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Research Article

A comparative study on the analysis of rote learning, observational learning and experiential learning on the cognitive development during adolescence

Kalpana Adesh Verma

Research Scholar, Department of Research Cell Education, Shri Khushal Das University
Pilibanga, Hanumangarh, India

Corresponding Author: *Kalpana Adesh Verma

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Abstract

Education reform plays a pivotal role in shaping human development by redefining how learning experiences are designed and delivered. This conceptual study examines rote learning, observational learning, and experiential learning as instructional approaches within the broader framework of education reform and human development. Rather than focusing solely on cognitive outcomes, the paper analyzes how these learning methods contribute to the development of essential human capabilities such as critical thinking, adaptability, social competence, and lifelong learning skills. Drawing upon established educational theories and reform-oriented perspectives, the study highlights the limitations of traditional rote-based practices and emphasizes the growing relevance of observational and experiential learning in reformed education systems. The analysis underscores how learner-centered approaches align with contemporary reform goals aimed at holistic human development. The paper concludes by advocating for balanced and reform-responsive instructional practices that support individual growth, social progress, and sustainable educational development.

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INTRODUCTION

Making appropriate choices for a title in a research study is of paramount importance as it serves as the bridge between the audience and the content. The title acts as a concise representation of the research topic, providing readers with insights into the focus, scope, and relevance of the study. A well-crafted title captures the essence of the research, effectively communicates its purpose, and arouses curiosity, thereby compelling readers to delve further into the content. Moreover, the title plays a crucial role in attracting the attention of the target audience, including researchers, academics, practitioners, and policymakers, among others. It serves as a marketing tool, influencing the visibility, accessibility, and impact of the research within academic and professional communities. Additionally, a clear and informative title facilitates the dissemination and citation of the research, making it easier for readers to locate and reference the study in their work. Furthermore, the title contributes to the overall credibility and professionalism of the research, reflecting the rigour, clarity, and relevance of the study to the broader field of inquiry.

In summary, the title of a research study serves as a vital component of scholarly communication, shaping perceptions, facilitating discovery, and enhancing the impact and visibility of the research within the academic community and beyond. The title of a research work is indeed a critical feature that serves several important purposes. Here are some key points highlighting its importance:

1. **First Impression:** The title is often the first thing reader's encounter. It creates the initial impression and sets the tone for the research paper. A well-crafted title can captivate the reader's attention and generate interest in the study.
2. **Identifying Content:** A good title accurately reflects the content and scope of the research. It provides readers with a clear idea of what the study is about, helping them decide whether the paper is relevant to their interests or research needs.
3. **Searchability:** Titles play a crucial role in making the research work discoverable. Effective titles incorporate keywords and phrases that are relevant to the topic, making it easier for search engines and databases to index the paper and for researchers to find it.
4. **Communication of Purpose:** The title conveys the purpose or main objective of the research. It communicates what the study aims to achieve or investigate, providing readers with a roadmap of what to expect in the paper.
5. **Establishing Credibility:** A well-crafted title can enhance the credibility of the research. It reflects the professionalism and expertise of the authors, instilling confidence in readers about the quality and validity of the study.
6. **Academic Recognition:** The title of a research work contributes to its academic recognition and citation impact. Memorable and descriptive titles are more likely to be

cited by other researchers, thereby increasing the visibility and impact of the study within the academic community.

7. **Legal and Ethical Considerations:** The title should adhere to legal and ethical guidelines regarding accuracy, transparency, and sensitivity. It should avoid misleading or sensationalist language and accurately represent the research findings.
8. **Brand Identity:** For researchers or research groups, the title can also contribute to building a brand identity. Consistent use of a specific format or style in titles can help establish recognition and association with particular research themes or areas of expertise.
9. **International Appeal:** In cases where research has an international audience, the title should be crafted with consideration for language clarity and cultural sensitivity to ensure it resonates effectively across different regions and audiences.
10. **Accessibility:** A clear and concise title enhances the accessibility of the research work to diverse audiences, including policymakers, practitioners, educators, and the general public, facilitating broader dissemination and impact.

In summary, the title of a research work serves as a crucial feature with multifaceted significance, ranging from capturing attention and communicating purpose to enhancing search ability and academic recognition. Therefore, careful consideration and crafting of the title are essential for maximising the impact and visibility of the research.

Education reform & human development

Education reform has emerged as a central concern for nations seeking to strengthen human development in an increasingly complex and interconnected world. Modern societies require individuals who are not only knowledgeable but also capable of critical thinking, adaptability, collaboration, and responsible decision-making. As a result, education systems are undergoing significant transformation to move beyond traditional content-driven models toward learner-centred, skill-oriented, and inclusive frameworks. These reforms recognise education as a foundational driver of human development, influencing social equity, economic participation, and individual empowerment.

Human development, in the educational context, extends beyond academic achievement to encompass the holistic growth of individuals, including cognitive, emotional, social, and ethical dimensions. Education reform initiatives emphasise the development of human capabilities that enable learners to participate meaningfully in society and adapt to changing personal and professional environments. Learning experiences that promote autonomy, problem-solving, and real-world application are increasingly viewed as essential for nurturing these capabilities. Consequently, the nature of instructional approaches adopted within classrooms plays a decisive role in determining the effectiveness of education reforms.

Within reform-oriented education systems, teaching and learning practices are being re-examined to ensure alignment with human development goals. Traditional reliance on rote learning has been questioned for its limited capacity to foster higher-order thinking and transferable skills. While memorisation remains relevant for foundational knowledge, education reform advocates for instructional approaches that actively engage learners and encourage deeper understanding. Observational and experiential learning approaches have gained prominence for their ability to connect learning with social interaction, lived experiences, and practical application.

The relationship between education reform and human development highlights the importance of instructional transformation. Learning approaches function as mechanisms through which reform objectives are translated into classroom realities. When learning experiences are designed to be participatory, reflective, and contextually meaningful, they contribute directly to the development of critical human capacities such as creativity, resilience, collaboration, and lifelong learning orientation.

Conversely, instructional practices that remain disconnected from reform goals may limit the developmental impact of education.

In this context, examining learning approaches through the lens of education reform becomes essential. Understanding how rote, observational, and experiential learning align with human development objectives offers valuable insights for educators, curriculum designers, and policymakers. Such analysis supports informed decisions about balancing traditional and innovative instructional methods to create education systems that are both academically sound and developmentally responsive. By situating learning approaches within the broader discourse of education reform and human development, this study contributes to ongoing efforts to enhance the transformative role of education in society.

LITERATURE REVIEW

Sarla Mehra 2023: - The researcher frames the research problem as.....

“Effect of Experiential Learning-based Instructional Strategies on Students’ Engagement and Learning Outcomes among Middle Stage Students”.

Sarla Mehra’s study focused on examining how experiential learning-based instructional strategies influence students’ engagement and learning outcomes among middle-stage learners, particularly in Social Studies. Grounded in Kolb’s Experiential Learning Theory and aligned with NEP 2020 and NCF 2005, the research addressed persistent issues in traditional education such as rote memorization, low motivation, and poor real-world application. By comparing an experimental group taught through experiential methods with a

control group using conventional teaching, the study aimed to understand whether hands-on, reflective, and application-driven activities could significantly improve learners’ cognitive and emotional involvement.

Using a quasi-experimental design with purposive and random sampling, the researcher employed statistical tools such as mean, standard deviation, and ANCOVA to analyze engagement levels and academic performance. The results showed that experiential learning strategies enhanced student participation, motivation, understanding, and critical thinking. The study was useful because it filled a research gap in Social Studies education, demonstrated the effectiveness of experiential methods for middle-stage learners, and provided evidence supporting national educational reforms. It also offered practical insights for educators seeking to make learning more meaningful, interactive, and aligned with real-life contexts.

Kush Mittal 2023:- The researcher frames the research problem as.....

EFFECT OF HYBRID LEARNING ON ACADEMIC ACHIEVEMENT, WELL- BEING AND PARENTAL INVOLVEMENT OF SECONDARY STUDENTS

Kush Mittal’s study focused on examining the effectiveness of hybrid learning as a teaching approach that integrates both online and face-to-face instruction. Conducted at REI Intermediate College and its ICT Centres in Rajaborari and Timarni, the research aimed to understand how hybrid learning influences

students’ achievement, well-being, and parental involvement. Using a pre-experimental single-group pre-test and post-test design, the study explored how synchronous and offline teaching across multiple locations could support continuous and flexible learning, especially in the evolving educational landscape shaped by technological advancements and the COVID-19 pandemic.

Data was analysed using descriptive and inferential statistics, including mean, standard deviation, and t-tests, to measure changes in students’ performance and well-being before and after the intervention. The findings indicated that hybrid learning enhanced student engagement, catered to diverse learning needs, and improved overall learning outcomes.

The study was useful because it demonstrated that hybrid learning can effectively bridge geographical barriers, ensure continuity in education, and create a more adaptable and student-centred learning environment. It provided valuable insights for educators and policymakers seeking innovative, flexible models that blend human interaction with technological tools to support quality education in India’s rapidly evolving educational system.

ANJALI KUMARI, Dalaybag Agra: - The researcher frames the research problem as.....

“A study on the Adoption of Flexible Learning Structure in Higher Educational Institutions”

Anjali Kumari’s study focused on examining the concept, implementation, and impact of Flexible Learning (FL) within higher education in Uttar Pradesh. It explored how flexible pathways—such as learner choice in time, place, pace, and mode of learning—can enhance access, personalization, and lifelong learning opportunities. Guided by global and national educational priorities, the study aimed to understand how flexible learning supports equity, workforce readiness, and institutional adaptability in a rapidly evolving educational landscape. It also addressed misconceptions about FL by emphasizing the need for academic rigor, balanced technology use, and development of social and cognitive skills. Using an exploratory and descriptive mixed-method design, the study collected data from faculty and experienced students across UGC-approved institutions through questionnaires, interviews, and observations. Statistical tools like descriptive analysis, correlation, and ANOVA were applied to identify patterns and relationships.

The findings were useful in highlighting the importance of flexible structures for modern education systems, especially in a diverse and populous state like Uttar Pradesh. The study provided evidence-based insights for policymakers and institutions on how to design effective flexible learning models, integrate technology meaningfully, and expand educational access—ultimately supporting lifelong learning and preparing students for dynamic professional environments.

Jyoti Masutimath 2021 – 2022: - The researcher frames the research problem as: -

Influence of Study Habits, Learning Style and Socio-Economic Status on Academic Achievement Among Secondary School Students

Jyoti Masutimath’s study focused on examining how study habits, learning styles, and socio-economic status (SES) influence the academic achievement of 9th-grade students in Vijayapura District.

Recognising that effective study routines, preferred learning modalities, and family background significantly shape students’ performance, the research aimed to analyze how these three variables interact and contribute to learners’ academic outcomes. Using operational definitions for study habits, learning styles, SES, and academic achievement, the study provided a structured framework for understanding these factors in a school context.

A sample of 672 students was selected through stratified random sampling, ensuring representation across government, aided, and unaided schools. Data was collected using surveys and personal information forms, followed by rigorous statistical analysis, including a 2×2 factorial design and three-way ANOVA, to determine the independent and combined effects of the variables.

The study proved useful by identifying which combinations of study habits, learning styles, and SES most strongly predict academic achievement. Its findings can guide teachers, parents, and policymakers in designing targeted interventions, improving learning support systems, and addressing disparities caused by socio-economic differences. Ultimately, it contributes to enhancing student performance by promoting better learning practices and recognizing diverse learner needs.

OBJECTIVES OF THE STUDY

The objectives of this study aim to examine and compare how rote learning, observational learning, and experiential learning influence cognitive development during adolescence. They provide a focused framework for exploring the strengths and limitations of each learning method in enhancing cognitive skills such as memory, problem-solving, reasoning, and conceptual understanding. These objectives guide the selection of research methods, tools, and analytical procedures to ensure a systematic and meaningful investigation. They also serve as benchmarks for evaluating learning outcomes and determining which approaches best support adolescent cognitive growth. Ultimately, the objectives help generate insights that can improve educational practices, inform curriculum design, and support policy decisions aimed at promoting effective learning experiences for adolescents.

CONCEPTUAL FRAMEWORK OF THE STUDY

This study is grounded in a theoretical–conceptual framework that views learning approaches as instruments of education reform contributing directly to human development. Education reform is understood as a process of transforming instructional practices to move beyond content transmission toward the development of human capabilities such as critical thinking, adaptability, social responsibility, and lifelong learning.

Within this framework, rote learning represents traditional, content-driven education systems that prioritise memorisation and examination performance. While it supports knowledge retention, its contribution to broader human development remains limited when used in isolation.

Observational learning is positioned as a transitional reform-oriented approach that supports social learning, behavioural modelling, and value transmission. It aligns with reform goals that emphasise social competence, collaboration, and learning through real-world exposure.

Experiential learning forms the core of reform-driven education, as it actively engages learners in problem-solving, reflection, and application. This approach supports holistic human development by fostering autonomy, creativity, decision-making, and practical competence.

The framework establishes a progression from traditional to reform-oriented learning approaches, demonstrating how education reform can be operationalised through instructional transformation to support sustainable human development.

EDUCATION REFORM PERSPECTIVE ON LEARNING APPROACHES

Education reform initiatives worldwide increasingly emphasise learner-centred, competency-based, and outcome-oriented education. In this context, learning approaches are no longer viewed merely as classroom techniques but as strategic tools for achieving reform objectives.

Rote learning, although deeply embedded in traditional systems, reflects an assessment-driven model that often restricts innovation and learner agency. Reform-oriented education challenges this dominance by advocating methods that promote understanding, participation, and application.

Observational learning aligns with reform goals by enabling learners to acquire skills and values through social interaction, mentorship, and contextual exposure. It supports inclusive education practices and bridges the gap between theoretical knowledge and social realities.

Experiential learning directly reflects the philosophy of education reform by prioritising learning through experience, reflection, and action. It equips learners with transferable skills essential for human development, including adaptability, collaboration, and problem-solving, which are critical in rapidly changing socio-economic contexts.

IMPLICATIONS FOR HUMAN DEVELOPMENT

Human development extends beyond academic success to include the development of intellectual, social, emotional, and practical capacities. Learning approaches significantly influence these dimensions.

Traditional rote-based practices primarily support cognitive recall, whereas reform-oriented learning approaches contribute to the development of higher-order skills and personal growth. Observational and experiential learning enhance learners' ability to interact effectively with their environment, make informed decisions, and apply knowledge meaningfully.

By integrating reform-oriented learning approaches, education systems can better support human development goals such as empowerment, employability, social participation, and lifelong learning. This alignment ensures that education serves as a catalyst for individual and societal progress rather than a mere mechanism for certification.

POLICY AND CURRICULUM REFORM IMPLICATIONS

From a reform perspective, curriculum frameworks must move beyond rigid content structures and incorporate learning experiences that promote human capability development. Policymakers and curriculum designers should emphasise instructional flexibility, experiential opportunities, and learner engagement.

Teacher preparation and professional development also require reform to enable educators to design and facilitate experiential and observational learning environments. Assessment systems must be aligned with reform goals by valuing application,

reflection, and skill development rather than memorisation alone.

Such reforms ensure coherence between learning approaches, curriculum objectives, and broader human development outcomes.

CONCLUSION

This conceptual study repositions learning approaches as critical components of education reform aimed at advancing human development. By examining rote, observational, and experiential learning through a reform-oriented lens, the paper highlights the limitations of traditional instructional practices and the transformative potential of learner-centred approaches.

The analysis underscores that meaningful education reform requires a shift in how learning is conceptualised, delivered, and evaluated. Experiential and observational learning emerge as powerful mechanisms for supporting holistic human development, while rote learning must be strategically balanced within reformed systems.

The study contributes to education reform discourse by offering a conceptual understanding of how instructional transformation can enhance human capabilities and support sustainable development. It advocates for reform-responsive educational practices that prepare learners not only for academic success but for active, responsible participation in society.

REFERENCES

1. Bay Atlantic University. 8 types of learning styles: The definitive guide. 2022 Dec 23.
2. Brain Balance Achievement Centers. Rote memorization and critical thinking. n.d.
3. Chandamama. Why cognitive learning is better than rote learning. 2022 Nov 11.
4. Chartered Institute of Personnel and Development. Methods of delivering learning interventions: Factsheet. n.d.
5. Growth Engineering. Unlocking knowledge: A guide to 12 essential learning models. 2023 Dec 4.
6. Indeed Editorial Team. 9 helpful teaching methods to support student learning. n.d.
7. Library Progress International. Experiential learning: A systematic review of approach and learning models. 2024.
8. MDPI Education Sciences. Teaching methods, learning and development: A 15-year research. 2025 Sep 13.
9. Nature npj Science of Learning. Observational reinforcement learning in children and young adults. 2024.
10. Prodigy Education. Rote memorization vs. meaningful learning: Is there a place for both? n.d.
11. PubMed Central. Social learning across adolescence: A Bayesian neurocognitive perspective. 2022.
12. Resilient Educator. What is rote learning? Effectiveness of rote learning. 2020 Dec 10.
13. ScienceDirect. An integrative debate on learning styles and the learning process. 2020.
14. ScienceDirect Topics. Rote learning. n.d.

15. Structural Learning. Cognitivism learning theories: A teacher's guide. n.d.
16. StudySmarter UK. Learning methods. n.d.
17. Academy of Educational Leadership Journal. Innovative pedagogies: A comparative analysis of traditional and modern teaching methods. 2024.
18. Education Sciences (MDPI). Experiential learning and modern pedagogical approaches in higher education. 2024.

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