and productive in supporting students' managerial learning compared to the prescriptive strategy. In September 2022, Project Cricket League was launched as the first experiment based on the prescriptive strategy and the results reveal that the strategy failed in developing managerial skills in students. The students' satisfaction rate was also not satisfactory. Later in December 2022, the second project Technical Symposium IEEE was carried out using the descriptive strategy and the results (shown in Table 2) reveal that the project was successful, and the student satisfactory rate was also excellent. It is important to note that while extracurricular activities offer numerous benefits, they should be balanced with academic responsibilities to avoid overburdening students (Siddiky, 2019). Further, schools and educators play a crucial role in providing a supportive environment that encourages participation and ensures a healthy balance between academics and extracurricular pursuits (Brandfon, 2018).

To confirm the findings of the second project, Project Societies Fair (SF) was executed as the third experiment to verify the usefulness and reliability of the descriptive strategy. The results of the third project (Table 3) reveal that it was a historical success, and the student satisfaction rate was also remarkable. So, the results clearly indicate that descriptive school of strategy formation is more effective and reliable in handling the challenges of 21st century as compared with the prescriptive school of strategy formation.

Additionally, the results show that extracurricular activities contribute to the holistic development of students. They provide opportunities for physical fitness and promote a healthy lifestyle. They also help students build self-confidence, resilience, and a strong work ethic. Moreover, these activities often cultivate leadership qualities as students take on responsibilities and roles within their chosen pursuits. Additionally, extracurricular activities have been found to enhance academic performance (Ivanova et al., 2017). Research indicates that students involved in such activities exhibit higher levels of motivation, engagement, and discipline.

They develop better time management skills and learn to balance their academic commitments with their extracurricular pursuits (Kholid et al., 2018). This improved academic performance can lead to increased opportunities for scholarships, college admissions, and future success.

The results also highlight a stark contrast in the effectiveness of the two teaching strategies adopted for teaching managerial skills. Conventional classroom learning (Project Cricket League) resulted in failure, while learning through real-life activities (Projects Technical Symposium IEEE and Societies Fair) showed success. Learning through real-life extracurricular activities consistently demonstrated success in imparting managerial skills, as evidenced by the successful outcomes of Project Technical Symposium IEEE and Project Societies Fair. Moreover, real-life extracurricular projects (Technical Symposium and Societies Fair) not only achieved their objectives but also exceeded the planned outcomes, contributing to a positive image of the institution and higher satisfaction rates compared to the project carried out using the conventional classroom approach. The two projects also demonstrated financial success, surpassing the targeted fund collection. Thus, the study demonstrates that the descriptive strategy, characterised by learning through real-life activities, is more powerful and flexible in meeting the needs and challenges of the 21st century.

Lastly, extracurricular activities have the potential to significantly enhance learning capabilities among students. By providing avenues for skill development, promoting life skills and holistic development, and positively impacting academic performance, these activities contribute to a well-rounded education. Thus, it is crucial for educational institutions and policymakers to recognise the importance of extracurricular activities and provide ample opportunities for students to engage in these enriching experiences.

Implications for Academic Institutions

The study underscores the need for academic institutions to consider a shift from prescriptive to descriptive strategies in addressing the challenges of the 21st century. The findings emphasise that descriptive strategies, characterised by flexibility and adaptability, are more successful and productive in the context of students' managerial learning. While acknowledging the positive impact of extracurricular activities, the study also emphasises the importance of maintaining a balance with academic responsibilities. In this respect, academic institutions and educators are urged to create a supportive environment that encourages participation in extracurricular pursuits without overburdening students.

Further, the success of real-life extracurricular projects, such as the Technical Symposium IEEE and Societies Fair, highlights the effectiveness of the descriptive

strategy. The outcomes suggest that this strategy is not only reliable but also adaptable to the dynamic challenges of the 21st century. Extracurricular activities are recognised as contributors to holistic student development. The findings highlight their role in promoting physical fitness, building self-confidence, instilling resilience, and cultivating leadership qualities among students. Moreover, the positive outcomes of real-life projects contribute to an overall positive image of an institution.

The results showed that real-life extracurricular projects not only achieved their intended learning objectives, but also demonstrated financial success — the actual funds collected surpassed the target. Moreover, engagement in extracurricular activities is associated with improved academic performance, including higher motivation, engagement, discipline, and better time management skills. These implications highlight the importance of academic institutes offering a diverse range of extracurricular activities aligned with students' interests and talents. Providing options such as sports, arts, music, debate, and community service allows students to choose activities that resonate with their passions, fostering motivation and engagement.

Additionally, extracurricular activities should be designed with intentional learning objectives aligned with the educational goals and values of the institution. This strategic alignment ensures that extracurricular endeavours contribute meaningfully to the overall educational experience of students. Regular communication and coordination between extracurricular activity organisers and teachers is crucial. This collaborative approach maximises the learning potential of extracurricular activities, ensuring a seamless integration with the academic curriculum.

Limitations and Recommendation for Future Researchers

First, Project Cricket League offered a practical application of organising a sports tournament and managing teams, providing valuable insights into the dynamics of cricket leagues. Second, Project Symposium contributed to knowledge dissemination and intellectual discourse on a specific subject, bringing together experts, researchers, and students. Third, Project Societies Fair promoted student engagement, encouraged exploration of diverse interests, and facilitated the formation of social connections within the student community.

The study provided details about the analysis of team performance, player statistics, and match outcomes. This can provide valuable insights into success factors, player contributions, and overall tournament dynamics. Future researchers can discuss the evaluation methods used for symposium presentations, including criteria such as content quality, presentation skills, and audience engagement. This can provide insights into effective presentation strategies and the impact on knowledge

dissemination. Third, future research can also look at the fair's effectiveness in promoting diversity and representation among student societies. This can include examining the range of societies represented, inclusivity initiatives, and the fair's impact on fostering a vibrant student community.

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