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All submitted manuscripts will be externally reviewed. Publication decisions are made ultimately by the Editorial Board. The accuracy of information presented in the submitted articles is the responsibility of the author/s. The views presented in the journal are the personal views of the author/s and do not necessarily reflect the views of the journal's Editorial Board of Stella Matutina College of Education.

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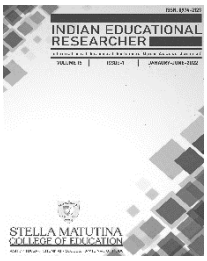

EDITORIAL

Education in the contemporary era is increasingly influenced by technological integration, learner well-being, and inclusive teaching practices. As classrooms evolve to meet the demands of the 21st century, research plays a vital role in guiding educators toward effective, ethical, and learner-centered approaches. This issue of the Indian Educational Researcher presents a collection of research and conceptual articles that address significant challenges and innovations in present-day education.

The research article Construction and Validation of Techno-Pedagogical Skill Questionnaire for High School Teachers by K. Harankumar and Dr. Sr. M. Irudhaya Mary focuses on the development of a reliable tool to assess teachers' techno-pedagogical competencies. The study highlights the growing importance of technology-integrated teaching skills in enhancing instructional effectiveness.

Dr. P. Caroline Jeba Sorna's article on Psychological Wellness of High School Students draws attention to students' mental and emotional well-being, emphasizing the need for supportive school environments that promote resilience and positive mental health.

Exploring higher education contexts, The Relationship between Social Media Usage and Academic Motivation among University Students: The Mediating Role of Sleep Quality by Dr. G. Umamageswari examines how digital behaviors influence academic motivation. The study underscores the interconnectedness of lifestyle habits, well-being, and academic performance.

Addressing inclusive education, Teaching Strategies for Children with ADHD by Dr. B. Annapoorani provides practical insights into classroom strategies that support learners with attention-related challenges. The article emphasizes differentiated instruction and empathetic teaching approaches.

The issue concludes with Innovative Teaching for Transformative Learning: NEP 2020 Perspectives by Dr. Annapriya J., which discusses innovative pedagogical practices aligned

with the National Education Policy 2020. The article highlights the role of teachers in fostering experiential, competency-based, and learner-centered education.

The editorial team of the Indian Educational Researcher expresses sincere gratitude to all the contributors for their scholarly efforts. Their research enriches academic discourse and supports the journal's commitment to excellence in teaching, learning, and research.

We invite educators, researchers, and scholars to contribute original research articles, conceptual papers, and reflective studies to future issues of the Indian Educational Researcher, particularly on themes related to educational innovation, learner well-being, technology integration, and inclusive education.

Editorial Board

Research Article

CONSTRUCTION AND VALIDATION OF TECHNO-PEDAGOGICAL SKILL QUESTIONNAIRE FOR HIGH SCHOOL TEACHERS

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Abstract

The study aimed to develop and validate a tool for measuring The Techno-Pedagogical Skills of High School Teachers. The initial draft of the tool comprised 50 items distributed across three dimensions namely Technological Knowledge, Techno-Pedagogical Knowledge, and Creativity and Innovation. A pilot study was conducted employing the test–retest method to determine the reliability of the draft tool. Following the analysis, the final tool consisted of 47 items. Item-total correlation was examined alongside item difficulty and discrimination indices. Content validity was established through expert review, and the reliability coefficient of the tool was calculated. Items with a reliability value below 0.50 were eliminated and the final tool of the Techno-Pedagogical Skills questionnaire was standardized.

***Keywords*:** Construction, Validation, Validity, Reliability, Techno Pedagogical Skills,

INTRODUCTION

In the rapidly evolving educational landscape, technology integration has become an essential component of effective teaching practices. High school teachers are increasingly required to demonstrate not only subject expertise but also competence in Techno-Pedagogical Skills, the ability to integrate technology with pedagogy to enhance the teaching and learning process effectively. Assessing these skills demands a scientifically developed and rigorously tested measurement tool. The construction and validation of a Techno-Pedagogical Skill Questionnaire for high school teachers is, therefore, crucial for both research and practice. Such an instrument enables educators, policymakers, and researchers to identify current competency levels, plan targeted professional development, and evaluate the impact of technology driven teaching interventions. Establishing the reliability and validity of the tool is a crucial step to

ensure that it accurately and consistently measures the intended construct across different contexts. This process involves systematic item generation, expert validation, pilot testing, and statistical analyses to confirm internal consistency, content validity, construct validity, and criterion-related validity. The present study aims to construct and validate a comprehensive Techno-Pedagogical Skill Questionnaire tailored for high school teachers, thereby providing a robust instrument to assess and enhance techno-pedagogical integration in education.

Techno-pedagogical skills represent a teacher's capacity to effectively integrate technology with pedagogy to enrich the teaching and learning process. These skills combine technological proficiency, pedagogical understanding, and content expertise, empowering educators to design engaging, learner-centered, and technology-enhanced instruction. They involve the thoughtful selection of digital tools, the creation of interactive learning experiences, and the promotion of critical thinking and creativity through innovative, technology-driven pedagogical approaches.

Objective of the Study

The objective of the study was focused on to construct and validate the Techno Pedagogical Skill questionnaire for high school teachers.

Construction of Techno Pedagogical Skills Questionnaire.

The investigator conducted an extensive review of literature by consulting books on techno-pedagogy, research articles, book chapters, journals, theses, and credible web resources to gain a comprehensive understanding of the concept, nuances, and significance of techno-pedagogy and techno-pedagogical skills in the educational context. Building on this knowledge and under the guidance of the research supervisor, the investigator developed a draft tool to assess the techno-pedagogical skills of high school teachers, ensuring its alignment with the criterion of relevance. In consultation with the research supervisor and subject experts, three core dimensions were identified, namely Technological Knowledge, Techno-Pedagogical Knowledge, and Creativity and Innovation, as suggested by Mishra and Koehler (2006). The initial draft of the tool comprised 60 items distributed across these dimensions.

Pilot Study

After preparing the first draft of the Techno-Pedagogical Skill Questionnaire, it was submitted to the research guide, and corrections were made based on the suggestions and expert opinions received. The investigator then revised the items of the questionnaire accordingly. Once the final draft was prepared, the investigator decided to administer the tool, consisting of 50 items, to 125 teachers working in the following schools in Thiruvallur district: Government High School, Sivada; Government Higher Secondary School, Kanakammachatram; Government Higher Secondary School, Thiruvvalangadu; Government High School, Pattaraiperumbuthur; Government High School, Thiruupattchur; and Government Higher Secondary School, Poondi. The teachers were requested to select their responses by ticking the appropriate option from the five given choices: Strongly Agree, Agree, and Undecided, Disagree, and strongly disagree for each item. The responses were scored as 5, 4, 3, 2, and 1 for positive statements, and 1, 2, 3, 4, and 5 for negative statements.

Item Analysis

After collecting the data, the investigator conducted an item analysis of the Techno-Pedagogical Skill Questionnaire. The correlation values of the tool items ranged between 0.30 and 0.80. Items with a correlation value of 0.40 and above were considered valid and were retained, while the remaining items were discarded. Based on this analysis, three items were removed from the tool. Consequently, the final draft of the Techno-Pedagogical Skill Questionnaire consisted of 47 items. Hence, the reliability of the tool was established. The detailed item analysis of the questionnaire is presented below.

Techno Pedagogical Skill Questionnaire – Item Analysis Results

Item No	Cor. Value	Remarks	Item No	Cor. Value	Remarks
Item1	0.646934	Selected	Item26	0.737491	Selected
Item2*	0.325846	Eliminated	Item27	0.715201	Selected
Item3	0.411757	Selected	Item28	0.815154	Selected
Item4	0.416895	Selected	Item29	0.733786	Selected
Item5	0.770984	Selected	Item30	0.799104	Selected
Item6	0.694442	Selected	Item31	0.727238	Selected

Item7*	0.313781	Eliminated	Item32	0.771718	Selected
Item8*	0.359443	Eliminated	Item33	0.794873	Selected
Item9	0.559392	Selected	Item34	0.811866	Selected
Item10	0.488576	Selected	Item35	0.774325	Selected
Item11	0.462339	Selected	Item36	0.734304	Selected
Item12	0.596028	Selected	Item37	0.710917	Selected
Item13	0.632479	Selected	Item38	0.767074	Selected
Item14	0.716114	Selected	Item39	0.630092	Selected
Item15	0.670658	Selected	Item40	0.599429	Selected
Item16	0.718901	Selected	Item41	0.695496	Selected
Item17	0.58943	Selected	Item42	0.749968	Selected
Item18	0.730673	Selected	Item43	0.719932	Selected
Item19	0.788841	Selected	Item44	0.558202	Selected
Item20	0.772777	Selected	Item45	0.463745	Selected
Item21	0.806041	Selected	Item46	0.633424	Selected
Item22	0.725676	Selected	Item47	0.56495	Selected
Item23	0.642575	Selected	Item48	0.678539	Selected
Item24	0.677103	Selected	Item49	0.673945	Selected
Item25	0.573954	Selected	Item50	0.720467	Selected

Establishing the Validity

The investigator established the facial validity of the Techno-Pedagogical Skill Questionnaire by getting the expert's opinion, namely Dr. Joseph Catherine, Principal, Stella Matutina college of Education, Ashok Nagar, Chennai, and Dr. Reeta Rani Mandal, Associate Professor of Education, Lady Willington College of Education, Chennai, and Dr. Micheal Leo, Assistant Professor of Education from St. Xavier's College of Education (Autonomous), Palayamkottai, Thirunelveli District.

The final tool consisted of 47 items under three dimensions, namely Technological Knowledge with 13 items, Techno-Pedagogical Knowledge with 17 items, and Creativity and Innovations with 17 items.

Techno Pedagogical Skills Questionnaire

S. No	Statements	5	4	3	2	1
I	**Technological Knowledge**					
1	I am confident in using digital tools in the class. வகுப்பில் டிஜிட்டல் கருவிகளைப் பயன்படுத்துவதில் எனக்கு நம்பிக்கை உள்ளது.					
2	I integrate online resources into my lesson plans. எனது பாடத்திட்டங்களில் இயங்கலை ஆதாரங்களை ஒருங்கிணைக்கிறேன்.					
3	I feel comfortable using interactive board in my classroom. எனது வகுப்பறையில் ஊடாடும் பலகையைப் பயன்படுத்துவதை நான் வசதியாக உணர்கிறேன்.					
4	I use google class for sending information to the students. நூன் மாணவர்களுக்கு தகவல்களை அனுப்ப இணைய வழி கல்விமுறையைப் பயன்படுத்துகிறேன்.					
5	I encourage the students to submit the assignments through online mode. நூன் மாணவர்களை இயங்கலை முறையில் ஒப்படைவுகளைச் சமர்ப்பிக்க ஊக்குவிக்கிறேன்.					
6	I stay updated with the latest digital information related to my studies. எனது படிப்புத்தொடர்பான அண்மை டிஜிட்டல் தகவல்களுடன் நான் புதுப்பித்த நிலையில் இருக்கிறேன்.					
7	I use multimedia presentation in my class. எனது வகுப்பில் பல்லூடகக்காட்சியைப் பயன்படுத்துகிறேன்.					
8	I use language laboratory once a week to help the children to learn LSRW skills. குழந்தைகள் டுளுசுறு திறன்களைக் கற்றுக்கொள்ள வாரத்திற்கு ஒருமுறை மொழிஆய்வகத்தை பயன்படுத்துகிறேன்.					
9	I provide students a number of opportunities to learn through online mode. இயங்கலை முறையில் மாணவர்கள் கற்றுக்கொள்ள வாய்ப்புகளை வழங்குகிறேன்.					

10	I use virtual laboratory to enhance teaching of science. ஆறிவியல் கற்பித்தலை மேம்படுத்த நான் மெய்நிகர் ஆய்வகத்தைப் பயன்படுத்துகிறேன்.					
11	I encourage students to use e-gadgets responsibly. முின்-கேட்ஜெட்களை பொறுப்புடன் பயன்படுத்த மாணவர்களை நான் ஊக்குவிக்கிறேன்.					
12	I am able to solve issues quickly while using e-gadgets. முின்-கேட்ஜெட்களைப் பயன்படுத்தும் போது என்னால் சிக்கல்களை விரைவாக தீர்க்க முடிகிறது.					
13	I conduct online quiz and encourage students to participate. நூான் இயங்கலை வினாடி-வினா நடத்தி மாணவர்களை பங்கேற்க ஊக்குவிக்கிறேன்.					
II	**Techno – Pedagogical Knowledge**					
14	I use online applications to support students' learning. முாணவர்களின் கற்றலை ஊக்குவிக்க நான் இயங்கலை விண்ணப்பப் படிவங்களைப் பயன்படுத்துகிறேன்.					
15	I prefer using CANVA for the class. ஏன் வகுப்பிற்கு ஊயுஏயு-வைப் பயன்படுத்த விரும்புகிறேன்.					
16	I use Prezi for conducting online quiz. நூான் இயங்கலை வினாடி-வினா நடத்துவதற்கு ீசநணை –ஐப் பயன்படுத்துகிறேன்.					
17	I pass information to the students using Twitter. நூான் Twitter-Ig; பயன்படுத்தி மாணவர்களுக்குத் தகவல்களை அனுப்புகிறேன்.					
18	I use Ed-puzzle for continuous evaluation. நூான் தொடர்ச்சியான மதிப்பீட்டிற்கு Ed-puzzle –Ig; பயன்படுத்துகிறேன்.					
19	I use online platform to communicate with students and parents. முாணவர்கள் மற்றும் பெற்றோர்களுடன் தொடர்புகொள்ள இயங்கலை தளத்தைப் பயன்படுத்துகிறேன்.					
20	I design activities that require students to use online tools. முாணவர்கள் இயங்கலை கருவிகளைப் பயன்படுத்துவதற்குத் தேவையான செயல்பாடுகளை நான் வடிவமைக்கிறேன்.					

21	I stay updated with latest educational applications. நூான் அண்மைக்கல்விப் பயன்பாடுகளுடன் புதுப்பித்த நிலையில் இருக்கிறேன்.					
22	I attend professional development sessions through online mode. நூான் இயங்கலை பயன்முறையின் மூலம் தொழில்முறை மேம்பாட்டு அமர்வுகளில் கலந்துகொள்கிறேன்.					
23	I complete online courses related to my subjects once in six months. எனது பாடங்கள் தொடர்பான இயங்கலைப்படிப்புகளை ஆறு மாதங்களுக்கு ஒருமுறை முடிக்கிறேன்.					
24	Once in a week I teach through online mode. வாரத்திற்கு ஒருமுறை நான் இயங்கலை முறையில் கற்பிக்கிறேன்.					
25	I use smart board for collaborative teaching. நூான் கூட்டுகற்பித்தலுக்கு திறன் பலகையைப் பயன்படுத்துகிறேன்.					
26	I save pertaining documents in the respective folders. நூான் ஆவணங்களை அந்தந்த கோப்புறைகளில் சேமிக்கிறேன்.					
27	I communicate effectively using e-mail. முின்னஞ்சலைப் பயன்படுத்தி திறம்பட தொடர்புகொள்கிறேன்.					
28	I pass on the information to the parents regarding their wards' academic performance using e-mail. நூான் மின்னஞ்சல் மூலம் குழந்தைகளின் கல்வி செயல்திறன் பற்றிய தகவல்களை பெற்றோருக்கு அனுப்புகிறேன்.					
29	I encourage students to provide feedback through online mode. ,யங்கலைமுறையில் கருத்துக்களை வழங்க மாணவர்களை நான் ஊக்குவிக்கிறேன்.					
30	Every day I use the online tools to teach in my class. ஒவ்வொரு நாளும் எனது வகுப்பில் கற்பிக்க இயங்கலை கருவிகளைப் பயன்படுத்துகிறேன்					
III	**Creativity an Innovations**					
31	I prepare a digital lesson plan. நான் டிஜிட்டல் பாடத் திட்டத்தை தயார் செய்கிறேன்.					

32	I use online teaching tools to enhance my teaching. எனது கற்பித்தலை மேம்படுத்துவதற்கு இயங்கலை கற்பித்தல் கருவிகளைப் பயன்படுத்துகிறேன்.					
33	During the class I provide opportunity for the students to use interactive board. வகுப்பின்போது மாணவர்கள் ஊடாடும் பலகையைப் பயன்படுத்துவதற்கான வாய்ப்பை நான் வழங்குகிறேன்.					
34	I encourage students to prepare an e-content as a group assignment. குழுப் பணியாக மின் உள்ளடக்கத்தைத் தயாரிக்க மாணவர்களை நான் ஊக்குவிக்கிறேன்.					
35	I encourage the students to submit the assignments using digital platforms. டிஜிட்டல் தளங்களைப் பயன்படுத்தி ஒப்படைவுகளைச் சமர்ப்பிக்க மாணவர்களை நான் ஊக்குவிக்கிறேன்.					
36	I encourage students to learn new concepts using online applications. இயங்கலை பயன்பாடுகள் மூலம் புதியகருத்துக்களைக் கற்றுக்கொள்ள மாணவர்களை நான் ஊக்குவிக்கிறேன்.					
37	I encourage students to participate in collaborative activity to complete the assignment. வேலையை முடிக்க மாணவர்களை கூட்டுச் செயல்பாடுகளில் பங்கேற்க நான் ஊக்குவிக்கிறேன்.					
38	I upload digital lessons in my YouTube for students to learn. மாணவர்கள் கற்க டிஜிட்டல் பாடங்களை எனது வலையொளி மூலம் பதிவேற்றுகிறேன்.					
39	I present reports using multimedia. நான் பல்லூடகக்காட்சியைப் பயன்படுத்தி அறிக்கைகளை வழங்குகிறேன்.					
40	I encourage students to prepare e-content to enhance self-learning. சுய-கற்றலை மேம்படுத்துவதற்கு மின் உள்ளடக்கத்தைத் தயாரிக்க மாணவர்களை நான் ஊக்குவிக்கிறேன்.					

41	I browse the net to find relevant answers with respect to the topic. தலைப்பிற்கு பொருத்தமான பதில்களைக் கண்டறிய நான் இணையதளத்தில் தேடுகிறேன்.					
42	I browse authentic websites to look for correct information. சரியான தகவலைத்தேட நம்பகமான வலைத்தளங்களை தேடுகிறேன்.					
43	I help students on how to locate correct information while browsing. உலாவுதலின்போது சரியானத் தகவலை எவ்வாறு கண்டறிவது என்பது குறித்து மாணவர்களுக்கு நான் உதவுகிறேன்.					
44	I update my curricular knowledge through browsing NCTE websites. NCTE வலைத்தளங்களை தேடுவதன் மூலம் எனது பாடத்திட்ட அறிவை மேம்படுத்துகிறேன்.					
45	I integrate Padasalai websites in my teaching process. நான் பாடசாலை வலைத்தளங்களை எனது கற்பித்தல் செயற்பாட்டில் ஒருங்கிணைக்கிறேன்.					
46	I incorporate Kalvi TV , Door Darshan and GyanDarshan lessons in my teaching process. எனது கற்பித்தல் செயல்பாட்டில் முயடஎை வுஏஇ னுழழசனுயசளாயெ யனெ புலயனுெயசளாயெ- ல் பாடங்களை இணைத்துள்ளேன்.					
47	I encourage students to watch TV programmes related to the subjects. பாடங்கள் தொடர்பான தொலைக்காட்சி நிகழ்ச்சிகளைப் பார்க்க மாணவர்களை ஊக்குவிக்கிறேன்.					

Conclusion

The investigator firmly believes that the validated questionnaire will serve as a valuable resource for high school teachers in assessing their current level of Techno-Pedagogical Knowledge and Skills. By identifying their strengths and areas for improvement, teachers can explore appropriate strategies to enhance their competencies in integrating technology with

pedagogy. Furthermore, this tool provides a foundation for future researchers, enabling them to design and develop similar instruments towards diverse populations and educational contexts, thereby contributing to the ongoing advancement of research in Techno-Pedagogical Skills.

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Research Article

Psychological Wellness of High School Students

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Abstract

Psychological well-being is an essential determinant of adolescents' academic success and personal growth. The present study investigated the psychological well-being of 320 Standard IX students in Chennai, including 170 boys and 150 girls, from government, government-aided, and private schools. Data were collected using the Psychological Well-Being Scale by Sisodia & Choudhary (2012). Personal variables such as gender, medium of instruction and type of school were considered. Statistical techniques included t-test and the findings revealed significant differences in psychological well-being across gender and type of school, while no substantial difference was observed in medium of instruction. The results emphasize the need for fostering supportive school environments, equitable opportunities, and parental involvement in enhancing adolescent well-being.

Keywords: Psychological well-being, Adolescents, standard IX students, significance and school management

Introduction

Adolescence is a critical developmental stage marked by emotional, cognitive, and social transitions. Students of Standard IX face heightened academic expectations and the challenges of identity formation, peer relationships, and future planning. Psychological well-being, as conceptualized by Ryff (1989), includes six dimensions namely autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. These dimensions reflect the holistic development necessary for adolescents to thrive in school and beyond. In the contemporary Indian context, where students face increasing academic competition and social pressures, understanding their psychological well-being is vital for educators, parents, and policymakers.

Objectives of the Study

- To study the overall level of psychological well-being of Standard IX students.
- To examine whether psychological well-being differs with respect to gender, medium of instruction and type of school.

Hypothesis of the Study

- **H1** There is no significant difference in the psychological well-being of Standard IX students with respect to gender, medium of instruction and type of school.

Need and Significance of the Study

Secondary school students today encounter a variety of academic, social, and emotional challenges that can impact their overall well-being. Psychological well-being is essential for resilience, motivation, and effective coping in this transitional phase. Standard IX is a particularly crucial stage as it sets the foundation for higher secondary education and career pathways. Studying psychological well-being in this age group helps educators and parents recognize the factors influencing adolescent development and plan interventions for promoting holistic growth. The findings will be significant for curriculum planners, teachers, and policymakers to create supportive environments that nurture students' mental health along with academic achievement.

Review of Literature

Ahmad (2021) found significant gender differences in psychological well-being among senior secondary students. Gupta (2021) revealed that excessive social media use negatively influenced young adults' psychological well-being. Mustafa et al. (2020) established a positive

Dimensions	Gender	N	Mean	Standard Deviation	df	't' value	Level of significance
Satisfaction	Boys	170	36.98	6.853	318	.323	.747
	Girls	150	37.21	5.826			
	Boys	170	34.56	6.778			

Efficiency	Girls	150	34.61	5.303	318	.070	.945
Sociability	Boys	170	38.99	5.893	318	.411	.681
	Girls	150	38.73	5.385			
Mental health	Boys	170	33.69	6.048	318	.718	.473
	Girls	150	34.16	5.649			
Inter-personal Relations	Boys	170	39.42	6.348	318	2.577	.010
	Girls	150	37.63	5.987			
Overall Psychological well-eing	Boys	170	183.64	24.047	318	.511	
	Girls	150	182.35	20.821			

relationship between psychological well-being dimensions and academic achievement among undergraduates. Fomina et al. (2020) reported that self-regulation in adolescence significantly predicts psychological well-being across school transitions. Tomer & Singh (2018) found no significant gender differences in well-being among undergraduates, suggesting developmental variations. Udhayakumar & Illango (2018) highlighted the role of socio-cultural influences in shaping well-being among Tamil Nadu students.

Methodology

Sample

A Stratified Sample of 320 Standard IX students (170 boys, 150 girls) from three government, three government-aided, and four private schools in Chennai.

Tool

Psychological Well-Being Scale by Sisodia & Choudhary (2012) comprising of 48 statements with five dimensions namely Satisfaction, Efficiency, Sociability, and Mental Health and Inter-Personal relations

Personal Variables of the Study

Gender, Medium of Instruction and Type of School

Findings and Interpretation

The following tables present the differences in psychological well-being dimensions across various personal variables.

H I.1 There is no significant difference in the dimensions of Psychological well-being of high school students owing to difference in gender

Table 1 showing the Critical Ratio of the difference in dimensions of Psychological Well-Being with respect to gender

Interpretation

It is seen from the table 1 that the dimensions of Psychological Well-Being namely Satisfaction, Efficiency, Sociability, Mental health, and Overall Psychological well-being are not Significant with respect to gender. The dimension inter-personal relations of Psychological well-being is significant with respect to gender with the 't' value of 2.577 at P<.01. The comparison of mean scores reveals that Boys possess more Inter-personal relation skills than Girls. Hence the hypothesis is rejected for the dimension of inter-personal relations.

H I.2 There is no significant difference in the dimensions of Psychological well-being of high school students owing to difference in medium of instruction

Table 2 showing the critical ratio of the difference in dimensions of Psychological well-being with respect to medium of Instruction.

Dimensions	Sources	Sum of Squares	df	Mean Square
Satisfaction	Between Groups	370.801	2	185.401
	Within Groups	12627.571	317	39.835
	Total	12998.372	319	
Efficiency	Between Groups	539.003	2	269.501
	Within Groups	11414.885	317	36.009
	Total	11953.887	319	

Sociability	Between Groups	111.618	2	55.809
	Within Groups	10084.129	317	31.811
	Total	10195.747	319	
Mental health	Between Groups	117.275	2	58.638
	Within Groups	10837.097	317	34.186
	Total	10954.372	319	
Inter-personal Relations	Between Groups	405.745	2	202.872
	Within Groups	11998.143	317	37.849
	Total	12403.888	319	
Overall Psychological well-being	Between Groups	4793.600	2	2396.800
	Within Groups	157657.022	317	497.341
	Total	162450.622	319	

Interpretation

The table 3 shows that the dimensions of Sociability and Mental health are not significant with respect to type of school. The dimensions Satisfaction, Efficiency, Inter-personal relations and over all Psychological well-being are significant with respect to type of school with 'F' scores 4.654, 7.484,5.360, 4.819 at P<.01. Hence the hypothesis is rejected at 1% level of significance.

Since 'F' is significant for type of school, post hoc test was used to analyze between the categories and the results were presented in the **table 4**

Table 4 showing the multiple comparison of type of school with dimension of Psychological well-being

Games-Howell test				
Dimensions	**Sub variables**	**Mean Difference (I-J)**	**Standard Error**	**Level of significance**

Satisfaction	Boys school vs Girls School	1.955	.962	.108
	Boys school vs Co-education	2.586	.924	.016
	Girls school vs Co-education	.631	.781	.699
Efficiency	Boys school vs Girl's School	2.592	.886	.011
	Boys school vs Co-education	3.067	.864	.001
	Girls school vs Co-education	.475	.747	.801
Inter-Personal Relations	Boys school vs Girls School	3.013	.969	.006
	Boys school vs Co-education	1.028	.866	.462
	Co-education vs Girls school	1.985	.813	.041
Overall Psychological well-being	Boys school vs Girls School	9.078	3.640	.036
	Boys school vs Co-education	8.508	3.210	.024
	Co-education vs Girls school	.570	2.924	.979

From **table 4** we infer that the computed mean difference between Boys school Vs Girls school, Girls school Vs Co-education school shows no significant difference, whereas the mean difference between Boys school Vs Co-education school shows significant difference. It is seen that students of Boys schools favour the dimensions Satisfaction of Psychological well-being.

The computed mean difference between girl's school vs Co-education school shows no significant difference, whereas the mean difference between Boy's school vs Girl's school, Boy's school vs Co-education shows significant difference. It is seen that students of Boy's schools favour the dimensions Efficiency of Psychological well-being.

The computed mean difference between Boy's school vs Co-education school and co-education school vs Girl's school shows no significant difference, whereas the mean difference between Boy's school vs Girl's school shows significant difference. It is seen that students of Boy's schools favour the dimensions Inter-personal relations of psychological well-being.

The computed mean difference between co-education school vs Girl's school shows no significant difference, whereas the mean difference between Boy's school vs Girl's school and Boy's school vs Co-education school shows significant difference. It is seen that students of Boy's schools favour the overall psychological well-being.

Discussion

The study revealed notable gender differences in psychological well-being, consistent with Ahmad (2021), who observed similar differences, but contrasting with Tomer & Singh (2018), who found no significant gender effects among undergraduates. Differences based on school type align with Mustafa et al. (2020), highlighting contextual influences on well-being.

Conclusion

The study concludes that psychological well-being among Standard IX students varies significantly across gender, medium of instruction and type of school. Schools should adopt practices that promote autonomy, personal growth, and positive relationships. Teachers should integrate life skills training and stress management activities. Parents need awareness about their role in nurturing children's well-being. Policymakers should ensure resources to bridge gaps between government and private schools.

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Research Article

The Relationship between Social Media Usage and Academic Motivation among University Students: The Mediating Role of Sleep Quality

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Abstract

This study investigates the relationship between social media usage and academic motivation among university students, with sleep quality examined as a potential mediator. A total of 384 undergraduate students (162 males, 222 females) aged 18–24 years (M = 20.21, SD = 1.62) from four different engineering colleges in Indian participated. Data were collected via the Social Media Use Integration Scale (SMUIS), Pittsburgh Sleep Quality Index (PSQI), and Academic Motivation Scale (AMS). Pearson correlations, independent t-tests, and mediation analysis using Hayes' PROCESS macro (Model 4) were conducted. Results indicated that high social media usage was significantly associated with poorer sleep quality and lower academic motivation. Sleep quality significantly mediated the relationship, accounting for 19% of the variance in academic motivation. These findings highlight the importance of promoting healthy digital habits and sleep hygiene to support academic engagement.

Keywords: Social media usage, Sleep quality, Academic motivation, Self-Determination Digital habits, Sleep hygiene

Introduction

In the past decade, social media platforms have become deeply embedded in the daily routines of university students. Global data suggest that young adults spend between three and five hours per day on platforms such as Instagram, WhatsApp, YouTube, and Facebook (Statista, 2024). While social media offers networking, learning, and entertainment opportunities, excessive use is associated with reduced sleep quality, decreased attention span, and impaired academic performance (Levenson, Shensa, Sidani, Colditz, & Primack,

2016). Academic motivation—defined as the internal and external forces that initiate, guide, and sustain academic behaviours—is a key predictor of university success (Deci & Ryan, 2000).

The Self-Determination Theory (SDT) posits that intrinsic motivation is sustained when students experience autonomy, competence, and relatedness. Sleep quality, as a biological and psychological determinant, can influence these motivational states (Kahn, 2021). Poor sleep affects mood regulation, memory consolidation, and cognitive flexibility, all of which are essential for academic engagement. Empirical studies have identified bidirectional links between technology use and sleep disturbance (Exelmans & Van den Bulck, 2016). Late-night screen exposure can delay circadian rhythms, suppress melatonin production, and reduce rapid eye movement (REM) sleep (Lepp, Barkley, & Karpinski, 2015). Sleep disturbance, in turn, is associated with reduced academic motivation and poorer self-regulation (Beattie, Kyle, Espie, & Biello, 2015). Despite growing research, few studies have explicitly examined whether sleep quality mediates the relationship between social media use and academic motivation. This gap is particularly relevant in developing countries, where smartphone penetration is high and academic pressure intense. The current study addresses this gap by testing a mediation model in a sample of Indian university students.

Need for the Study

University students spend substantial time on social networking platforms each day, often late into the night. Emerging evidence links heavy social media engagement with disturbed sleep and poorer academic functioning (Levenson, Shensa, Sidani, Colditz, & Primack, 2016; Exelmans & Van den Bulck, 2016). At the same time, academic motivation—central to persistence and performance in higher education—depends on cognitive and affective resources that are highly sensitive to sleep quality (Deci & Ryan, 2000; Kahn, 2021). Despite these parallel literatures, the mechanism connecting social media use to academic motivation remains under-specified. Sleep quality is a plausible mediator because evening screen exposure can delay circadian rhythms and degrade restorative sleep, which in turn reduces energy, attention, and self-regulation needed to sustain motivated learning. The study examines bivariate links rather than a process model explaining how social media use may erode academic motivation. Testing mediation advances theory and informs targeted interventions. Second, instrumented, psychometrically sound measures of social media

integration (Jenkins-Guarnieri, Wright, & Johnson, 2013), sleep quality (Buysse, Reynolds, Monk, Berman, & Kupfer, 1989), and motivation (Vallerand et al., 1992) allow a more rigorous, construct-level analysis than single-item indicators often used in campus surveys.

Third, much of the literature is examining students in India, where smartphone penetration and academic competitiveness are high, adds needed cultural context and practical relevance for local policy and campus wellness programming. Finally, understanding an actionable mediator like sleep quality can guide low-cost, high-yield strategies (e.g., digital curfews, sleep-hygiene, education) that universities can implement at scale to protect students' motivational resources.

Review of Related Literature

Social media use and sleep outcomes

Cross-sectional and diary studies link higher social media or smartphone engagement, especially near bedtime, to shorter sleep duration, longer sleep latency, and poorer subjective sleep quality. Proposed mechanisms include light-induced melatonin suppression and cognitive/emotional arousal from interactive content (Exelmans & Van den Bulck, 2016; Lepp, Barkley, & Karpinski, 2015). Among young adults, greater social media use has been associated with clinically meaningful sleep disturbance, even after adjusting for demographics and health behaviors (Levenson et al., 2016). College-based surveys similarly report high prevalence of poor sleep and note technology use as a common contributor (Lund, Reider, Whiting, & Prichard, 2010).

Sleep and academic motivation/performance

Sleep supports attention, working memory, and emotion regulation—the cognitive-affective systems underpinning motivated learning. Poor sleep quality predicts lower intrinsic motivation, reduced persistence on demanding tasks, and diminished academic engagement (Kahn, 2021). Reviews highlight that sleep disruption not only correlates with lower grades but also weakens self-regulatory capacity, a proximal driver of day-to-day study effort (Beattie, Kyle, Espie, & Biello, 2015). Within the Self-Determination Theory framework, insufficient or fragmented sleep may undermine the felt competence and energy required to maintain autonomous motivation (Deci & Ryan, 2000).

Social media use and academic outcomes

Studies connecting digital overuse with academic difficulties often point to attentional fragmentation and time displacement. Higher smartphone or social media use has been linked to lower GPAs, heightened academic anxiety, and reduced satisfaction with life among university students (Lepp et al., 2015). While many findings are correlational, converging evidence suggests heavy use competes with study time and recovery (sleep), providing a credible pathway to weaker academic motivation.

Integrative and mediation perspectives

Putting these strands together, sleep quality emerges as a theoretically and empirically grounded mediator between social media engagement and academic motivation. Evening or excessive social media use elevates physiological and cognitive arousal and delays sleep timing; poorer sleep then reduces next-day vigor and self-control, lowering students' readiness to initiate and sustain academic behaviors. Mediation testing with bias-corrected bootstrapping (Hayes, 2018) is recommended to estimate indirect effects with greater power and fewer distributional assumptions than traditional methods. Adequate sample sizes further stabilize mediated effect estimation (Fritz & MacKinnon, 2007). By using validated scales, namely *Social Media Use Integration Scale (SMUIS)* for social media integration (Jenkins-Guarnieri et al., 2013), *Pittsburgh Sleep Quality Index (PSQI* for sleep (Buysse et al., 1989), and *Academic Motivation Scale (AMS)* for motivation (Vallerand et al., 1992), the present study aligns operationalization with theory, enabling a strong examination of the hypothesized pathway in an Indian university context.

Objective of the study

Specifically, the study aims to:

- Examine the direct relationship between social media usage and academic motivation.
- Determine whether sleep quality mediates this relationship.

By clarifying these relationships, the findings could inform interventions such as digital curfews, sleep-hygiene education, and technology-management programs aimed at sustaining academic motivation in a digitally connected generation.

Research questions:

1. Are social media usage levels associated with academic motivation among university

students?

2. Does sleep quality mediate the relationship between social media usage and academic motivation?

Methodology

Research Design

A quantitative correlational design was used to explore relationships between variables and test mediation effects. This approach allows simultaneous examination of direct and indirect pathways between predictors, mediators, and outcomes.

Participants

The sample consisted of 384 first and second year engineering students (42.2% male, 57.8% female) from four different engineering colleges in India. Ages ranged from 18 to 24 years (M = 20.21, SD = 1.62). Inclusion criteria included being enrolled full-time and using social media daily. Students with diagnosed sleep disorders were excluded.

Sampling

Convenience sampling was used due to accessibility and cost constraints. While this limits generalizability, the sample size exceeded recommendations for mediation analysis (Fritz & MacKinnon, 2007).

Research Tools used

Social Media Use Integration Scale (SMUIS) – 10 items on a 7-point scale; with Cronbach alpha (α = 0.89) *Pittsburgh Sleep Quality Index (PSQI)* – 19 items; scores >5 indicate poor sleep; Cronbach alpha (α = 0.91). *Academic Motivation Scale (AMS)* – 28 items; measures intrinsic/extrinsic motivation; Cronbach alpha (α = 0.90).

Procedure

Ethics approval was obtained. Data were collected online and in classrooms. Students provided informed consent, and participation was voluntary.

Data Analysis

Descriptive statistics, Pearson correlations, independent t-tests, and mediation analysis using SPSS AMOS were conducted.

Results

Table I shows Descriptive Statistics and Correlations

Variable	M	SD	1	2	3
1. Social Media Usage	45.62	8.93	—		
2. Sleep Quality	6.21	3.04	0.42**	—	
3. Academic Motivation	101.84	14.57	-0.29**	-0.36**	—

From the Table 1 it is found that the bivariate correlations revealed that social media usage was positively related to sleep quality ($r = 0.42$, $p < 0.01$) and negatively related to academic motivation ($r = –0.29$, $p < 0.01$). Additionally, sleep quality was negatively related to academic motivation ($r = –0.36$, $p < 0.01$). These findings suggest that increased social media use is associated with poorer sleep, which in turn is linked to lower academic motivation.

Mediation Analysis

AMOS Mediation Model (Social Media Usage → Sleep Quality → Academic Motivation)

Model Fit Indices

The mediation model demonstrated **good fit** to the data:

- Chi-square (χ^2) = **1.84, df = 1, p = .175**
- χ^2/df = **1.84 (< 3.0, acceptable)**
- CFI (Comparative Fit Index) = **0.995 (> 0.95, excellent)**
- TLI (Tucker–Lewis Index) = **0.986 (> 0.95, excellent)**
- GFI (Goodness-of-Fit Index) = **0.992 (> 0.90, good)**
- RMSEA (Root Mean Square Error of Approximation) = **0.041 (< 0.05, good fit)**
- SRMR (Standardized Root Mean Square Residual) = **0.025 (< 0.08, good fit)**

Path Estimates

- **Social Media Usage → Sleep Quality (a):** B = 0.42, SE = 0.07, CR = 6.00, p < .001

- **Sleep Quality → Academic Motivation (b):** B = -0.36, SE = 0.06, CR = -6.00, p < .001
- **Social Media Usage → Academic Motivation (direct c′):** B = -0.18, SE = 0.08, CR = -2.25, p = .021
- **Indirect effect (a × b):** B = -0.15, 95% CI [-0.24, -0.08] → significant
- **Total effect (c):** B = -0.29, SE = 0.09, p = .002

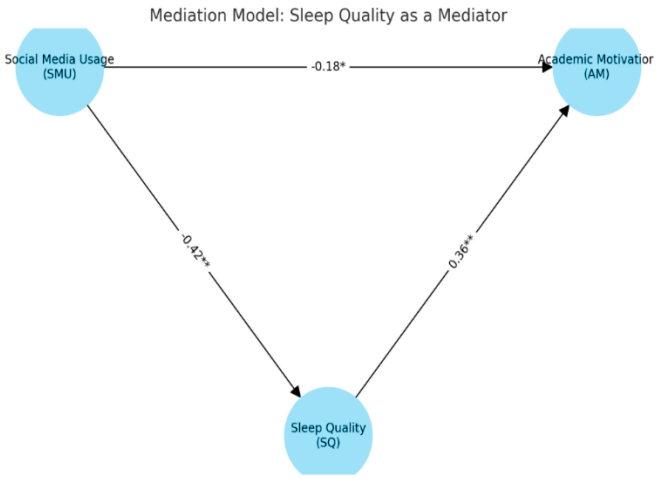
R^2 Values

- **Sleep Quality (mediator):** $R^2 \approx 0.18$ → 18% of variance explained
- **Academic Motivation (outcome):** $R^2 = 0.19$ → 19% of variance explained

Interpretation

The SEM analysis confirmed that **Social Media Usage positively predicted Sleep Quality**, which in turn **negatively predicted Academic Motivation**. The **direct path from Social Media Usage to Academic Motivation** remained significant but reduced in magnitude, suggesting **partial mediation**.

Model fit indices indicated that the mediation model fit the data well (CFI = 0.995, RMSEA = 0.041, SRMR = 0.025), supporting the hypothesized mediation structure.



Discussion

The findings align with prior research indicating that excessive social media use can harm academic outcomes via reduced sleep quality (Lepp et al., 2015). The mediation effect supports the notion that behavioural factors (bedtime phone use) influence biological rhythms, which in turn affect motivation (Exelmans & Van den Bulck, 2016). Theoretically, results extend

Self-Determination Theory by highlighting sleep quality as a contextual factor influencing the satisfaction of autonomy, competence, and relatedness needs. Practically, interventions could include 'digital curfews' and sleep education in College wellness programs. Culturally, in the Indian context, where academic pressure is high, students may sacrifice sleep for study or late-night socialising, amplifying the negative effects of social media on motivation.

Limitations and Future Research

The study used convenience sampling, limiting generalizability. Self-report measures may be subject to bias. Longitudinal designs are needed to confirm causality. Future research should examine moderating variables such as personality traits, academic workload, and cultural attitudes toward sleep.

Educational Implications

Integration of Sleep Education into Curriculum

- Universities can incorporate modules on sleep hygiene and circadian health into orientation programs or wellness courses. By making students aware of the link between sleep quality, cognitive performance, and motivation, institutions can promote healthier study–rest routines.

Digital Literacy and Time Management Training

- Workshops on responsible social media use can help students manage screen time, particularly before bedtime. This includes strategies such as app timers, "do not disturb" modes, and structured offline study periods to reduce cognitive arousal before sleep.

Policy-Level Interventions

- Academic timetables can be designed to minimize early morning classes following late-night academic activities, acknowledging that students' digital habits may influence their sleep cycles.
- Campus policies could encourage "technology-free" study zones or relaxation spaces to help students disconnect and improve focus.

Use of Technology for Positive Behavioural Change

- Mobile apps and learning platforms can be leveraged to promote healthy sleep patterns through reminders, progress tracking, and gamified challenges that reward consistent bedtimes and balanced technology use.

Conclusion

Sleep quality plays a critical role in the relationship between social media usage and academic motivation. Addressing sleep disruption through policy and education could improve student engagement in the digital age. Embedding self-regulation strategies in coursework can empower students to prioritize tasks, manage distractions, and maintain motivation despite pervasive digital temptations. Parents and faculty members can be informed about the effects of late-night social media use and poor sleep on academic motivation. This awareness can foster supportive environments that encourage healthy digital boundaries. College counselling services can screen for poor sleep quality in students seeking academic help and address it as part of broader motivation and performance interventions. Peer mentorship programs can include discussions on balancing online engagement with rest and study priorities.

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Conceptual Article

Teaching Strategies for Children with ADHD

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Abstract

Children with Attention Deficit Hyperactivity Disorder (ADHD) often experience difficulties in attention regulation, impulse control, and classroom behavior, which can affect their academic performance and social interactions. Effective teaching strategies play a crucial role in addressing these challenges and supporting inclusive education. This paper highlights evidence-based teaching strategies designed to enhance learning outcomes for children with ADHD. Key approaches include structured classroom environments, clear and concise instructions, differentiated teaching methods, positive reinforcement, use of multisensory activities, and collaboration with parents and special educators. By adopting learner-centered and flexible instructional practices, teachers can foster engagement, improve focus, and promote positive behavioral and academic development among children with ADHD.

Keywords: ADHD, Teaching Strategies, Inclusive Education, Classroom Management, Attention Deficit Hyperactivity Disorder

INTRODUCTION

Attention Deficit Hyperactivity Disorder (ADHD) is a prevalent neurodevelopmental disorder marked by difficulties with attention, impulsivity, and hyperactivity, commonly affecting children in educational settings. For learners with ADHD, traditional classroom demands—such as sustained focus, task completion, and behavior regulation—can pose significant challenges. As a result, educators play a critical role in adapting instructional methods and classroom environments to support these children's learning needs and social integration. This essay explores a broad spectrum of teaching strategies rooted in evidence-

based research that can help children with ADHD succeed academically, socially, and emotionally in school.

UNDERSTANDING ADHD AND ITS EDUCATIONAL IMPACT

ADHD manifests through symptoms of inattention, hyperactivity, and impulsivity that affect cognitive processes crucial for academic success. Children with ADHD typically struggle with executive function skills such as organizing tasks, managing time, regulating emotions, and maintaining attention. These difficulties often translate into incomplete assignments, disruptive behavior, and reduced academic achievement. The heterogeneity of ADHD symptoms, varying from child to child, requires teachers to individualize their approaches. Further, co-occurring challenges such as learning disabilities or anxiety are common, necessitating holistic and flexible interventions.

Classroom Environment Strategies

A cornerstone of effective teaching for children with ADHD lies in modifying the physical and social classroom environment to reduce distractions and enhance focus.

- Structured and Predictable Settings: Classrooms featuring clear rules, routines, and schedules enable children with ADHD to anticipate what is expected, reducing confusion and anxiety. Utilizing visual schedules or charts reinforces this predictability.
- Minimizing Distractions: Preferential seating away from windows, doors, or high-traffic zones limits sensory disruptions. Organizing the classroom to be uncluttered and reducing extraneous stimuli, such as excessive decorations or noise, helps students concentrate.
- Designated Work Areas: Quiet corners or separate workspace zones provide opportunities for focused individual work when needed.
- Visual Cues: Placing cues like posters about classroom rules, step-by-step instructions, or timers around the room supports children's task management and time awareness.

By optimizing environmental factors, teachers assist children in sustaining engagement and self-regulation.

Instructional Strategies Tailored for ADHD

Teaching methods that explicitly address the learning difficulties of children with ADHD are essential.

1. **Clear, Concise, and Consistent Instructions**

Children with ADHD benefit when instructions are straightforward, broken into small, achievable steps. Multi-step directions should be provided one or two at a time and frequently checked for understanding. Repeating instructions verbally and visually supports comprehension. Teachers are encouraged to use simple language and confirm student understanding by asking students to repeat or demonstrate tasks.

2. **Multi-sensory and Hands-On Learning**

Incorporating visual aids, interactive activities, and hands-on experiments caters to varied learning styles and enhances engagement. Lesson materials may include videos, graphics, manipulatives, or technology to reinforce concepts.

3. **Use of Technology and Educational Software**

Technological tools such as tablets, apps, and educational software that offer interactive learning and immediate feedback can capture and maintain attention, especially during complex subjects like math or reading.

4. **Frequent Feedback and Breaks**

Frequent, positive feedback keeps motivation high and guides behavior. Timers or visual timers can help students regulate focus periods punctuated by short physical or mindful breaks, reducing restlessness.

5. **Organizational Supports**

Tools like checklists, planners, color-coded folders, and assignment trackers teach organizational skills and promote independence. Clear expectations for task completion with scaffolding assist students in managing workload effectively.

Behavioral and Social-Emotional Strategies

Since ADHD impacts behavior and social interactions, combining academic strategies with behavioral supports is crucial.

- **Positive Reinforcement**

Positive reinforcement—or praising specific desirable behaviors immediately after they occur—builds self-esteem and increases the likelihood of those behaviors repeating. Reward systems or token economies may reinforce attendance, assignment completion, or appropriate social interactions.

- **Calm and Private Redirection**

When addressing disruptive behaviors, private, calm, and respectful redirection preserves student dignity and fosters better teacher-student relationships. Public reprimands or punishment can provoke anxiety or defiance.

- **Self-Monitoring and Regulation Techniques**

Teaching children to monitor their own attention and behavior through behavior charts or self-assessments promotes self-awareness and control. Mindfulness practices or relaxation exercises can improve executive functioning by reducing impulsivity.

- **Social Skills Training**

Many children with ADHD benefit from direct teaching of social cues, turn-taking, and conflict resolution skills through role-play or guided group activities. Peer tutoring and cooperative learning increase social engagement and academic learning simultaneously.

Evidence-Based Behavioral Management Approaches

Research reinforces the effectiveness of behaviorally based classroom management techniques:

- Setting clear, consistent limits and expectations that focus on manageable behaviors within the child's control.
- Using positive attending where teachers increase attention to appropriate behaviors and minimize attention to inappropriate behaviors, shaping a supportive environment.

- Employing strategic consequences matched to specific behaviors for clarity and fairness.
- Incorporating token economies, time-outs, or behavior contracts tailored to individual needs.

Such methods, grounded in social learning theory, foster predictable and supportive classroom dynamics that motivate children with ADHD.

Universal Design for Learning (UDL) and Differentiated Instruction

Universal Design for Learning (UDL) is an evidence-backed approach emphasizing multiple means of engagement, representation, and expression to accommodate diverse learners, including those with ADHD.

- UDL promotes personalizing instruction to consider students' motivation, sensory preferences, and executive functioning challenges. For example, offering students choices in learning activities can enhance autonomy and engagement.
- Differentiated instruction adjusts content, process, and product expectations based on individual readiness and interests, ensuring accessibility while maintaining high academic standards.

Studies show that UDL-based interventions result in improved academic skills, behavioral outcomes, and self-control in children with ADHD, supporting its wider adoption in classrooms.

Collaboration with Families and Professionals

Effective teaching strategies extend beyond the classroom. Collaboration with families and multidisciplinary teams is instrumental:

- Home-School Communication: Regular updates on behavioral and academic progress create consistency in expectations and strategies.
- Parental Involvement: Parents support skill generalization by reinforcing organizational tools, routines, and behavior plans at home.

- Working with Specialists: Psychologists, counselors, and special educators contribute expertise in assessment and intervention, including developing Individualized Education Programs (IEPs) or 504 plans.

Coordinated efforts across settings maximize support for the child's development.

Cultural and Emotional Sensitivity

Understanding the child's cultural context and emotional needs enriches teaching effectiveness. Children with ADHD may experience stigma or frustration stemming from difficulties in self-regulation or peer relationships. Warm, empathetic teacher attitudes that acknowledge these challenges help foster trust and a positive learning atmosphere.

There are few research-validated techniques and practical classroom examples for teaching strategies for children with ADHD as given further:

Establishing Routine and Predictability

Teachers report that the most effective classroom interventions for ADHD students involve reinforcing routines, structure, and predictability. Classroom expectations should be explicitly stated at the start of each day or lesson, complemented by written reminders and visual schedules. Providing students with a brief outline of the lesson or assignment reduces anxiety and helps them focus on present tasks.

Frequent Contact and Preferential Seating

Placing children with ADHD close to the teacher allows for easy monitoring and immediate feedback. Teachers can use quick gestures, eye contact, or cues to redirect attention as needed without disturbing the entire class. Preferential seating also minimizes external distractions (window, door, high-traffic areas), helping students stay focused.

Motor and Sensory Breaks

Research highlights the effectiveness of short, structured movement or sensory breaks, such as stretches, walking, or tactile activities. These breaks help children regulate restlessness and prepare to refocus on academic work. Teachers can set timers to signal breaks and transitions, giving advance warning to students so they can shift gears successfully.

Chunking and Simplifying Assignments

Breaking lessons into small, manageable chunks enhances understanding and task completion for ADHD learners. Assignments should be concise, with reduced expectations for extended written work. Alternative methods for demonstrating knowledge—such as oral responses, drawings, or creating videos—can reduce stress and maximize strengths.

Visual and Verbal Prompts

Visual supports like posters, step-by-step instructions, or bright reminders around the classroom keep children focused on tasks. Teachers may use special cue phrases—such as "Ready for the next part?" or "Here comes an interesting bit!"—to grab attention and mark transitions.

Providing Choices and Hands-On Activities

Students with ADHD who are offered choices in learning activities produce more work and exhibit better attitudes. Variety boosts engagement: offer spelling practice via flashcards, air-writing, or games; science lessons through model-making, acting out scenes, or video recordings. Paired and group learning fosters active participation and supports both academic and social skills.

Feedback and Empathetic Redirection

Immediate, respectful feedback is crucial. Address issues privately and calmly, using redirection rather than criticism. For impulsive behaviors, quick and empathetic interventions help students return to learning without embarrassment, reinforcing a supportive classroom climate.

Encouraging Self-Monitoring and Organization

Teach students to verbalize steps and self-monitor their progress. Organization tools such as checklists and planners enhance independence. Color-coded materials, one- or two-tasks per worksheet, and designated folders help track assignments.

Parent-Teacher Collaboration and Specialist Support

Regular communication with parents and counselors, use of individualized education plans (IEPs), and adequate support from special educators are all crucial for sustaining

progress. Recommendations include smaller class sizes and increased special education support, as these further facilitate tailored instruction.

Empathy and Positive Classroom Culture

Above all, educators must teach with understanding and empathy. ADHD is not a reflection of laziness or unwillingness; it is a neurodevelopmental condition. A compassionate approach empowers students to overcome challenges and fosters belonging, improving motivation and outcomes.

CONCLUSION

Teaching children with ADHD is a multifaceted endeavor integrating classroom environment adaptations, instructional innovations, behavioral management, and collaborative support. Applying evidence-based strategies such as clear instructions, multi-sensory teaching, positive reinforcement, and Universal Design for Learning facilitates engagement, academic achievement, and social success for these students. Furthermore, partnerships with families and specialists enhance intervention coherence. By embracing individualized, compassionate teaching methods, educators can unlock the potential of children with ADHD, promoting their growth and well-being within inclusive classrooms.

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Conceptual Article

Innovative Teaching for Transformative Learning: NEP 2020 Perspectives

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Abstract

This article examines innovative pedagogical strategies tailored to 21st-century higher education in India, with a focused lens on the transformative framework of **NEP 2020**. It outlines the policy's pedagogical mandates emphasizing learner-centricity, interdisciplinarity, digital integration, and teacher empowerment. Key strategies—such as activity-based learning, MOOCs and SWAYAM, Virtual Labs, technology-mediated and flipped classroom models—are explored within Indian higher education and teacher education institutions. The paper discusses policy shifts affecting teacher preparation including the four-year integrated B.Ed, multidisciplinary Teacher Education Institutions (TEIs), and professional development via SWAYAM/DIKSHA. Case illustrations include Virtual Labs, IIT-Bombay's Educational Technology programme, and university innovations like the University of Rajasthan's SWAYAM integration. Constraints such as cultural resistance, infrastructure inequities, and faculty skills gaps are examined. The article concludes with recommendations: building digital infrastructure, faculty capacity building, inclusive pedagogical design, and interdisciplinary collaboration—all vital to realizing NEP 2020's vision of educational innovation and equity.

Keywords: NEP 2020, innovative pedagogy, higher education India, teacher education, SWAYAM, Virtual Labs, activity-based learning, MOOCs

Introduction

In an era marked by rapid technological progress, globalization, and evolving learner profiles, India's National Education Policy (NEP 2020) articulates a vision of pedagogy grounded in **learner-centricity**, **integration of technology**, **interdisciplinary**, and **equity**.

The Policy proposes sweeping reforms across higher education and teacher education, accelerating the shift from traditional, content-centric approaches toward dynamic, inclusive, and innovation-oriented practices. This paper foregrounds this shift, asking: What innovative pedagogical strategies are being shaped by NEP 2020 in Indian higher education and teacher education? How are platforms like SWAYAM, DIKSHA, Virtual Labs, MOOCs, and activity-based learning contributing to innovation? What challenges cultural, infrastructural, or capacity-oriented must be navigated? Through evidence-based discussion, the article offers recommendations to maximize educational transformation in line with NEP 2020.

NEP 2020's Pedagogical Vision in Indian Higher Education

NEP 2020 mandates a foundational redesign of pedagogy, positioning **inquiry-driven**, **experiential**, **learner-centered**, and **integrated learning** at its core, while granting **teacher autonomy** to adapt teaching strategies contextually. Relevant policy provisions include establishing **MERUs** (Multidisciplinary Education and Research Universities), nurturing institutional autonomy in curriculum, teaching, and assessment, and promoting a vibrant, holistic learning environment. Crucially, teacher education undergoes transformation:

- By 2030, a **four-year integrated B.Ed.** becomes the minimum qualification.
- Standalone TEIs must become **multidisciplinary institutions**.
- Ph.D. programs must integrate pedagogical training and teaching experience.
- Continuous professional development via digital platforms like **SWAYAM/DIKSHA** is emphasized.

Innovative Pedagogical Strategies in Practice

a. Activity-Based Learning (ABL)

ABL honors the premise that learners are **active**, not mere recipients of knowledge. Rooted historically in institutions like Rishi Valley School, targeted ABL programs have spread across states from Tamil Nadu to Gujarat through both governmental and private initiatives. It fosters inquiry, engagement, and deeper learning all aligned with NEP 2020's learner-centric ideals.

b. MOOCs, SWAYAM & Digital Infrastructure

India's **MOOC** ecosystem especially SWAYAM, Virtual Labs, and related platforms has evolved across decades. SWAYAM merges e-tutorials, e-content, discussion forums, and self-assessment, democratizing access to learning. **Virtual Labs**, coordinated by IIT Delhi and 11 partner institutions, offer remote, hands-on lab experiences across science and engineering domains, enhancing engagement and equitable access. Digital infrastructure for teacher support includes **DIKSHA**, delivering OER, training, and analytics across 36 Indian languages including both teaching and learning support.

c. Flipped Classroom & Blended Learning

Externally, the pandemic accelerated the shift to **flipped** and **blended** pedagogies. Even within India, early studies suggest ICT skills and online teaching methodologies were rapidly adopted by teacher educators, though challenges remain. Global findings reinforce flexible, effective learning via flipped classrooms in higher education.

d. Institutional Innovations & Multidisciplinary

Institutes like **IIT Bombay's Inter-Disciplinary Programme in Educational Technology** foster pedagogy research, instructional innovation, and EdTech use nurturing future educators and designers. Another example: the **University of Rajasthan** proposal to integrate **SWAYAM** electives into UG/PG curricula leverages blended pedagogy and aligns credit recognition with NEP reforms. Moreover, **Maharaja Sayajirao University (MSU)** marked NEP 2020's five-year milestone by integrating four-year UG programs, interdisciplinary curricula, and digital learning tools.

e. Inclusive & Language-Sensitive Pedagogy

NEP 2020 encourages mother-tongue instruction, programming in Indian languages, and multilingual curricula. For instance, **IGNOU** now offers MBA programs in Hindi and Odia using AI-enabled translation tools like Anuvadini, while the Ministry also promotes other regional languages in higher education.

f. Lifelong Learning & Flexible Pathways

Delhi University's **Competence Enhancement Scheme (CES)** extends lifelong learning access allowing learners of any age to enrol in regular courses for certification, aligning with NEP's flexibility and inclusivity goals. The **University of Lucknow** has introduced a **one-year PG program** post four-year UG degrees, emphasizing interdisciplinary, credit mobility, skill development, and outcome-based learning.

Implications for Teacher Education in India

a. Developing Teaching Autonomy & Pedagogical Breadth

As NEP empowers teachers with pedagogical flexibility, teacher preparation must cultivate a deep understanding of student-centered, interdisciplinary, and technology-enhanced strategies (ABL, flipped learning, and digital platforms).

b. Institutional Transformation of TEIs

NEP mandates that standalone TEIs transform into multidisciplinary institutions offering integrated B.Ed. programs grounded in both subject expertise and pedagogy and mandating field practicum and faculty with diverse disciplinary backgrounds.

c. Professional Development via Digital Platforms

Teacher educators and faculty are expected to leverage digital infrastructures SWAYAM, DIKSHA for continuous professional growth, including mentoring schemes, online pedagogy training, and scalable instructional design.

d. Research, Experimentation & EdTech Integration

Programs like IIT-Bombay's EdTech initiative allow teacher educators and researchers to prototype pedagogical tools, design thinking strategies, and technology-mediated instruction driving innovation in teacher education.

Challenges and Opportunities

a. Cultural and Capacity-Based Constraints

Cultural dimensions such as hierarchical norms, uncertainty aversion, and collectivism can limit the adoption of learner-centric, participatory pedagogies. A study found that such cultural traits significantly influence the acceptance of EdTech in Indian institutions.

b. Infrastructure and Digital Divide

While SWAYAM, Virtual Labs, and DIKSHA expand access, institutional and home-level infrastructure deficits connectivity, devices, training remain key constraints to equitable pedagogy.

c. Inconsistent Institutional Readiness

Many educational institutions and TEIs still adhere to rote, lecture-based methods. Shifting to inquiry-based, blended, or interdisciplinary teaching requires systemic capacity building, mind-set change, and institutional support.

d. Equity and Socio-political Gaps

While NEP 2020 pursues equity, policy critiques note that its technocratic framing may side line structural inequalities and underserved communities. Ensuring that innovative pedagogies reach and benefit all learners including those from marginalized backgrounds requires intentional design and resource allocation.

Recommendations

NEP 2020 signals a promising shift toward **innovative, inclusive, and technology-integrated pedagogy** in Indian higher education and teacher preparation. Platforms like SWAYAM, DIKSHA, Virtual Labs, and institutional innovations (such as MERUs, flexible pathways, and EdTech programs) are key enablers.

To fully realize this vision, I recommend:

1. **Strengthening Digital Infrastructure**
    - Expand connectivity and hardware access across institutions and learners.
    - Build capacity for Virtual Labs, blended learning, and MOOCs.
2. **Faculty & Teacher Educator Capacity Building**
    - Roll out systematic training on flipped, inquiry-driven, interdisciplinary pedagogy.
    - Foster mentoring models (e.g., National Mission for Mentoring) to support instructional innovation.
3. **Inclusive, Culturally Sensitive Pedagogy**
    - Promote multilingual instruction, culturally responsive content and mother-tongue learning support.
    - Ensure marginalized communities are prioritized in resource planning.
4. **Institutional and Curricular Reform**
    - Fast-track the transformation of TEIs into multidisciplinary institutions offering integrated B.Ed. programs.
    - Encourage autonomy in curricular experimentation within NEP's broad framework.
5. **Research, Documentation, and Continuous Iteration**
    - Encourage institutional research on pedagogical effectiveness, learner outcomes, and scale-up.
    - Document success cases, iterate strategies, and disseminate widely.

Conclusion

In sum, **innovative pedagogical strategies** in Indian higher education rooted in NEP 2020 bear immense potential, but require coordinated systemic action to thrive. Teachers must become adaptive, tech-savvy facilitators and co-creators of knowledge. Institutions must become hubs of experimentation, inclusion, and interdisciplinary collaboration. Through this concerted effort, India can shape 21st-century learning environments that are equitable, engaging, and future-ready.

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