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Effective Instructional Strategies Applying Educational Psychology in Classroom

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Abstract

In contemporary educational settings, the effective application of instructional strategies rooted in educational psychology principles is pivotal for optimizing student learning outcomes. This paper delves into the multifaceted landscape of instructional strategies, drawing upon foundational theories from educational psychology to elucidate their efficacy in classroom contexts. Through a comprehensive synthesis of cognitive, behavioral, and constructivist perspectives, this study navigates various instructional methodologies, including differentiated instruction, cooperative learning, inquiry-based learning, direct instruction, and mastery learning. The exploration begins by defining the scope and significance of educational psychology in informing instructional practices. It then proceeds to dissect each instructional strategy, unraveling the underlying theoretical frameworks and elucidating their practical implications for pedagogy. Differentiated instruction, for instance, tailors teaching approaches to accommodate diverse student needs, promoting inclusivity and personalized learning experiences. Cooperative learning harnesses social interaction to foster collaborative problem-solving skills and mutual support among students. Inquiry-based learning cultivates critical thinking and curiosity by empowering students to explore and construct knowledge through self-directed inquiry. Furthermore, this paper examines the role of formative assessment in driving instructional decision-making, emphasizing its value in gauging student progress and identifying areas for targeted intervention. The integration of case studies showcases real-world applications of these instructional strategies, demonstrating their transformative impact on student engagement, motivation, and academic achievement across varied educational contexts. Despite the undeniable benefits of these strategies, challenges persist in their implementation, ranging from resource constraints to addressing the diverse needs and abilities of students. Consequently, educators must navigate these obstacles thoughtfully, leveraging flexible pedagogical approaches and adapting strategies to suit the unique dynamics of their classrooms.

Keywords: *Educational Psychology, Instructional Strategies, Cognitive Development, Motivation, Differentiated Instruction, Classroom Management, Student Learning*

Introduction

In the realm of education, the application of psychological principles to instructional strategies is a cornerstone for effective teaching and learning. Educational psychology, a discipline dedicated to understanding how people learn, provides invaluable insights into the cognitive, emotional, and social processes that underpin learning. By integrating these insights into instructional strategies, educators can create more effective, engaging, and supportive learning environments. The goal of this paper is to explore effective instructional strategies grounded in educational psychology and examine their application in classroom settings. This involves understanding key theories and concepts from educational psychology, such as cognitive development, motivation, differentiated instruction, and classroom management, and applying these theories to develop practical teaching methods. Cognitive development is a foundational aspect of educational psychology, focusing on how students process information and develop intellectually over time. Jean Piaget's stages of cognitive development and Lev Vygotsky's social constructivist theory offer crucial insights into the nature of learning and the role of social interaction in cognitive growth. Understanding these theories enables educators to design age-appropriate and developmentally suitable instructional strategies that enhance learning outcomes. Motivation plays a critical role in student engagement and achievement. Theories such as Maslow's Hierarchy of Needs, Deci and Ryan's Self-Determination Theory, and Dweck's Mindset Theory provide frameworks for understanding what drives students to learn. Effective instructional strategies leverage these theories to foster both intrinsic and extrinsic motivation, creating a learning environment where students feel valued, competent, and driven to succeed. Differentiated instruction is another essential component, recognizing the diverse needs, interests, and abilities of students. Howard Gardner's Multiple Intelligences Theory and Carol Ann Tomlinson's differentiation model emphasize the importance of tailoring instruction to meet these varied needs. Through flexible grouping, tiered activities, and ongoing assessment, differentiated instruction ensures that all students have access to meaningful and challenging learning experiences. Effective classroom management strategies are vital for maintaining an environment conducive to learning. Behavioral theories, such as Skinner's operant conditioning and Bandura's social learning theory, provide a foundation for understanding and shaping student behavior. By implementing positive reinforcement, clear expectations, and modeling appropriate behaviors, educators can create a structured and supportive classroom atmosphere. This paper aims to bridge the gap between educational psychology theories and classroom practice by providing a comprehensive literature review on the impact of these theories on instructional strategies. The discussion will focus on practical applications, offering examples of how educators can implement these strategies to improve student learning outcomes.

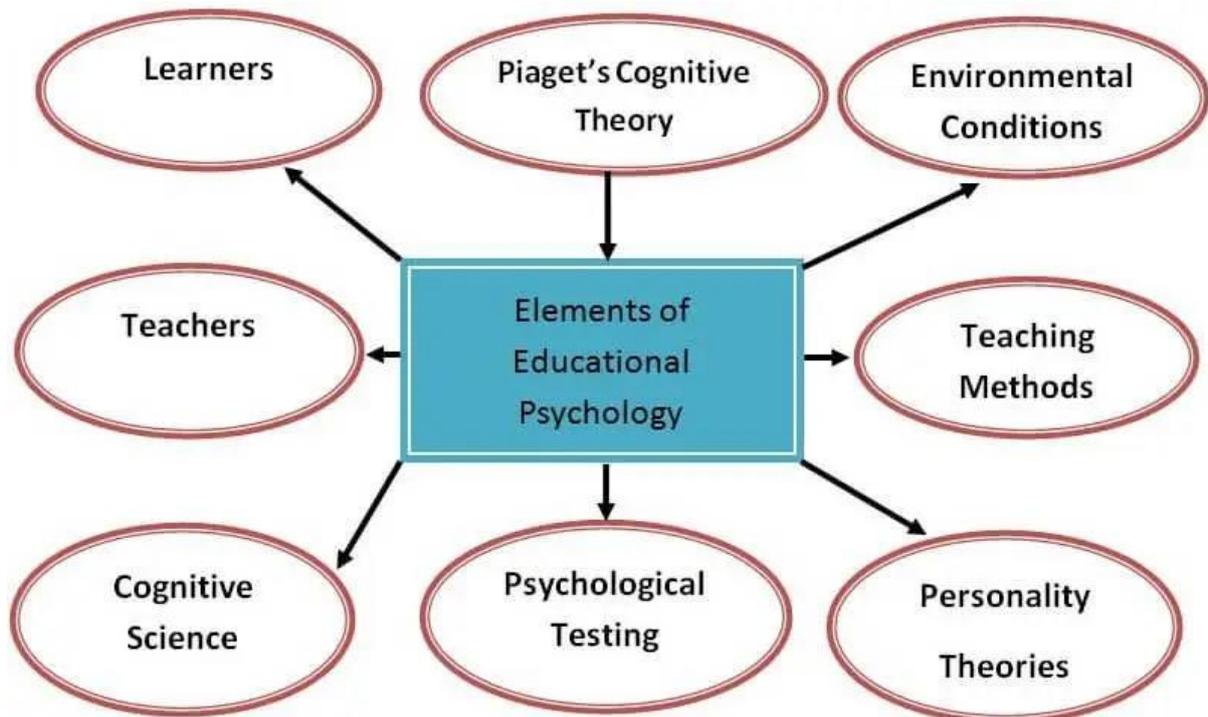


Fig.1: Elements Educational Psychology

Literature Review

Piaget's Stages of Cognitive Development: Piaget (1972) posits that children progress through four stages of cognitive development: sensorimotor, preoperational, concrete operational, and formal operational. Each stage represents a different way of thinking and understanding the world. In the classroom, understanding these stages helps educators design age-appropriate activities that align with students' cognitive abilities. For example, concrete operational learners benefit from hands-on activities that promote logical thinking.

Vygotsky's Social Constructivist Theory: Vygotsky (1978) emphasizes the role of social interaction in cognitive development. His concept of the Zone of Proximal Development (ZPD) suggests that students learn best when they are given tasks slightly beyond their current abilities, with the support of a more knowledgeable other. This theory underlines the importance of scaffolding in instruction, where teachers provide temporary support to help students achieve higher levels of understanding.

Maslow's Hierarchy of Needs: Maslow (1943) identifies a hierarchy of needs, from basic physiological needs to self-actualization. In educational settings, ensuring that students' basic needs are met is fundamental for higher-level learning. Creating a safe, supportive classroom environment is essential for fostering motivation and engagement.

Self-Determination Theory: Deci and Ryan (2000) propose that motivation is driven by the needs for autonomy, competence, and relatedness. Educators can enhance intrinsic motivation by providing choices, fostering a sense of competence through challenging but achievable tasks, and creating a supportive classroom community.

Mindset Theory: Dweck (2006) distinguishes between fixed and growth mindsets. Students with a growth mindset believe that their abilities can improve with effort, leading to greater resilience and a willingness to embrace challenges. Teachers can promote a growth mindset by praising effort rather than innate ability and encouraging students to view challenges as opportunities for growth.

Multiple Intelligences Theory: Gardner (1983) proposes that individuals possess multiple intelligences, such as linguistic, logical-mathematical, spatial, and interpersonal intelligences. Recognizing these

different intelligences allows teachers to design varied instructional activities that cater to different strengths, thereby engaging all students more effectively. Differentiation Model: Tomlinson (2001) emphasizes the importance of differentiating content, process, and product based on students' readiness levels, interests, and learning profiles. Strategies such as flexible grouping, tiered assignments, and ongoing assessment ensure that all students are appropriately challenged and supported. Operant Conditioning: Skinner (1953) introduces the concept of operant conditioning, where behavior is shaped by reinforcement and punishment. Positive reinforcement, such as praise and rewards, can encourage desired behaviors, while clear consequences for misbehavior help maintain discipline. Social Learning Theory: Bandura (1977) highlights the role of observational learning, where students learn by observing and imitating others. Teachers can model appropriate behaviors and use peer modeling to promote positive behaviors in the classroom. Classroom Management Strategies: Marzano (2003) synthesizes research on effective classroom management, highlighting the importance of establishing clear rules and routines, providing consistent consequences, and building positive teacher-student relationships. Effective management strategies create a structured environment where students feel safe and focused on learning. How People Learn: Bransford, Brown, and Cocking (2000) explore the science of learning, emphasizing the importance of understanding students' preconceptions, the development of deep factual and conceptual knowledge, and the role of metacognition in learning. Applying these principles helps teachers design more effective instructional strategies. Visible Learning: Hattie (2009) synthesizes over 800 meta-analyses relating to student achievement, identifying the most effective instructional strategies. Key findings include the importance of providing clear learning intentions, offering feedback, and promoting student self-regulation. The 2 Sigma Problem: Bloom (1984) investigates the effectiveness of one-to-one tutoring compared to traditional group instruction, finding that tutoring can improve student performance by two standard deviations. This highlights the potential of personalized instruction and the need for strategies that approximate the benefits of tutoring in classroom settings. Educational Psychology: Theory and Practice: Slavin (2006) provides a comprehensive overview of educational psychology theories and their practical applications. Strategies such as cooperative learning, direct instruction, and mastery learning are discussed in the context of enhancing student achievement. Educational Psychology: Woolfolk (2019) offers insights into the application of psychological principles in education, covering topics such as student diversity, cognitive processes, and effective teaching methods. Understanding these principles helps educators design instructional strategies that are responsive to students' needs.

Educational Psychology in Classroom

Educational psychology in the classroom involves the systematic application of psychological principles and research to understand and enhance teaching and learning. It focuses on understanding how students learn, develop, and are motivated, and uses this knowledge to design effective instructional strategies that cater to the diverse needs of learners. By incorporating theories of cognitive development, motivation, differentiation, and classroom management, teachers can create environments that foster academic achievement and personal growth.

Cognitive Development:

Jean Piaget's theory of cognitive development outlines how children progress through four stages: sensorimotor, preoperational, concrete operational, and formal operational. Understanding these stages helps teachers tailor their instruction to match students' cognitive abilities. For example, young children in the concrete operational stage benefit from hands-on learning and visual aids, while older students in the formal operational stage can engage in abstract thinking and hypothetical scenarios. Lev Vygotsky's concept of the Zone of Proximal Development (ZPD) highlights the importance of social interaction in learning.

Motivation:

Motivation is a crucial factor in student learning and engagement. Abraham Maslow's hierarchy of needs posits that individuals are motivated by fulfilling a series of hierarchical needs, from basic physiological needs to self-actualization. Ensuring that students' basic needs are met creates a foundation for learning. Edward Deci and Richard Ryan's Self-Determination Theory (SDT) emphasizes the importance of autonomy, competence, and relatedness in fostering intrinsic motivation. Teachers can boost motivation by providing choices, offering constructive feedback, and creating a supportive classroom community. Carol Dweck's Mindset Theory differentiates between a fixed mindset (belief that abilities are static) and a growth mindset (belief that abilities can be developed through effort). Promoting a growth mindset involves praising effort rather than innate ability and encouraging students to view challenges as opportunities for growth.

Differentiated Instruction:

Differentiated instruction tailors teaching methods to meet the diverse needs of students. Howard Gardner's Multiple Intelligences Theory suggests that individuals have different kinds of intelligences, such as linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal, and naturalistic. Recognizing these varied intelligences allows teachers to design activities that cater to different strengths and learning styles. Carol Ann Tomlinson's differentiation model involves modifying content, process, product, and learning environment based on students' readiness, interests, and learning profiles. This might include varying the material to match students' levels of understanding, using different activities to help students grasp the content, allowing students to demonstrate their learning in various ways, and creating a classroom setup that supports diverse learning styles.

Classroom Management:

Effective classroom management is essential for maintaining an environment conducive to learning. B.F. Skinner's operant conditioning theory focuses on shaping behavior through reinforcement and punishment. Positive reinforcement, such as praise and rewards, encourages desirable behavior, while clear and consistent consequences discourage inappropriate behavior. Albert Bandura's Social Learning Theory emphasizes the importance of observational learning, imitation, and modeling. Teachers can apply social learning theory by modeling positive behaviors and using peer modeling to influence student behavior. Robert Marzano's research identifies key strategies for effective classroom management, including establishing rules and routines, providing clear expectations, and building positive teacher-student relationships. A structured environment with clear rules and consistent routines helps students understand what

is expected of them, while a positive relationship with the teacher fosters a supportive and respectful classroom atmosphere.

Integrating Theories into Practice:

Effective instructional strategies involve integrating these educational psychology theories into classroom practice to enhance student learning outcomes. For cognitive development, teachers can use hands-on activities, guided instruction, and scaffolding to support cognitive growth. To enhance motivation, they can provide choices, foster competence, and encourage a growth mindset. Implementing differentiated instruction involves flexible grouping, tiered activities, and ongoing assessment. Effective classroom management techniques include positive reinforcement, clear expectations, and modeling behaviors to maintain a conducive learning environment.

Effective Instructional Strategies

Effective instructional strategies refer to methods and approaches used by teachers to facilitate learning and enhance student understanding. These strategies are grounded in educational psychology principles and research, aiming to optimize the teaching-learning process and promote student engagement, retention, and application of knowledge. Here's a breakdown of effective instructional strategies:

Active Learning: Active learning encourages students to participate actively in the learning process rather than passively receiving information. This can involve group discussions, problem-solving activities, hands-on experiments, simulations, and debates. By engaging students in active learning experiences, teachers promote deeper understanding and retention of the material.

Differentiated Instruction: Differentiated instruction acknowledges that students have diverse learning needs, interests, and abilities. Teachers modify their instructional methods, content, and assessments to accommodate these differences. This might include providing varied learning materials, offering choices in assignments, using flexible grouping, and adjusting the pace of instruction to meet individual student needs.

Technology Integration: Technology can enhance instruction by providing access to multimedia resources, interactive simulations, educational software, and online collaboration tools. Teachers can use technology to supplement traditional teaching methods, personalize learning experiences, and engage students in new ways. However, it's essential to ensure that technology use aligns with learning objectives and supports active participation rather than passive consumption.

Scaffolding: Scaffolding involves providing temporary support to students as they learn new concepts or skills, gradually removing assistance as students become more proficient. This might include breaking tasks into smaller steps, providing hints or prompts, modeling problem-solving strategies, and offering feedback. Scaffolding helps students work at their current level of ability while gradually building toward mastery.

Feedback and Assessment: Effective feedback and assessment strategies provide students with information about their progress, strengths, and areas for improvement. Feedback should be timely, specific, and actionable, focusing on how students can improve their performance. Assessment methods should be varied and authentic, allowing students to demonstrate their

understanding in different ways and providing teachers with valuable insights into student learning.

Collaborative Learning: Collaborative learning involves students working together in groups to achieve shared learning goals. Through collaboration, students engage in discussions, share ideas, and learn from one another's perspectives. Collaborative activities can promote critical thinking, communication skills, and teamwork, preparing students for success in diverse social and professional contexts.

Metacognitive Strategies: Metacognition refers to students' awareness and control of their own learning process. Teachers can teach metacognitive strategies such as goal-setting, self-monitoring, and reflection to help students become more effective learners. By encouraging students to think about how they learn best and to reflect on their learning experiences, teachers empower them to take ownership of their education.

Culturally Responsive Teaching: Culturally responsive teaching recognizes and respects the cultural backgrounds, experiences, and perspectives of all students. Teachers incorporate diverse perspectives into their instruction, use culturally relevant materials and examples, and create inclusive learning environments where all students feel valued and respected. By honoring students' identities and backgrounds, culturally responsive teaching promotes engagement and academic success.

Problem-Based Learning: Problem-based learning (PBL) is an instructional approach where students work on authentic, real-world problems or challenges. PBL engages students in inquiry, critical thinking, and problem-solving skills as they explore complex issues and develop solutions collaboratively. This approach fosters deeper understanding, motivation, and transferable skills that students can apply beyond the classroom.

Reflection and Revision: Reflection and revision are essential components of the learning process. Teachers provide opportunities for students to reflect on their learning experiences, evaluate their understanding, and identify areas for improvement. Through reflection, students develop metacognitive awareness and deepen their understanding of concepts. Revision allows students to refine their work based on feedback and new insights, promoting continuous growth and improvement.

By incorporating these effective instructional strategies into their teaching practice, educators can create dynamic and engaging learning experiences that meet the diverse needs of their students and foster deep understanding, critical thinking, and lifelong learning skills.



Fig.2: Educational Psychology

Future of Classroom in Educational Psychology

The future of the classroom in educational psychology is likely to be shaped by ongoing advancements in technology, pedagogy, and our understanding of human learning and development. Here are some potential trends and developments that may influence the future of educational psychology in the classroom:

Technology Integration: The integration of technology into the classroom will continue to evolve, offering new opportunities for personalized learning, interactive instruction, and data-driven decision-making. Virtual reality (VR), augmented reality (AR), artificial intelligence (AI), and adaptive learning platforms may become more prevalent, allowing for immersive learning experiences tailored to individual student needs and preferences.

Blended Learning: Blended learning models, which combine traditional face-to-face instruction with online learning activities, are likely to become increasingly common. Blended learning offers flexibility and customization, allowing students to learn at their own pace while still benefiting from teacher guidance and peer interaction. Educational psychologists will play

a key role in designing and evaluating effective blended learning environments that optimize student engagement and achievement.

Evidence-Based Practices: Educational psychology research will continue to inform evidence-based teaching practices, helping educators make informed decisions about instructional strategies, classroom management techniques, and student support interventions. The use of research-based approaches will be essential for promoting positive learning outcomes and addressing the diverse needs of students.

Social and Emotional Learning (SEL): There is growing recognition of the importance of social and emotional skills for academic success and overall well-being. Educational psychologists will explore ways to integrate SEL into the curriculum, providing students with opportunities to develop self-awareness, self-regulation, empathy, and relationship skills. Cultivating a positive classroom climate that supports social and emotional learning will be a priority for educators and researchers alike.

Culturally Responsive Pedagogy: As classrooms become increasingly diverse, there will be a greater emphasis on culturally responsive pedagogy that recognizes and values students' cultural backgrounds, experiences, and perspectives. Educational psychologists will explore how cultural factors influence learning and development, informing the design of inclusive instructional practices that promote equity and belonging for all students.

Lifelong Learning and Skill Development: In an era of rapid technological change and economic uncertainty, there will be a greater emphasis on preparing students for lifelong learning and skill development. Educational psychologists will investigate how to foster essential competencies such as critical thinking, problem-solving, creativity, collaboration, and adaptability. Emphasizing these 21st-century skills will better equip students to navigate complex challenges and thrive in an ever-changing world.

Neuroscience and Brain-Based Learning: Advances in neuroscience are providing new insights into how the brain learns and retains information. Educational psychologists will continue to explore the implications of brain research for teaching and learning, identifying strategies that optimize cognitive processes such as memory, attention, and executive function. Understanding the neural mechanisms underlying learning will inform the development of more effective instructional techniques and interventions.

Global Collaboration and Connectivity: Technology enables global collaboration and connectivity, allowing students and educators to connect with peers and experts from around the world. Educational psychologists will explore how to leverage digital tools and online networks to facilitate collaborative learning experiences, cultural exchange, and cross-cultural understanding. Building global competencies and fostering international perspectives will prepare students to thrive in a globally interconnected society.

Overall, the future of the classroom in educational psychology is likely to be characterized by innovation, inclusivity, and a commitment to evidence-based practice. By embracing emerging technologies, pedagogical approaches, and research findings, educators can create dynamic learning environments that empower students to succeed academically, socially, and emotionally. Educational psychologists will continue to play a vital role in shaping the future of education, collaborating with teachers, policymakers, and other stakeholders to promote positive outcomes for all learners.



Fig.3: Need and Importance of Educational Psychology

Discussion

The future of the classroom in educational psychology promises a dynamic landscape shaped by the convergence of technological advancements, evolving pedagogical approaches, and deepening insights into human cognition and development. Advancements in technology, including virtual reality (VR), augmented reality (AR), artificial intelligence (AI), and adaptive learning platforms, are poised to revolutionize teaching and learning, offering personalized and immersive experiences tailored to individual student needs and preferences. Blended learning models, combining face-to-face instruction with online activities, are gaining prominence, offering flexibility and customization while maintaining teacher guidance and peer interaction. Educational psychologists will continue to translate research findings into evidence-based practices, guiding educators in selecting effective instructional strategies and supporting student learning needs. Culturally responsive pedagogy will become increasingly vital in diverse classrooms, fostering equity, inclusion, and respect for students' cultural backgrounds and experiences. The integration of social and emotional learning (SEL) into the curriculum will nurture students' holistic development, promoting self-awareness, empathy, and positive relationships. Emphasizing lifelong learning and skill development will equip students with essential competencies for success in a rapidly changing world, while neuroscience insights will inform the design of brain-compatible learning environments. Global collaboration and connectivity will enable students to engage with peers and experts worldwide, fostering intercultural competence and global citizenship. As educational psychologists collaborate with educators to navigate these trends, the future classroom holds promise as a vibrant and inclusive space where all learners can thrive academically, socially, and emotionally.

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