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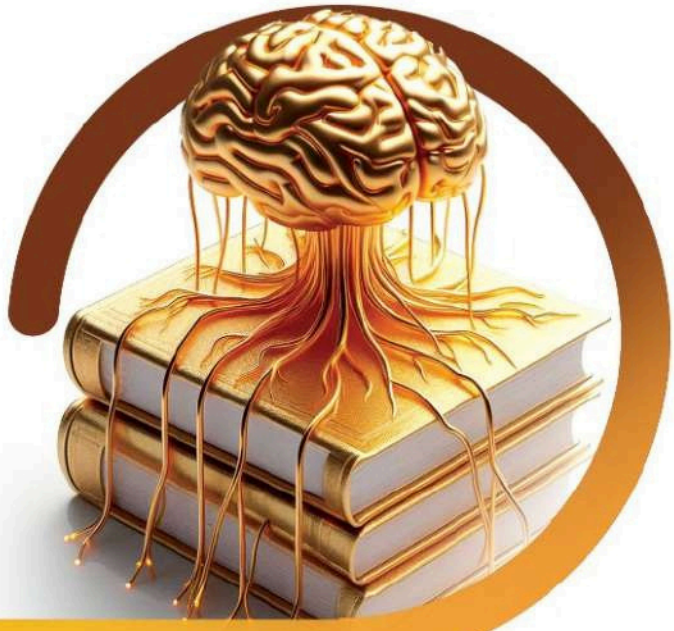

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EDITORIAL

Education is shaped by many forces at once: the cognitive abilities children bring to learning, the philosophies that give teaching its purpose, the pedagogies teachers adopt, and the physical and perceptual capacities learners develop. Volume 5, Issue 1 of the Journal of Strides in Education brings together six articles that approach these concerns through experimental, survey-based, descriptive and conceptual methods. Together they reflect the interdisciplinary spirit of the journal and offer insights for researchers, teachers, teacher educators and policymakers.

The study Knowledge Integration Ability of Institutionalized Children with Respect to Gender**,** examines knowledge integration abilities, including analogical reasoning, conceptual blending and mental simulation, among 600 institutionalized children. The findings revealed high levels of knowledge integration with no significant gender differences, highlighting the importance of stimulating and supportive learning environments.

The philosophical inquiry Jiddu Krishnamurti's Concept of Learning and Teaching: A Philosophical Inquiry, explores Jiddu Krishnamurti's educational thought through awareness, dialogue, freedom, self-knowledge and holistic education, comparing it with Eastern and Western traditions. It emphasizes integrating skill development and employability with ethical responsibility, awareness and the learner's inner development.

The study Technology-Enhanced Communicative Language Teaching (T-CLT): Teacher Trainee Preparedness and Challenges, examines the preparedness and challenges of 40 B.Ed. English trainee teachers in integrating technology with communicative language teaching. Although trainees demonstrate a positive orientation, infrastructure, connectivity and time constraints highlight the need for sustained practical training and institutional support.

The study Cloistered and Coalesce Effects of Yogic Practices and Dynamic Sports Vision Training on Dynamic Visual Acuity of Netball Players**,** examined the effects of yogic practices, dynamic sports vision training, and their combination on the dynamic visual acuity of 60 adolescent netball players. All three experimental groups showed improvement over the control group, with the combined intervention producing the greatest gains.

The conceptual review Role of Teachers in Fostering 'Industry' among Primary School Students through Gamification: A Psychosocial Perspective, explores how teachers can use gamification in English classrooms to foster a sense of industry among primary school students, drawing on Erikson's psychosocial theory and Self-Determination Theory. It highlights the role of game elements, constructive feedback, cooperation and belonging, emphasizing the need for effective pedagogical design and empirical validation.

The study Effect of High Pace, Medium Pace and Low Pace Running Training on Selected Physical Variables among School Students, examined the effects of high-, medium- and low-pace running training on selected physical variables among 60 schoolboys over twelve weeks. High-pace training yielded the greatest improvements in speed, agility and explosive power, while medium-pace training was most effective in enhancing cardiovascular endurance.

The six articles in this issue show that learning and development cannot be understood from a single vantage point, whether the focus is a child's cognition, a teacher's practice, an athlete's training or a philosophy of education. They also show that the strength of educational research lies in matching each question with a suitable method and being candid about what the evidence can and cannot support. We thank the authors for their contributions and the reviewers for their careful and constructive evaluations, and we invite scholars and practitioners to submit their work to future issues. We hope this issue will encourage further inquiry, dialogue and practice in education.

Sincerely,

The Editorial Team
Journal of Strides in Education

ABOUT THE JOURNAL

JOURNAL OF STRIDES IN EDUCATION (JSE), a biannual, peer-reviewed multidisciplinary journal published by SNM Training College, Moothakunnam highlights research in the broad areas of education. Original contributions, as well as review articles in important areas of Education, Humanities, and Social Sciences, that contribute to the development of knowledge across the broad field of education, are relevant to this journal. The Journal started in 2022 and is published twice a year. One issue is from May to October and another issue is from November to April.

DETAILS OF THE JOURNAL

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Knowledge Integration Ability of Institutionalized Children with Respect to Gender

Lincymol Mathew, R. Meenakshi & S. Karthiyayani

Abstract

Knowledge integration is an important cognitive process through which learners connect newly acquired information with existing knowledge, identify relationships among ideas, construct meaningful concepts, and synthesize information for effective problem solving. The present study examined the Knowledge Integration Ability of Institutionalized Children with respect to gender and its dimensions, namely analogical reasoning, conceptual blending, and mental simulation. The study was conducted with 600 Institutionalized Children. The Knowledge Integration Scale was used to assess their level of integrating knowledge. Descriptive statistics and independent-samples t tests were employed in accordance with the objectives of the study. The findings revealed that the Institutionalized Children demonstrated a high level of Knowledge Integration Ability according to the scoring norms of the instrument. The mean Knowledge Integration score was 172.00 (SD = 23.44). Analogical reasoning, conceptual blending, and mental simulation also demonstrated favorable levels. No significant gender differences were found in Knowledge Integration. These findings highlight the importance of cognitive stimulation, meaningful learning experiences, and supportive educational environments in promoting Knowledge Integration Ability among Institutionalized Children.

Keywords: knowledge integration, institutionalized children, analogical reasoning, conceptual blending, mental simulation, cognitive development, learning

Introduction

Knowledge is not acquired simply through the accumulation of isolated facts. Meaningful learning occurs when learners connect new information with their existing knowledge and apply those connections to understand new circumstances. Knowledge Integration is therefore an important cognitive ability that supports reasoning, problem solving, decision making, and transfer of learning.

Children develop Knowledge Integration abilities through interactions with their physical, social, and educational environments. Classroom experiences, communication with teachers and peers, problem-solving activities, observation, and opportunities to relate new ideas to previous knowledge all contribute to their cognitive development. Consequently, the educational environment plays an important role in the development of a child.

Institutionalized Children constitute a population whose developmental experiences may differ from those of children raised in family environments. Institutional care may vary considerably in terms of caregiving quality, educational opportunities, emotional support, and cognitive stimulation. Research has indicated that children exposed to institutional care may experience developmental difficulties, particularly when their environments provide limited responsive interaction and stimulation (Bakermans-Kranenburg et al., 2008; van IJzendoorn et al., 2020).

The present study focuses on Knowledge Integration Ability of Institutionalized Children. It conceptualizes Knowledge Integration as a multidimensional cognitive ability involving analogical reasoning, conceptual blending, and mental simulation.

Concept of Knowledge Integration

Knowledge Integration refers to the process of connecting and organizing information so that separate pieces of knowledge become part of a meaningful cognitive structure. It involves relating new information to previous knowledge, recognizing relationships, forming concepts, and combining information to develop a more comprehensive understanding. A learner with strong Knowledge Integration ability is able to move beyond simple recall. Such a learner can compare different situations, establish relationships among concepts, and apply prior learning to new situations.

Knowledge Integration is particularly important in school learning. In science, for example, children need to connect observations with scientific principles. In mathematics, they must relate numerical information to concepts and problem-solving procedures. In language learning, they integrate vocabulary, grammar, meaning, and prior experiences. Thus, Knowledge Integration contributes to meaningful and transferable learning.

Dimensions of Knowledge Integration

Analogical Reasoning. Analogical reasoning involves identifying relationships between apparently different situations or objects and applying the relationship observed in one situation to understand another. It enables children to recognize patterns and similarities and to transfer knowledge from familiar situations to unfamiliar ones.

Conceptual Blending. Conceptual blending involves organizing information into meaningful categories and identifying the common characteristics of objects, events, or ideas.

Mental Simulation. Mental simulation refers to the ability to combine and organize different pieces of information mentally to form a meaningful whole. Mental simulation enables

learners to integrate different elements of knowledge and construct new understandings. This ability can therefore make an important contribution to effective learning.

Institutionalized Children and Cognitive Development. Institutionalized Children may have diverse developmental backgrounds. Some may have experienced family disruption, neglect, poverty, abandonment, or other adverse circumstances before entering institutional care. Therefore, it is inappropriate to assume that all Institutionalized Children share identical developmental characteristics.

However, studies of institutional care have reported associations between deprivation and developmental outcomes. Bakermans-Kranenburg et al. (2008) found that interventions designed to improve the developmental conditions of Institutionalized Children could produce improvements in cognitive development.

Need and Significance of the Study

Knowledge Integration Ability is important for academic success and lifelong learning. Children who can connect information, recognize relationships, and synthesize ideas are better positioned to understand complex concepts and solve unfamiliar problems. Identifying their existing level of Knowledge Integration ability can help teachers, caregivers, counsellors, and educational planners to develop appropriate interventions. The present study is also significant because it provides a broader understanding of how cognitive and psychological characteristics are interconnected among Institutionalized Children.

Scope of the Study

Knowledge integration encompasses a wide range of areas, disciplines, and applications. It involves the synthesis and application of knowledge from various domains to enhance

understanding, foster innovation, and solve complex problems. Integrating knowledge from different academic to address complex research questions. Promoting a culture that values continuous learning and knowledge sharing among employees. Utilizing advanced technologies to integrate data from various sources for better decision-making. Integrating research findings from various fields to inform public policy decisions, ensuring they are grounded in comprehensive evidence. Integrating knowledge from environmental science, economics, sociology, and technology to develop sustainable practices. It is essential for addressing complex challenges, fostering innovation, and promoting collaboration across different fields of study and practice. By effectively integrating knowledge, organizations and societies can enhance their adaptability, resilience, and overall effectiveness in an increasingly interconnected world.

Statement of the Problem

The present study was stated as **"Adversity Quotient, Perceptual Children and Knowledge Integration among Institutionalized Children**."

Operational Definitions of Key Terms

Operational definitions are crucial for transforming abstract concepts into measurable elements, making it easier to collect data and analyze results.

Adversity Quotient

Here, Adversity Quotient is the ability of a person to face the adversities in life in an effective manner. It is a crucial skill that helps the Institutionalized Children to overcome the challenges or adversities in their life and it is measured through the Adversity Quotient Scale.

Perceptual Skills

The investigator means that Perceptual Skills are the skills of Institutionalized Children and it is measured through Perceptual Skills test.

Knowledge Integration

The investigator means that Knowledge integration is the ability of Institutionalized Children to integrate knowledge in different situations by using different mediums and it is measured through Knowledge Integration Scale.

Institutionalized Children

The institutionalized children are those children who are brought up and cared in institutions rather than in a family setting. These institutions may include orphanages, children's homes, residential care homes shelter homes, juvenile care homes. Orphan students are those students who have lost their parents.

Here, the investigator selected Orphan Students who are studying in secondary schools as the sample.

Objectives of the Study

The major objectives relevant to the present article were:

1. To study the level of Knowledge Integration among Institutionalized Children.
2. To study the level of dimensions of Knowledge Integration, namely analogical reasoning, conceptual blending, and mental simulation among Institutionalized Children.
3. To examine whether Institutionalized Children differ significantly in Knowledge Integration based on gender.

Hypotheses

The major hypotheses relevant to Knowledge Integration were:

1. The level of Knowledge Integration and its dimensions among Institutionalized Children is high.

2. There is no significant difference in Knowledge Integration and its dimensions among Institutionalized Children based on gender.

Method

Research Design

The study adopted a quantitative approach using a descriptive and comparative research design. The descriptive component was used to examine the level of Knowledge Integration and its dimensions among Institutionalized Children. The comparative component was employed to examine the differences in Knowledge Integration and its dimensions based on gender.

Sample

The sample consisted of 600 Institutionalized Children, including 290 male children and 310 female children.

Tools Used

Knowledge Integration Scale (KIS) was developed and standardized by the Investigator. The Knowledge Integration Scale consisted of 44 items rated on a five-point scale. The dimensions examined were analogical reasoning, conceptual blending, and mental simulation.

Table 1

Scheme of Scoring of the Knowledge Integration Scale

Sl.No.	Alternatives	Positive Items
1	Always	5
2	Sometimes	4
3	Not Decided	3
4	Rarely	2
5	Never	1

Statistical Techniques Used

The data were analysed using the mean, standard deviation, and independent-samples t tests. The level of significance was set at .05.

Results

Hypothesis 1

1. The level of Knowledge Integration and its dimensions among Institutionalized Children is high.

Table 2

Mean and Standard Deviation of Knowledge Integration and its Dimensions

Variable	***M***	***SD***
Knowledge Integration	172.00	23.44
Analogical Reasoning	61.33	10.69
Conceptual Blending	49.04	6.37
Mental Simulation	61.62	9.90

Note: M= Mean; SD= Standard Deviation.

The results showed that the overall mean score for Knowledge Integration was 172.00 (SD = 23.44). The mean score for analogical reasoning was 61.33 (SD = 10.69), the mean score for conceptual blending was 49.04 (SD = 6.37), and the mean score for mental simulation was 61.62 (SD = 9.90). According to the scoring norms of the instrument, the overall level of Knowledge Integration and each of its dimensions was high.

The findings indicate that the Institutionalized Children demonstrated favourable cognitive abilities in connecting information, forming concepts, identifying relationships, and synthesising

knowledge. These results provide evidence that the Institutionalized Children in the present sample possessed a comparatively high level of Knowledge Integration.

Hypothesis 2

2.There is no significant difference in Knowledge Integration and its dimensions among Institutionalized Children based on gender

Table 3

Knowledge Integration and its Dimensions among Institutionalized Children based on Gender

Gender	***N***	***M***	***SD***	***t***
Male	**290**	**172.53**	**23.85**	**0.636**
Female	**310**	**171.30**	**22.95**	

Note. N= Number of Participants; M= Mean; SD= Standard Deviation.

An independent-samples t test was conducted to determine whether male and female Institutionalized Children differed significantly in Knowledge Integration. The analysis revealed that the difference was not statistically significant. The mean Knowledge Integration score was 172.53 (SD = 23.85) for males and 171.30 (SD = 22.95) for females. The obtained t value of 0.636 is lower than the table value of 1.96 at the .05 level.

Similarly, no significant gender differences were found in analogical reasoning, conceptual blending, and mental simulation.

Discussion

The present study revealed a high level of Knowledge Integration among Institutionalized Children. The favourable mean scores obtained for Knowledge Integration, analogical reasoning, conceptual blending, and mental simulation suggest that the children in the sample possessed

useful cognitive resources for organizing and connecting information. The present results provide a more balanced perspective by demonstrating that children living in institutional settings can also exhibit favourable cognitive abilities. Their development should therefore be understood in relation to the educational and caregiving opportunities available to them.

The high level of analogical reasoning suggests that the participants were able to identify relationships and apply patterns of understanding across situations. This ability is important for academic learning because children frequently encounter new problems that require them to draw upon previously learned principles.

The favourable level of conceptual blending indicates that the participants were able to organize information and develop meaningful categories. Concept formation is fundamental to school learning because academic subjects require children to progress from individual examples to general principles.

The high level of mental simulation is also noteworthy. Mental simulation enables learners to combine different pieces of information and construct meaningful wholes.

The absence of significant gender differences in Knowledge Integration suggests that male and female Institutionalized Children in the present sample possessed broadly comparable levels of Knowledge Integration Ability.

Educational Implications

The findings of the study have several implications for teachers, caregivers, educational institutions, and policymakers.

Institutionalized Children should be provided with learning environments that promote active participation rather than dependence on rote memorization.

Teachers should use activities that encourage children to identify similarities and differences, establish relationships, and apply previous knowledge to new situations.

Concept mapping, classification activities, puzzles, analogies, problem-solving tasks, storytelling, project work, and experiential learning can be used to strengthen Knowledge Integration.

Opportunities for mental simulation should be deliberately incorporated into classroom instruction. Children can be encouraged to combine information from different sources, predict outcomes, construct explanations, and develop solutions to unfamiliar problems.

Teachers should assess not only children's ability to recall information but also their ability to understand relationships, form concepts, synthesize information, and transfer knowledge.

Finally, educational programmes for Institutionalized Children should recognize their strengths as well as their needs. The high level of Knowledge Integration found in the present study demonstrates the importance of creating opportunities through which these cognitive strengths can be further developed.

Limitations of the Study

The study was based on Institutionalized Children; therefore, the findings may not be directly generalizable to all children. Institutional settings may differ considerably in terms of resources, caregiving practices, educational opportunities, and duration of institutionalization.

Suggestions for Further Research

Future studies may examine Knowledge Integration among Institutionalized and non-Institutionalized Children using comparative research designs. Intervention studies could also be conducted to determine whether structured cognitive and educational programmes can improve analogical reasoning, conceptual blending, and mental simulation.

Conclusion

The present study provides evidence that Institutionalized Children in the sample demonstrated a high level of Knowledge Integration. Their favourable performance in analogical reasoning, conceptual blending, and mental simulation indicates the presence of useful cognitive resources for meaningful learning.

The absence of significant differences based on gender suggests that these variables did not substantially differentiate Knowledge Integration in the present sample. The findings highlight the potential importance of higher-order cognitive processes in understanding how Institutionalized Children respond to challenging circumstances.

Overall, the findings emphasized that Institutionalized Children possess considerable cognitive potential. Educational programmes should therefore provide opportunities for exploration, reasoning, discussion, problem solving, concept formation, and synthesis. A supportive and stimulating educational environment can help children strengthen their existing abilities and use knowledge more effectively in academic and everyday situations.

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Jiddu Krishnamurti's Concept of Learning and Teaching: A Philosophical Inquiry

Anju P. S. & Nisar A. C.

Abstract

Education is commonly understood through the acquisition of knowledge, development of skills, academic achievement, and preparation for social and economic life. Jiddu Krishnamurti offers a different philosophical perspective in which education is concerned with the awakening of intelligence, self-understanding, freedom, and the development of the whole human being. This article examines Krishnamurti's concept of learning and teaching through a philosophical and comparative reading of his educational writings. It focuses on five interconnected themes: learning as awareness, teaching as dialogue, freedom and discipline, self-knowledge, and education for wholeness. His position is compared with selected Eastern traditions and Western educational thinkers, including the Upanishadic concern with self-knowledge, Buddhist awareness, Socratic inquiry, John Dewey, Maria Montessori, Paulo Freire, and Jean-Jacques Rousseau. The analysis shows that Krishnamurti shares important concerns with these traditions but cannot be reduced to any of them. His distinctive contribution lies in treating education as a continuous awakening from psychological conditioning rather than merely as the accumulation of information or the mastery of a prescribed method. The article also considers the relevance of his thought to contemporary education, including the growing emphasis on vocational and skill development. It argues that competence and employability are important educational concerns, but that they need to be accompanied by attention to awareness, ethical responsibility, relationships, and the learner's inner life.

Keywords: Jiddu Krishnamurti, educational philosophy, awareness, self-knowledge, dialogue, freedom, holistic education

Introduction

The meaning and purpose of education have been debated throughout the history of philosophy. Different traditions have understood education as cultivating virtue, developing reason, forming character, preparing for citizenship, fostering personal growth, or acquiring useful knowledge and skills. Modern educational systems necessarily depend on accumulated knowledge: mathematics, science, language, history, and professional disciplines develop through concepts and discoveries carried forward from one generation to the next. Yet possessing information does not, by itself, guarantee understanding, wisdom, or freedom. This distinction gives Jiddu Krishnamurti's philosophy of education its continuing philosophical significance.

Krishnamurti (1953, 1964, 1970) repeatedly questioned an education that becomes primarily concerned with examinations, comparison, conformity, and preparation for future achievement. He did not deny the practical importance of knowledge. Rather, he questioned the assumption that knowledge accumulation alone constitutes intelligence. For him, education should help a person understand the movement of thought, fear, desire, comparison, and social conditioning. The learner is therefore not simply a receiver of information but a human being engaged in an ongoing inquiry into self and world.

This article develops that philosophical argument by examining Krishnamurti's central educational ideas and placing them in dialogue with selected Eastern and Western traditions. The purpose is not to claim that Krishnamurti belongs to any single philosophical school. Instead, comparison helps clarify both the affinities and the differences in his position. The discussion also

considers the contemporary relevance of his thought in an educational environment in which academic content, vocational preparation, and skill development are increasingly important.

Learning as Awareness

For Krishnamurti, learning is a movement of observation rather than a process that ends with possessing a fixed body of conclusions. In formal education, cumulative knowledge has an indispensable place. A student cannot meaningfully study algebra, physics, philosophy, or medicine without building on earlier learning. Krishnamurti's criticism targets less knowledge itself than the tendency to identify knowledge with intelligence. Knowledge is connected with memory and the past, whereas awareness requires attention to what is happening in the present. Learning therefore involves noticing not only external facts but also the learner's own reactions, assumptions, fears, and patterns of thought (Krishnamurti, 1964).

This position closely aligns with Buddhist approaches to mindfulness, which attend to experience without immediate attachment or judgment. It can also be compared with the Upanishadic concern with self-knowledge. However, Krishnamurti does not simply reproduce these traditions. He was critical of reliance on sacred authority, fixed spiritual methods, and the idea that truth can be reached by following a prescribed path. Instead, he emphasizes direct perception and observation of 'what is.' Thus, his approach is experiential and psychological rather than doctrinal. The educational importance of this distinction is considerable: awareness is not another lesson to be memorized, but a continuing quality of attention through which the learner discovers how the mind operates.

Such learning also changes the teacher's task. Rather than asking only whether students have remembered the correct answer, the teacher can create situations in which learners observe,

question, compare evidence, reflect, and revise their understanding. This does not require abandoning curriculum or academic standards. It means that knowledge and awareness need not be treated as opposites. Knowledge provides resources for inquiry, while awareness determines how those resources are understood and used.

Teaching as Dialogue

Krishnamurti's understanding of teaching follows naturally from his concept of learning. If learning is inquiry, the teacher cannot be reduced to an authority who deposits final answers into passive minds. Teaching becomes a shared exploration in which the teacher has experience and responsibility but does not demand psychological dependence from the learner. Krishnamurti's educational dialogues therefore emphasize questioning, listening, and discovering together (Krishnamurti, 1970).

This approach invites comparison with Socratic education. Socrates used questioning to expose assumptions and encourage examination of beliefs. Krishnamurti similarly valued questioning, but he extended inquiry from the logical examination of propositions to observation of the psychological processes through which people form beliefs and respond to situations. Martin Buber's (1970) account of the I–Thou relationship offers another useful comparison because it emphasizes genuine encounter rather than treating the other person as an object. In an educational setting, this suggests that a teacher should meet students as persons whose experiences and questions matter, not merely as recipients of instruction.

Paulo Freire (1970) provides a further comparison. Freire regarded dialogue as central to critical consciousness and to challenging oppressive educational relationships. Krishnamurti also associated dialogue with freedom, but his principal concern is psychological rather than explicitly

political. He asks learners to examine fear, imitation, authority, and conditioning within themselves. The two perspectives therefore illuminate different dimensions of educational freedom: Freire emphasizes social and structural relations, while Krishnamurti focuses more on the inner processes through which people participate in patterns of dependence and conformity.

Freedom, Discipline, and Self-Knowledge

Freedom is central to Krishnamurti's educational philosophy, but it does not mean unrestricted behavior. Freedom for him is freedom from psychological dependence, fear, comparison, and unexamined conditioning. Discipline that rests only on punishment or fear may produce outward obedience, yet it does not necessarily produce understanding. Krishnamurti therefore connects discipline with awareness: when learners understand the consequences of their actions and observe their own motives, responsibility can emerge from within rather than being imposed entirely from outside (Krishnamurti, 1953).

The distinction can be described as a movement between conditioning and liberation. A conditioned mind responds mechanically to inherited beliefs, social expectations, fear, and comparison. A more liberated mind can observe these influences without being completely governed by them. This does not eliminate structure from education; rather, it changes the basis of structure from coercion to understanding. Dewey (1938), in a different philosophical framework, also connected education with experience and meaningful activity, while Montessori (1967) emphasized independence within a prepared environment. Krishnamurti's distinctive point is that no educational structure or method can substitute for the learner's own awareness. Jean-Jacques Rousseau's educational philosophy offers an interesting point of comparison with Krishnamurti's views on education. Rousseau believed that human beings are naturally good but that society can negatively influence their development. Krishnamurti also recognized the influence of society,

particularly the ways in which social expectations, beliefs, and traditions condition the human mind. However, their approaches differ in an important respect. Rousseau emphasized protecting the child's natural development from harmful social influences, whereas Krishnamurti believed that freedom comes through understanding these influences rather than withdrawing from society. While Rousseau placed importance on nature as a guide for the child's development, Krishnamurti focused on direct observation, self-understanding, and awareness of one's thoughts and actions. Both thinkers were concerned with the development of an authentic individual, but Krishnamurti's approach placed greater emphasis on understanding psychological conditioning. Rather than seeking to protect children simply by separating them from society, his educational philosophy encourages them to engage with the world with awareness and an open mind. In this sense, education becomes a process of developing insight rather than merely preserving natural innocence (Rousseau, 1979).

Self-knowledge deepens this argument. Krishnamurti places the observation of fear, desire, ambition, insecurity, and comparison at the center of education. His position resembles the ancient call to know oneself, but he does not turn self-knowledge into a fixed metaphysical doctrine. Although his thought can be compared with Advaita Vedanta and the Upanishadic search for the Self, he resisted making metaphysical claims or ritual practice the foundation of education. Instead, he directed attention to the immediate movement of thought and feeling. Self-knowledge, therefore, is not merely knowledge about oneself; it is an ongoing activity of seeing how one thinks and acts.

Education for Wholeness

Krishnamurti's educational vision ultimately seeks wholeness. Intellectual development, emotional life, physical well-being, relationships, and sensitivity to nature should not be treated as

unrelated compartments. He is concerned with the fragmentation that occurs when examination performance is separated from emotional development, when knowledge is separated from responsibility, or when people are taught to compete without understanding their relationships with others. In this respect, his educational thought is compatible with broader holistic and contemplative approaches that question a purely instrumental conception of learning (Hart, 2004).

Western humanistic thinkers also offer useful insights into understanding Krishnamurti's views on education. Carl Rogers (1961) emphasized the importance of personal growth and believed that people develop better in an atmosphere of trust, acceptance, and openness. Similarly, Abraham Maslow (1968) highlighted the need for individuals to realize their potential and develop as human beings. These ideas have something in common with Krishnamurti's view that education should be concerned with the whole person, not merely with academic achievement. All three thinkers give importance to personal development, although they approach it in different ways. For Krishnamurti, education also involves understanding the fears, habits, and social influences that shape our thinking and behavior. He believed that real freedom begins when individuals become aware of these influences rather than simply following others or accepting ideas without question. Thus, while Rogers and Maslow emphasize personal growth and human potential, Krishnamurti draws attention to the importance of self-awareness and freedom from psychological conditioning.

His schools, including Rishi Valley and other Krishnamurti institutions, provide practical contexts for exploring these ideas. The philosophical point, however, extends beyond the existence of particular schools. Wholeness is not a final condition that a student reaches after completing a program. It is a way of approaching learning in which thought, feeling, action, and relationship are understood together. This also explains why Krishnamurti remained cautious about turning his

ideas into a rigid educational method. A method can become mechanical when it is repeated without attention to the particular learner or situation.

Krishnamurti and Contemporary Education

Krishnamurti's critique becomes especially relevant when education is viewed through the tension between content, skills, and awareness. Contemporary education must provide learners with substantial disciplinary knowledge and practical competencies. India's National Education Policy 2020 explicitly promotes vocational education and the development of practical capacities alongside academic learning, and it links vocational education with pathways through school and higher education (Ministry of Education, Government of India, 2020). The policy also identifies holistic development, learning how to learn, and a shift away from rote learning as important curricular aims. These documented priorities show that contemporary educational policy is not concerned only with employment, even though employability and vocational preparation are significant components.

Krishnamurti nevertheless raises a philosophical question that remains important within such a system: what happens if education succeeds at producing skills while neglecting the quality of the human being who uses them? Technical competence can help a person enter professional life, but it does not by itself answer questions of responsibility, relationship, fear, comparison, or the purpose for which knowledge is used. His contribution is therefore best understood not as a rejection of skills or academic knowledge, but as a challenge to educational reductionism. Skills may be necessary, but they do not exhaust education's meaning.

This perspective also has implications for classroom practice. Teachers can combine content teaching with open questioning, reflective pauses, opportunities for students to explain

their reasoning, and dialogue about the meaning and application of what is learned. Such practices need not replace assessment or curriculum requirements. Rather, they can create space for students to become aware of how they learn. In an age of rapid technological change and information abundance, this capacity for attention and reflection may be especially valuable because access to information does not automatically produce judgment.

Conclusion

Krishnamurti's philosophy of learning and teaching offers a distinctive rethinking of education's purpose. Its central concepts—awareness, dialogue, freedom, self-knowledge, and wholeness—are interconnected rather than separate techniques. Learning is understood as a continuous awakening of attention; teaching becomes a relationship of inquiry; discipline develops through understanding; and education becomes concerned with forming a whole human being rather than achievement alone.

The comparisons with Eastern and Western traditions clarify both the breadth and the originality of this position. Krishnamurti resonates with the Upanishadic concern for self-knowledge and with Buddhist attention to awareness, while refusing to make scripture, ritual, or spiritual authority the basis of inquiry. His dialogue with Socrates, Dewey, Montessori, Freire, and Rousseau reveals shared concerns with questioning, experience, freedom, natural development, and liberation, but also significant differences in their understanding of education's aims and scope. Krishnamurti's distinctive emphasis remains the liberation of attention from psychological conditioning.

The continuing value of this philosophy lies in the question it places before education: can a system develop knowledge and skills without losing sight of awareness, responsibility, and

human relationship? Contemporary education requires disciplinary competence and vocational preparation, but these aims can be placed alongside a broader concern for the learner's inner life. Krishnamurti's philosophy therefore remains useful as a critical and humanizing perspective—not as a fixed method to be imposed, but as an invitation for teachers and learners to examine what education is for and how learning can remain a living process.

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Technology-Enhanced Communicative Language Teaching (T-CLT): Teacher Trainee Preparedness and Challenges

Swathy A. V. & Pratheesh Abraham

Abstract

Technology-enhanced communicative language teaching (T-CLT) brings together the interactional orientation of communicative language teaching (CLT) and the learning opportunities afforded by digital technologies. Its effective implementation depends not only on access to devices but also on teachers' ability to select and use technologies in ways that serve communicative purposes. This study explored the perceived preparedness and challenges of B.Ed. English trainee teachers in implementing T-CLT during teaching practice. A descriptive survey design was used. Data were collected through a researcher-developed questionnaire comprising 25 five-point Likert-scale statements organised under preparedness and awareness, confidence and competence, challenges and barriers, and implementation practices. The questionnaire was administered online to 40 trainee teachers selected through convenience sampling. The available study record indicates a generally positive orientation towards the integration of digital tools and communicative pedagogy. It also describes trainees' confidence as developing rather than uniformly assured and identifies practical constraints relating to school infrastructure, instructional time, internet connectivity, and the management of learners with differing proficiency levels. Since a verifiable item-level frequency dataset was not available for this revision, the present article reports these patterns descriptively and does not claim item-wise percentage results or statistical

significance. The study highlights the need for sustained practical training, opportunities for simulated technology-supported teaching, and reliable infrastructure in teaching-practice schools.

Keywords: technology-enhanced communicative language teaching, teacher preparedness, trainee teachers, ICT integration, TPACK, English language teaching

Introduction

Digital technologies have become increasingly visible in educational practice. Multimedia resources, online platforms, mobile applications, and technology-mediated communication have expanded the ways in which teachers can present content and organise learning. In English language teaching (ELT), these developments offer opportunities to create learning environments in which learners encounter language, interact with others, and use English for meaningful purposes.

Communicative language teaching (CLT) emerged as a response to approaches that placed primary emphasis on linguistic structures at the expense of communicative use (Richards & Rodgers, 2001). Its theoretical foundation includes the concept of communicative competence. Hymes (1972) argued that knowing a language involves more than producing grammatically correct sentences; it also involves understanding when and how language is appropriate in a particular social context. Canale and Swain (1980) developed an influential framework of communicative competence for second-language teaching and testing. In CLT, interaction is both a means and an objective of learning, and classroom activities are expected to promote authentic communication, learner participation, negotiation of meaning, and contextualised language use (Richards & Rodgers, 2001).

The integration of information and communication technology (ICT) into language teaching has extended communicative activity beyond the conventional classroom. Online discussion spaces, video-conferencing tools, digital storytelling applications, and language-learning platforms can provide access to varied language input and opportunities for collaboration (Warschauer & Kern, 2000). However, the presence of technology does not automatically result in communicative learning. Chapelle (2001) emphasises that technology-based tasks should support meaningful interaction and processes relevant to second-language acquisition rather than function merely as presentation tools. In this article, technology-enhanced communicative language teaching (T-CLT) refers to the purposeful integration of digital tools and resources into CLT to support the development of communicative competence.

Effective integration requires teachers to combine technological knowledge with pedagogical and subject knowledge. The technological pedagogical content knowledge (TPACK) framework explains this intersection (Mishra & Koehler, 2006). Teachers must be able to identify not simply which technology is available, but which tool is appropriate for a particular language-learning objective. Research also indicates that teachers' knowledge, confidence, beliefs, and institutional contexts influence technology integration (Ertmer & Ottenbreit-Leftwich, 2010). External barriers, such as inadequate equipment and unreliable connectivity, may operate alongside internal barriers relating to beliefs and confidence (Ertmer, 1999).

The National Education Policy 2020 recognises the role of technology in teaching, learning, digital literacy, and teacher professional development (Ministry of Human Resource Development, 2020). The realisation of these aims depends in part on how well teacher education programmes prepare prospective teachers to use technology purposefully. Teaching practice is

particularly important because it requires trainees to translate theoretical knowledge into classroom decisions under real institutional and learner-related conditions.

Although CLT and ICT integration have each received considerable scholarly attention, the readiness of pre-service English teachers to combine them during teaching practice warrants further examination. The present study therefore explores B.Ed. English trainee teachers' perceived preparedness, confidence, reported practices, and challenges in implementing T-CLT.

Review of Literature

Communicative Competence and CLT

The development of CLT marked a shift from viewing language learning primarily as the mastery of grammatical structures towards the ability to use language appropriately and effectively. Hymes (1972) broadened the concept of language competence by drawing attention to the social and cultural conditions governing communication. Canale and Swain (1980) further elaborated communicative competence in relation to second-language teaching and assessment. Littlewood (1981) described CLT as an approach that gives attention to both the functional and structural dimensions of language. Richards and Rodgers (2001) similarly emphasised interaction as central to the learning process. Savignon (2002) highlights the importance of interpreting and adapting communicative principles within teacher education contexts.

Technology and Communicative Language Teaching

Computer-assisted and network-based language learning have created opportunities for learners to engage with authentic materials and communicate through digital environments. Warschauer and Kern (2000) foregrounded communication and collaboration in network-based

language teaching. Chapelle (2001) argued that technology-supported language tasks should be grounded in principles of language acquisition and should create opportunities for interaction and feedback. Dudeney and Hockly (2007) provide practical guidance on using blogs, podcasts, and interactive platforms in language classrooms.

Recent research has examined technology-supported communicative learning from different perspectives. Gorham et al. (2024) investigated peer feedback on communicative skills in an EFL course across different learning modalities. Del Moral Pérez et al. (2024) examined oral narratives produced with a digital storytelling application by early childhood education students. Quevedo-Webb et al. (2025) explored virtual-reality activities in lesson planning for critical intercultural communicative competence in Spanish. At a conceptual level, Rodríguez-Piñero (2025) argues that digital communication should be recognised as an important dimension of communicative competence. Xie and De Dios (2025) likewise draw attention to digital literacy and cultural exchange in language education.

Taken together, this literature suggests that digital technologies can extend opportunities for language use, interaction, and multimodal communication. Nevertheless, the educational value of a tool depends on the task designed around it. A video, application, or online platform becomes pedagogically meaningful when it supports a defined language-learning purpose and gives learners opportunities to communicate.

Teacher Preparedness and Barriers to Technology Integration

The TPACK framework indicates that effective technology integration requires the coordination of technological, pedagogical, and content knowledge (Mishra & Koehler, 2006). Ertmer (1999) distinguishes first-order barriers, which include external constraints such as access

to equipment, time, and technical support, from second-order barriers, which include teachers' beliefs and assumptions about teaching and learning. Ertmer and Ottenbreit-Leftwich (2010) further identify knowledge, confidence, beliefs, and institutional culture as interacting influences on teachers' use of technology.

The preparation of pre-service teachers is therefore not limited to providing access to digital devices. It also involves opportunities to plan, practise, evaluate, and reflect on technology-supported teaching. Tondeur et al. (2012) synthesised qualitative evidence on preparing pre-service teachers to integrate technology, while UNESCO's (2018) ICT Competency Framework for Teachers provides guidance for developing teachers' capacity to use ICT in education. Research in language education also points to constraints involving limited instructional time, inadequate training, scarce resources, and the needs of learners from diverse backgrounds (Fung et al., 2025; Xie & De Dios, 2025).

Research Gap, Questions, and Objectives

The literature reviewed above establishes the relevance of communicative pedagogy and technology integration, but it also indicates the need to understand how prospective English teachers perceive their readiness to combine the two during teaching practice. This study focuses on B.Ed. English trainee teachers and is guided by the following questions:

RQ1. How do B.Ed. English trainee teachers perceive their preparedness and confidence to implement T-CLT during teaching practice?

RQ2. What challenges do they report in integrating digital tools with communicative language teaching, and what forms of support may strengthen their practice?

The objectives were to:

1. Examine the perceived preparedness of English trainee teachers to implement T-CLT in English language classrooms.
2. Explore their perceptions of the pedagogical usefulness of digital tools in supporting communicative competence and the language skills of listening, speaking, reading, and writing.
3. Examine their self-reported confidence and digital pedagogical competence in applying T-CLT strategies during teaching practice.
4. Identify the challenges and institutional barriers they report when integrating technology with communicative language teaching.
5. Suggest pedagogical and training measures to strengthen T-CLT within B.Ed. English teacher education.

Methodology

Research Design

The study employed a descriptive survey design to examine trainee teachers' perceptions, reported practices, and experiences in relation to T-CLT. A survey was considered appropriate for collecting responses from a defined group and describing the patterns represented in those responses (Creswell & Creswell, 2018; Fraenkel et al., 2012). The study is descriptive and does not test causal relationships or make population-level predictions.

Participants and Sampling

The sample consisted of 40 B.Ed. English trainee teachers selected through convenience sampling on the basis of accessibility and willingness to participate. The participants were associated with English methodology and teaching-practice activities. As the sample was non-

probabilistic and limited in size, the findings are specific to the respondents and should not be generalised to all B.Ed. English trainee teachers.

Research Instrument

Data were collected using a researcher-developed questionnaire containing 25 statements arranged under four dimensions: (1) preparedness and awareness, (2) confidence and competence, (3) challenges and barriers, and (4) implementation practices. Responses were recorded on a five-point Likert scale: strongly agree, agree, neutral, disagree, and strongly disagree. Both positively and negatively worded statements were included. The instrument was developed with reference to literature on CLT, ICT integration, and TPACK. The available manuscript records that the items were reviewed for relevance to the study objectives; however, a formal reliability coefficient was not available for reporting.

Data Collection and Ethical Considerations

The questionnaire was administered online. Respondents were informed of the academic purpose of the study and participation was voluntary. The study record states that confidentiality was maintained and that personal identifiers were not included in the analysis or reporting. Forty valid responses were identified for the study. The authors should ensure that the final submission retains the original consent and data-handling records supporting these statements.

Data Analysis

The available manuscript and accompanying response document support a descriptive account of the four questionnaire dimensions. However, the response document supplied for this revision is a printed table in which a number of entries are truncated or visually merged. It therefore

does not permit reliable verification of every response or calculation of item-wise frequencies and percentages. Accordingly, this revised version does not report numerical percentages, composite scores, inferential tests, or claims of statistical significance. The findings are presented as a cautious descriptive synthesis of the study record. Before submission to a journal that requires quantitative item-level reporting, the authors should calculate frequencies and percentages from the original spreadsheet and insert the verified results.

Results

The results are organised according to the four dimensions used in the questionnaire. Because the supplied response record does not support reliable item-by-item counting, the findings below are reported qualitatively. They should not be interpreted as estimates of the prevalence of a view among all trainee teachers.

Preparedness and Awareness

The study record describes a generally positive orientation among the respondents towards the principles of T-CLT. The reported pattern suggests that trainees recognised the relevance of combining communicative language activities with digital resources. Familiarity with ICT-based teaching strategies and awareness of the potential contribution of digital tools were identified as features of the responses. These observations indicate perceived readiness at the level of awareness; they do not, by themselves, demonstrate that trainees can implement T-CLT consistently in varied classroom conditions.

Confidence and Digital Pedagogical Competence

The available account characterises trainees' confidence as developing rather than uniformly assured. Respondents were described as being familiar with multimedia resources,

including applications and videos that could support speaking and listening activities. The report also refers to trainees' perceived ability to plan digital communicative lessons and organise ICT-supported group work. At the same time, the need for further practical exposure was identified. This pattern suggests a distinction between recognising the value of technology and feeling fully prepared to manage it during classroom instruction.

Challenges and Barriers

The study record identifies contextual and practical constraints affecting the implementation of T-CLT. These include limited access to digital devices and functioning smart boards, time constraints during teaching practice, and unreliable internet connectivity. The report also notes the need for additional hands-on training and the difficulty of planning digital communicative activities for learners with different levels of language proficiency. These issues indicate that implementation depends not only on the trainee teacher's willingness but also on the resources, time, technical support, and classroom conditions available in the practice school.

Implementation Practices

The study account refers to the use of multimedia presentations, LCD projectors, digital role plays, simulations, storytelling activities, and language-learning applications. These examples suggest that trainees had encountered or attempted a range of technology-supported activities during their teaching practice. However, the available record does not provide verifiable item-level counts or enough detail to establish how frequently each activity was used, how many trainees used each tool, or how consistently the activities promoted learner-to-learner communication. The distinction between using technology to present information and using it to facilitate interaction remains important.

Summary of Findings

Overall, the descriptive account points to a positive orientation towards T-CLT, alongside a need to strengthen practical confidence and address school-level constraints. The reported challenges relate particularly to infrastructure, time, connectivity, training, and the management of mixed-proficiency classrooms. These findings are indicative of the experiences described in the study record and require confirmation through transparent item-level analysis of the original dataset.

Discussion

Positive Orientation and Developing Confidence

The reported positive orientation towards T-CLT is consistent with the view that teachers' attitudes are only one part of technology integration. Ertmer (1999) distinguishes external barriers from internal barriers associated with beliefs and assumptions. In the present study record, trainees appear to recognise the pedagogical relevance of combining ICT with communicative methods. At the same time, their confidence is described as developing, and further practical exposure is identified as necessary. This distinction is important: positive attitudes do not automatically translate into the ability to select appropriate tools, manage technical interruptions, and sustain meaningful communication in a real classroom.

Ertmer and Ottenbreit-Leftwich (2010) argue that knowledge, confidence, beliefs, and institutional culture interact in shaping teachers' technology use. For trainee teachers, confidence is likely to be influenced by opportunities to rehearse lessons, receive feedback, and experience reliable access to equipment. Teacher education programmes should therefore move beyond one-

time demonstrations of digital tools and provide repeated opportunities to design and conduct technology-supported communicative tasks.

From Technology Access to Pedagogical Alignment

The activities described in the study include both presentational resources, such as multimedia presentations and projectors, and potentially interactive tasks, such as digital role plays, simulations, and storytelling. This distinction matters because the educational value of technology depends on the communicative work learners are required to perform. Chapelle (2001) emphasises the importance of aligning technology-based tasks with language-learning processes, while TPACK highlights the need to connect the selected technology with pedagogical purpose and subject content (Mishra & Koehler, 2006).

The available data do not establish the relative frequency of presentational and interactive uses. It is therefore not possible to conclude that technology use in the sample was predominantly communicative. Future studies should examine not only which tools trainees use, but also the nature of learner participation, the opportunities for negotiation of meaning, and the feedback generated through each activity.

Institutional and Classroom Barriers

The reported constraints involving infrastructure, time, connectivity, and mixed learner proficiency are consistent with the distinction between first-order and second-order barriers proposed by Ertmer (1999). Limited equipment and unreliable internet access are conditions that individual trainees may have little power to change. Time pressure and diverse learner needs also require planning and institutional support. Similar practical issues have been discussed in language education research, including work on resource availability and teacher training (Xie & De Dios,

2025) and the design of learning activities for students with different backgrounds and needs (Fung et al., 2025).

These constraints suggest that responsibility for T-CLT implementation should not be placed solely on trainee teachers. Teacher education institutions and teaching-practice schools need to coordinate access to devices, technical assistance, suitable classroom time, and alternative plans for situations in which connectivity fails.

Digital Communication and Communicative Competence

The growth of digital communication raises questions about the competencies learners need in contemporary language use. Rodríguez-Piñero (2025) argues for recognising digital communication alongside oral and written communication, while Xie and De Dios (2025) highlight the importance of digital literacy and cultural exchange. From this perspective, T-CLT should not be understood simply as the addition of electronic equipment to a conventional lesson. It should involve tasks through which learners interpret, create, respond to, and evaluate meaning in digital environments. Such tasks also require attention to multimodal and critical literacy.

Implications for Teacher Education and Practice

1. Provide sustained, practice-oriented training in which trainees design, teach, and evaluate digital communicative lessons rather than merely observe demonstrations of applications or devices.
2. Integrate T-CLT systematically into English methodology courses, linking each digital tool to a specific communicative objective and language skill.

3. Use microteaching and simulation-based practice to help trainees rehearse digital role plays, collaborative writing, online discussion, digital storytelling, and peer-feedback activities.
4. Establish partnerships between teacher education institutions and practice schools to ensure access to functioning devices, stable connectivity, and technical support.
5. Prepare trainees to manage mixed-proficiency classrooms through differentiated tasks, flexible grouping, peer support, and accessible digital resources.
6. Encourage reflective lesson analysis so that trainees evaluate whether technology increased learner interaction and meaningful language use, rather than simply making a lesson more visually engaging.

Limitations and Directions for Further Research

The study has limitations that should be considered when interpreting its findings. First, the sample comprised 40 trainees selected through convenience sampling; the findings cannot be generalised to the wider population of B.Ed. English trainee teachers. Second, the data were self-reported and may reflect respondents' perceptions rather than independently observed classroom practice. Third, a formal reliability coefficient was not available in the study record. Fourth, the response PDF supplied for revision did not permit reliable verification of every individual response. Consequently, item-level percentages and statistical comparisons could not be reported in this version. Finally, the available record does not provide sufficient background information to examine whether responses varied by prior ICT experience, institutional context, or teaching-practice setting.

Further research should use a clearly documented sampling procedure and preserve the original response dataset in a format that permits transparent analysis. Researchers should report item-wise frequencies and percentages, explain the treatment of negatively worded items, and provide reliability evidence where appropriate. Classroom observations, interviews, and lesson-plan analysis could complement questionnaire data and clarify how trainees use digital tools to support communication. Larger studies across institutions and subject specialisations could examine contextual differences, while intervention studies could assess whether structured T-CLT training improves teaching practice and learners' communicative performance.

Conclusion

This study explored B.Ed. English trainee teachers' perceived preparedness and challenges in implementing technology-enhanced communicative language teaching during teaching practice. The available study account indicates a positive orientation towards integrating digital resources with communicative pedagogy, while also pointing to developing confidence and a need for further practical exposure. The challenges described include inadequate ICT facilities, limited instructional time, unstable internet connectivity, and the demands of teaching learners with differing levels of proficiency.

The findings underline that effective T-CLT requires more than access to technology or a favourable attitude towards its use. Trainees need opportunities to develop the pedagogical judgement required to select tools that promote interaction, feedback, and purposeful language use. Teacher education institutions and practice schools also need to provide appropriate infrastructure and support. The conclusions should be treated as descriptive and provisional until the original response spreadsheet is analysed and item-level results are verified.

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Cloistered and Coalesce Effects of Yogic Practices and Dynamic Sports Vision Training on Dynamic Visual Acuity of Netball Players

Jain Kuriakose & Mebin Joseph

Abstract

The purpose of this study was to examine the effects of yogic practices and dynamic sports vision training on the dynamic visual acuity of netball players. The participants were sixty (N = 60) boys, aged 15–17 years, who had participated in the South Zone School State Level Netball Tournament at the Kerala Sports Council Training Centre, School South Zone, Kerala, India. The participants were randomly assigned to four equal groups of fifteen: a yogic practices group, a dynamic sports vision training group, a combined yogic practices and dynamic sports vision training group, and a control group. Dynamic Visual Acuity (DVA) was selected as the dependent variable and was measured using the Dynamic Visual Acuity Test–Non-Instrumented (DVAT–NI). Pre-test and post-test data were analyzed using analysis of covariance (ANCOVA). When the adjusted post-test F-ratio was significant, Scheffé's post hoc test was used to determine significant paired mean differences. The level of significance was set at 0.05. The findings indicated significant improvements in Dynamic Visual Acuity in the experimental groups, with the combined yogic practices and dynamic sports vision training group demonstrating greater improvement than the other experimental and control groups.

Keywords: cloistered yogic practice; cloistered dynamic vision training; coalesce yogic practice and dynamic vision training; dynamic visual acuity

Introduction

Yoga is a traditional Indian discipline that combines physical postures, cleansing practices, regulated breathing, and meditation. Previous reports have associated yoga together with ocular relaxation exercises with improved visual acuity and reduced symptoms of visual fatigue. Yogic activities have also been proposed as a means of reducing ocular strain through conditioning of the extraocular muscles (Gosewade et al., 2013).

Trataka is a meditative practice included among the six purificatory practices, or shatkarmas, of Hatha yoga. The Sanskrit term "trataka" refers to looking or gazing, and the practice is based on sustained attention to a single visual target. A candle flame is commonly selected, although a dot on a wall, an object of devotion, a deity, a flower, a mountain, the rising sun, or the moon may also be used. Traditionally, the candle flame is considered an especially suitable focus (Sawant & Pradhan, 2015).

This form of meditation is traditionally associated with the ajna, or third-eye, chakra, which is linked with intuition, wisdom, and psychic abilities. It is also described as helping the practitioner develop a clearer awareness of the past, present, and future. In English, Trataka is commonly described as yogic gazing.

Competitive athletes continually seek methods that may enhance performance. Training generally gives substantial attention to physical qualities such as strength, speed, agility, and endurance. Sport-specific skill development is another important component and often depends on repeated practice and feedback to refine movement and biomechanics. Visual performance is likewise an important contributor to sporting success but is frequently given less attention.

In sport, vision supplies information that helps the performer determine what action to take, where to act, and when to respond. Delayed or inaccurate visual information can therefore interfere

with performance. Because sporting activity places considerable demands on the visual system, effective visual functioning is important for high-level performance. Assessment that combines visual function with visual information-processing ability may provide a broader picture than routine eye-health assessment alone (Loran & Griffiths, 2001).

Dynamic visual acuity (DVA) is the ability to discriminate the fine details of a moving object during relative motion between the object and the observer (Uchida et al., 2012). In fast, interactive team sports such as netball, players must track a moving ball and moving teammates and opponents while they themselves are in motion, so DVA is a particularly relevant visual quality. Earlier studies have reported that athletes recognise the gap in a moving Landolt ring at higher target velocities than non-athletes (Ishigaki & Miyao, 1993; Rouse et al., 1988). Uchida et al. (2012) further showed that the superior DVA of baseball players appeared under free-eye-movement conditions but not under fixation conditions, which suggests that it is related mainly to better tracking of moving targets with the eyes. Regular sport participation has also been linked with better-preserved DVA across the lifespan (Muiños & Ballesteros, 2015).

DVA also appears to be trainable. Long and Riggs (1991) examined training effects on DVA with free-head viewing, and Appelbaum and Erickson (2018) reviewed current approaches to sports vision training, including the research evidence supporting them. Clark et al. (2012) reported improved batting statistics in university baseball players after a programme of vision training. Most of this work, however, has been carried out with baseball players and in laboratory settings, and the evidence for team sports played by adolescents remains limited.

Eye-related yogic practices have been examined mainly in relation to visual comfort, visual function, and attention. Telles et al. (2006) studied the effect of a yoga programme that included trataka on self-rated visual discomfort in computer users, and Swathi et al. (2021) investigated the

effect of trataka on performance in a spatial memory task. The findings on refractive status are not uniform: Tiwari et al. (2018) found that neither trataka nor Bates eye exercises produced a significant change in refractive error or visual acuity in myopic participants. Whether ocular yoga practices, alone or combined with sport-specific vision training, can improve the dynamic visual acuity of young athletes has therefore not been established.

The present study was designed to address this question. It compared a yogic practices group, a dynamic sports vision training group, a combined yogic practices and dynamic sports vision training group, and a control group on the dynamic visual acuity of adolescent netball players.

Methodology

A total of sixty (N = 60) boys who had participated in the South Zone School State Level Netball Tournament at the Kerala Sports Council Training Centre, School South Zone, Kerala, India, were selected for the study. Their age ranged from 15 to 17 years. The participants were randomly divided into four equal groups of fifteen: a yogic practices group, a dynamic sports vision training group, a combined yogic practices and dynamic sports vision training group, and a control group. Before participation, the subjects were informed about the experimental procedures and provided consent. Dynamic Visual Acuity (DVA) served as the dependent variable and was assessed with the Dynamic Visual Acuity Test–Non-Instrumented (DVAT–NI). Measurements were obtained before and after the training period. The data were analyzed through analysis of covariance (ANCOVA). Where the F-ratio for the adjusted post-test means reached statistical significance, Scheffé's post hoc procedure was used to examine paired mean differences. Statistical significance was accepted at 0.05.

Analysis of the Data

Table 1 presents the ANCOVA results for Dynamic Visual Acuity (DVA) across the three experimental groups and the control group.

Table 1

Values of Analysis of Covariance for Experimental Groups and Control Group on Dynamic Visual Acuity

Test	Cloistered Yogic Practice Group	Cloistered Dynamic Vision Training Group	Coalesce Yogic Practice and Dynamic Vision Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	F Ratio
Pre Test	11.38	11.45	11.35	11.46	Between	0.13	3	0.04	0.39
					Within	6.13	56	0.11	
Post Test	12.45	13.41	16.11	11.42	Between	182.52	3	60.84	237.46*
					Within	14.35	56	0.26	
Adjusted Post Test	12.46	13.40	16.12	11.41	Between	181.47	3	60.49	233.14*
					Within	14.27	55	0.26	

* Significant at .05 level of confidence

(The table value required for Significance at 0.05 level with df 3 and 56 is 2.76 & 3 and 55 is 2.77)

For Dynamic Visual Acuity (DVA), the pre-test means were 11.38, 11.45, 11.35, and 11.46 for the Cloistered Yogic Practice, Cloistered Dynamic Vision Training, Coalesce Yogic Practice and Dynamic Vision Training, and Control groups, respectively. The obtained pre-test F-ratio was 0.39, which was below the required table value of 2.76 and therefore was not statistically significant at the 0.05 level. At post-test, the corresponding means were 12.45, 13.41, 16.11, and 11.42. The post-test F-ratio was 237.46, exceeding the table value of 2.76 for df = 3 and 56, and indicating a statistically significant difference among the groups.

The adjusted post-test means for Dynamic Visual Acuity were 12.46, 13.40, 16.12, and 11.41 for the Cloistered Yogic Practice, Cloistered Dynamic Vision Training, Coalesce Yogic Practice and Dynamic Vision Training, and Control groups, respectively. The adjusted post-test F-ratio was 233.14, which exceeded the table value of 2.77 for df = 3 and 55. This result indicates a statistically significant difference at the 0.05 level.

Overall, the ANCOVA findings demonstrate a statistically significant difference among the adjusted post-test group means for Dynamic Visual Acuity.

Table 2 shows the results of Scheffé's post hoc comparisons, in which the adjusted post-test means were compared in pairs.

Table 2

The Scheffé's Test for the Differences between the Adjusted Post-test Paired Means on Dynamic Visual Acuity

Variable	Cloistered Yogic Practice Group	Cloistered Dynamic Vision Training Group	Coalesce Yogic Practice and Dynamic Vision Training Group	Control Group	Mean Difference	Confidence Interval
Dynamic Visual Acuity	12.46	13.40			0.95*	0.54
	12.46		16.12		3.66*	0.54
	12.46			11.41	1.04*	0.54
		13.40	16.12		2.72*	0.54
		13.40		11.41	1.99*	0.54
			16.12	11.41	4.71*	0.54

* Significant at .05 level of confidence

The paired adjusted post-test comparisons presented in Table 2 show differences in Dynamic Visual Acuity among the intervention groups and the control group. The comparisons also indicate differences between the individual intervention groups.

The Scheffé analysis demonstrated statistically significant differences in Dynamic Visual Acuity between the Cloistered Yogic Practice and Cloistered Dynamic Vision Training groups, between each of these intervention groups and the control group, and between the Coalesce Yogic Practice and Dynamic Vision Training group and the other groups.

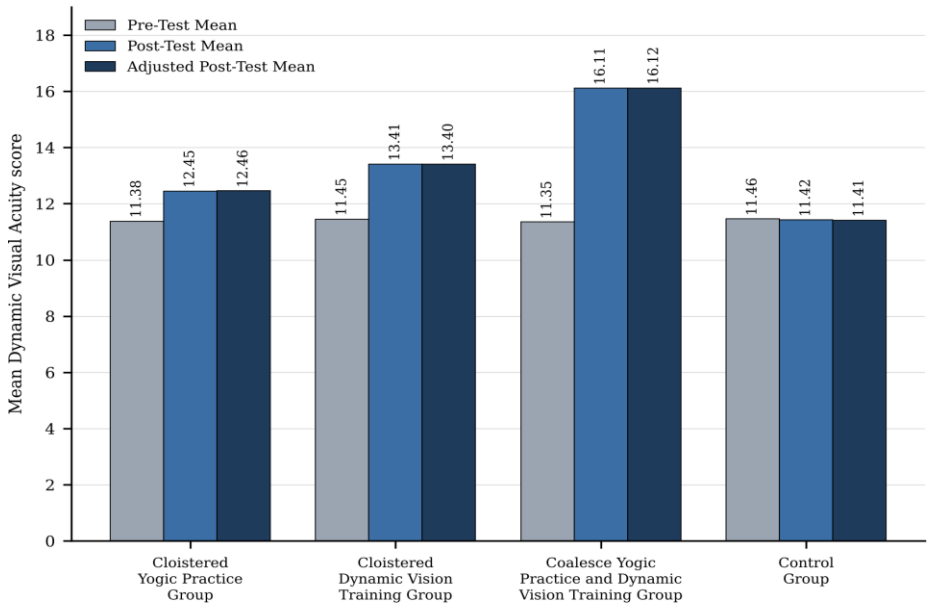
The magnitude of improvement in Dynamic Visual Acuity was greatest for the Coalesce Yogic Practice and Dynamic Vision Training group when compared with the other experimental groups.

Based on the obtained results, the Coalesce Yogic Practice and Dynamic Vision Training group produced the most favorable outcome for increasing Dynamic Visual Acuity among the groups included in the study.

Figure 1 presents the pre-test, post-test, and adjusted post-test means of the experimental and control groups on Dynamic Visual Acuity.

Figure 1

Bar Chart of the Pre-test, Post-test, and Adjusted Post-test Means of Dynamic Visual Acuity



Conclusion

- The analysis showed statistically significant differences in Dynamic Visual Acuity among the Cloistered Yogic Practice, Cloistered Dynamic Vision Training, Coalesce Yogic Practice and Dynamic Vision Training, and Control groups.
- The experimental groups demonstrated significant improvements in Dynamic Visual Acuity when compared with the control group.
- The Coalesce Yogic Practice and Dynamic Vision Training group produced higher Dynamic Visual Acuity outcomes than the Cloistered Yogic Practice, Cloistered Dynamic Vision Training, and control groups.

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Role of Teachers in Fostering the 'Industry' among Primary School Students through Gamification: A Psychosocial Perspective

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Abstract

The primary school years constitute a critical period in children's psychosocial development, particularly the stage of Industry versus Inferiority proposed by Erik Erikson. During this stage, children strive to develop competence, confidence, and a sense of accomplishment through meaningful learning experiences. The present paper aims to examine the role of teachers in fostering a sense of industry among primary school students through gamification in the English language classroom. Grounded in Erikson's Psychosocial Theory, Self-Determination Theory, and the principles of gamification, the study explores how game-based learning strategies contribute to the development of competence, self-efficacy, self-esteem, motivation, and learner engagement. Specifically, the paper seeks to understand the concept of industry, analyse the educational significance of gamification, and identify the role of teachers in creating learning environments that promote industrious behaviour among children. The study adopts a qualitative and descriptive methodology based on a review of relevant books, research articles, and scholarly publications related to psychosocial development, gamification, and language learning. The reviewed literature indicates that gamification enhances student participation, collaboration, language acquisition, creativity, and intrinsic motivation while reducing learning anxiety. Furthermore, gamified learning environments provide opportunities for achievement, recognition, autonomy, and social interaction, thereby supporting the successful resolution of the Industry versus Inferiority crisis.

The paper concludes that teachers, through the purposeful integration of gamification in English language instruction, can effectively nurture industrious, confident, and self-directed learners while fostering essential twenty-first-century skills and laying a strong foundation for lifelong learning and personal growth.

Keywords: industry, gamification, Erikson's psychosocial theory, primary education, self-efficacy, self-esteem, self-worth, English language classroom, teacher's role

Introduction

The primary school years mark a crucial stage in a child's psychosocial development, identified and explained by Erik Erikson as the stage of Industry versus Inferiority, where children strive to gain competence through productive tasks and social recognition. In this stage, the teacher plays a strong and active role in cultivating and boosting the confidence level, perseverance, accomplishment and self-satisfaction along with a sense of pride in productivity. Introducing gamification into an English language classroom offers an innovative approach in achieving the objectives of language learning. By transforming learning into engaging, goal-oriented experiences through elements like points, challenges, and rewards, teachers can motivate students, promote active participation, and thus reinforce their sense of industry. From a psychosocial lens, gamified learning environments enhance the linguistic skills and also contribute to the holistic development of students, elevating both academic growth and emotional resilience.

Objectives of the Study

1. To understand Erik Erikson's concept of Industry versus Inferiority and its relevance to primary school children.
2. To understand the importance of developing a sense of industry among primary school students.

3. To explore the role of gamification in enhancing student motivation, engagement, and participation in English language learning.
4. To understand how gamified learning experiences contribute to the development of competence, self-confidence, self-esteem, and self-efficacy among learners.
5. To identify the role of teachers in fostering industry through gamified classroom practices.

Methodology

The present study is a theoretical and descriptive review based on secondary sources of information. Relevant books, research articles, journal publications, and scholarly works related to Erikson's Psychosocial Theory, gamification, English language learning, learner motivation, and primary education were reviewed and analysed. The collected literature was examined to understand the characteristics of the Industry versus Inferiority stage and the potential of gamification in promoting competence, achievement, and positive learning experiences among children. Studies related to gamified learning environments were analysed to identify their influence on student engagement, self-efficacy, collaboration, motivation, and language development. Based on the synthesis of the reviewed literature, the paper explains how teachers can utilise gamification as a pedagogical strategy to foster a sense of industry among primary school students in English language classrooms. Since the study is conceptual in nature, no primary data were collected from participants.

What is Industry

The word ‘Industry’ depicts that it is nothing but about mastering skills, following rules, completing tasks and having a sense of pride in achievements. Erickson (1963) believed that the word ‘industry’ may be described as a child’s urge to be perfect in his work as a learner, as an individual in the family, school and society. In the stage of Industry versus Inferiority a child

naturally takes initiative to study, to do their work neat and well. He or she may become capable of doing their own tasks without forcing. Feeling capable is the key factor which boosts the self-confidence and sense of belonging. Successful completion of the assigned tasks builds self-confidence among children and this lays a base for firm self-esteem and healthy self- worth. Erik H. Erickson is a German American psychoanalyst and developmental psychologist and he framed 8 stages of human development each characterized by a psychosocial crisis. Erickson's stages of psychosocial development paves a pathway for individuals to develop their social identity and personality. To develop social identity, each individual must travel through 8 stages of crisis that must be resolved. Among the 8 stages of psychosocial development, 'Industry versus Inferiority' plays a key role in the psychosocial development of children.

The stage of Industry versus Inferiority holds children from the age of 6-12. Children should attain a level of mastery in important social and academic skills. This is the period when the child compares him or herself with a peer group. If the child is sufficiently industrious, the child may acquire the social and academic skills to feel self-assured. Failure in acquiring these important attributes may lead to a sense of inferiority. Significant social agents who are responsible in fostering the industry among the children are none other than the parents, teachers and peers. The characteristic features of an industrious child include the sense of competence, perseverance, team spirit, cooperation and responsibility. An industrious child may have the ability to take initiative within guidance, possess a pride in productivity and diligence. He or she should actively build positive peer relationships. Intrinsic drive which is also the internal motivation. Internal motivation is a major characteristic feature of an industrious child. An industrious child might also enjoy the process of learning.

Fromm (1955) warned that, people who have a thought that work is the only purpose they should deal with in life may become blind slaves to the technological era.

Fromm's words are in tone of warning that if the children only learn to work and produce without thinking or creating they grow into adults who are blind obedient ones depending on technology who lose creativity and imagination. They may lack competence, sense of autonomy, self-regulation and such similar qualities. So, by stating 'Industry versus Inferiority' as a stage of psychosocial development Erickson needs to build a cluster of industrious children.

How to Foster a Sense of Industry Among the Young Buds

Countless ways are made use to foster the sense of Industry in children and some ways are as follows:

1. Encouraging mastery and skill development among children.
2. Through the emotional support provided by parents, teachers and peers.
3. Countless opportunities are to be given which make them capable in taking initiatives under proper guidance.
4. Letting children be independent.
5. Giving them responsibilities which they are capable of taking up.
6. By providing continuous positive feedback.
7. Ensuring diverse learning environments.
8. Children are to be kept engaged in creative tasks by providing them with practical hands-on learning.

What is Gamification

Gamification, is the process of integrating the game elements in non-recreational contexts, and has emerged as an innovative strategy in education to enhance student motivation and

engagement. Werbach and Hunter (2012) revealed that, Gamification can be explained as a craft which derives fun and he has also given focus on the addictive elements present in games and thought about making use of them in the real-world to foster productivity.

Key Elements of Gamification

Gamification incorporates several game-design elements into educational settings to enhance learner engagement, motivation, and achievement (Werbach & Hunter, 2012). Among the most commonly used elements are points, badges, levels, and feedback loops.

Points

Points are numerical rewards awarded to learners for completing tasks, participating in activities, answering questions correctly, or demonstrating positive behaviours. In educational contexts, points serve as indicators of progress and achievement. They provide immediate recognition for effort and encourage learners to remain actively engaged in learning activities (Werbach & Hunter, 2012). For primary school students, points can strengthen motivation and create a sense of accomplishment, thereby contributing to the development of competence and industry.

Badges

Badges are visual symbols or tokens of achievement awarded for accomplishing specific goals or demonstrating particular skills. They act as markers of success and provide recognition for learners' efforts (Werbach & Hunter, 2012). In English language classrooms, badges may be awarded for achievements such as reading proficiency, vocabulary mastery, teamwork, creativity, or consistent participation. Badges enhance learners' self-esteem and encourage them to strive for further accomplishments while reinforcing positive learning behaviours.

Levels

Levels represent stages of progression through which learners advance as they complete tasks and acquire new competencies. Similar to levels in digital games, educational levels provide structured learning pathways that gradually increase in complexity (Kapp, 2012). Progressing through levels gives students a sense of growth, mastery, and achievement. This gradual advancement helps maintain learner interest and encourages persistence in the face of challenges. For children in Erikson's stage of Industry versus Inferiority, successful progression through levels reinforces feelings of competence and productivity (Erikson, 1950).

Feedback Loops

Feedback loops refer to the continuous process of providing learners with information about their performance and progress. Effective feedback is immediate, constructive, and specific, allowing students to understand their strengths and areas for improvement. In gamified learning environments, feedback may be delivered through scores, progress bars, rewards, teacher comments, or peer responses (Landers, 2015). Feedback loops help learners adjust their strategies, improve performance, and remain motivated. They also contribute to self-regulation and foster a growth mindset by emphasizing improvement rather than failure.

Collectively, points, badges, levels, and feedback loops create an engaging learning environment that promotes motivation, participation, achievement, and a sense of competence (Werbach & Hunter, 2012). These elements align closely with the developmental needs of primary school children and support the cultivation of industry as described by Erikson's psychosocial theory (Erikson, 1950).

Theoretical Framework

The present paper is grounded in Erik Erikson's Psychosocial Theory of Development, particularly the fourth stage, Industry versus Inferiority, which occurs during middle childhood (approximately 6–12 years). Erikson (1950) proposed that children pass through a series of psychosocial crises that influence personality development throughout life. During the stage of Industry versus Inferiority, children strive to acquire competence, master new skills, and gain recognition for their accomplishments. Successful experiences during this stage foster a sense of industry, characterized by confidence, diligence, responsibility, and self-efficacy. Conversely, repeated failures, lack of encouragement, or negative comparisons may lead to feelings of inferiority and self-doubt (Erikson, 1950).

Schools serve as one of the most influential social environments in shaping children's psychosocial development. Teachers, therefore, play a crucial role in providing opportunities for achievement, recognition, and constructive feedback. Erikson emphasized that supportive interactions with significant social agents, especially teachers and peers, contribute substantially to the development of competence and a positive self-concept. Thus, educational practices that promote active engagement, collaboration, and mastery-oriented learning are likely to strengthen the sense of industry among primary school learners.

The concept of gamification provides a complementary theoretical lens for understanding how learning environments can nurture industry. Gamification refers to the incorporation of game-design elements such as points, badges, levels, challenges, rewards, and leaderboards into non-game contexts to enhance engagement and motivation (Werbach & Hunter, 2012). Within educational settings, gamification transforms traditional classroom activities into interactive learning experiences that encourage participation and persistence.

The effectiveness of gamification can be further explained through Self-Determination Theory (SDT) proposed by Deci and Ryan (2000). According to SDT, human motivation is influenced by the fulfillment of three fundamental psychological needs: competence, autonomy, and relatedness. Competence refers to the feeling of effectiveness and mastery in performing tasks; autonomy involves having a sense of control over one's actions; and relatedness refers to meaningful connections with others. Gamified learning environments often satisfy these psychological needs by providing immediate feedback, opportunities for progression, learner choice, and collaborative activities. Consequently, students experience enhanced intrinsic motivation and engagement in learning tasks.

The relationship between Erikson's theory and gamification becomes evident when examining the developmental needs of primary school children. Gamified activities provide opportunities for learners to accomplish meaningful goals, receive recognition for their efforts, and experience success in a supportive environment. Such experiences directly contribute to the development of competence, which is the central developmental task of the Industry versus Inferiority stage. Moreover, cooperative games and team-based challenges strengthen peer relationships and social interaction, further supporting psychosocial growth.

In the context of language learning, gamification encourages active participation, reduces anxiety associated with language use, and promotes communication, creativity, and problem-solving skills (Sailer & Homner, 2020). Through carefully designed gamified activities, teachers can create learning environments that not only facilitate language acquisition but also foster self-confidence, perseverance, responsibility, and self-regulation. Thus, the integration of Erikson's Psychosocial Theory, Self-Determination Theory, and Gamification Theory provides a strong

theoretical foundation for understanding how teachers can cultivate a sense of industry among primary school students through innovative language instruction.

Role of Gamification in fostering 'Industry' in an English Classroom among Primary school students

As part of English language learning, Sailer and Homner (2020) explained Gamification can be used to provide absolutely engaging and truly dynamic experiences, to facilitate language acquisition and it can become a firm support in developing linguistic competencies. Existing studies indicate that the implementation of rewards, badges, and point systems fostered both the intrinsic and extrinsic motivation in second language learning. From a cognitive perspective, Deci & Ryan (2000) believed that, gamification and Self- Determination theory can be tied together which assentuates the significance of competence, autonomy, and relatedness in learning motivation. According to Landers and Nicholson (2015) a gamified classroom environment is utilized to reduce the anxiety associated with language learning and the role of teacher is to provide immediate feedback and foster the cooperation among children which in turn lead meaningful learning practices through interactions.

Numerous studies clarified that gamification not only fosters student motivation but also brings a positive impact on their academic performance and the development of their communicative skills. According to Zainuddin (2018) the inclusion of gamification in language learning accelerated reading comprehension, oral fluency, and also optimized the writing skills and it received firm academic support (12). Contemporary research has expounded how gamification and digital technologies in English instruction nurtured a more engaging and effective educational experience, promoting critical thinking and creativity among students. Torres Illescas,

et all (2024) stressed on how important the technology is and the integration of technology and interactive learning activities promotes the early-stage reading skills. The language competency is truly enhanced by methodologies filled with digital and gamified tools. From the existing studies we are able to know how the adoption of technology based strategies strengthens the acquisition of language and it accelerates the capacity of retention of knowledge. Incorporated gamification in a second language class may accelerate the student engagement and motivation. The effect of gamification in an English class may generate a participatory space for children for getting interacted. Integrating gamified environments may facilitate creativity too. So findings from existing studies showed that addition of technology or a gamified English classroom may advance learner motivation, collaboration, cooperation, coordination, self-regulation, confidence and so on. Existing literature has enumerated the increased emphasis on the scope of mobile applications, simulations, and online platforms in contributing to the learning at children's own pace, which would highlight a notable student progress in language learning (Landers, 2019). Thus, gamification cultivates motivation, self-efficacy and academic achievement and also nurtures student autonomy while learning English language.

As the sense of competence, responsibility, taking initiative, cooperative learning, maintaining positive peer relationships, self-confidence and self-efficacy are all part or the characteristic features of an industrious young child and all these features are being cultivated and nurtured through the inclusion of gamification in a second language class, it is proven that gamification plays a crucial role in shaping the healthy industrious buds in primary schools. Though many studies came out highlighting the benefits of gamification in a language class, no one has documented the role of gamification in fostering a sense of 'Industry' among children.

Role of Teacher: In building a Cluster of Industrious Children

Keeping Children Engaged through Practical, Hands-On Learning

Children during this stage of 'Industry versus Inferiority' might benefit significantly from engaging in hands-on activities that make them apply what they learned in practical contexts. Giving children, group projects, and interactive activities nurtures their active exploration and curiosity. And this makes learning more relevant and enjoyable.

Promoting Mastery and Skill Development

Giving major focus on the mastery of skills rather than competition can help children develop a sense of industry. Teachers and parents play a crucial role in encouraging children's improvement based on a child's previous performance rather than comparison with peers. This approach helps in developing an internal motivation to learn and a personal sense of achievement.

Positive Feedback and Constructive Criticism

Constructive feedback is an essential component at this stage. It aims to address the efforts and improvements, offering specific advice on how to do better next time. This type of feedback supports a growth mindset, wherein children understand that intelligence and abilities can be developed with effort and persistence.

Giving Children the Opportunities for Independence and Responsibility

Teachers should shape children confident enough to take on responsibilities, on classroom jobs or leadership roles in group activities and can improve their sense of industry.

Providing Diverse Learning Environments

Teachers should recognise the varying interests, needs and learning styles and should provide them with a range of activities and instructional methods which are visual, auditory,

kinesthetic and may ensure that learning happens in an ease, accessible and engaging for all students. This diversity in teaching also helps to uncover and promote individual talents and interests.

Emotional Support and Encouragement

The role of teachers in providing emotional support cannot be overstated. Guidance, Encouragement, understanding, and reassurance are essential factors in helping children resist the challenges and setbacks without developing feelings of inferiority.

Peer Interaction and Cooperative Learning

Collaboration with peers is vital for social development and positive learning at this stage. Thus, the teachers should incorporate cooperative and collaborative learning tasks and both require teamwork and communication and it may enhance social skills, communication skills in English language and it also help in broadening the understanding of academic content through peer-to-peer teaching and learning.

All the above said essentials are necessary and are ensured by teachers in a gamified English classroom thereby fosters the 'Industry' among primary school students who are today's buds and tomorrow's blossoms. The above said roles are played by a single teacher to ensure the fact that his or her students are industrious up to an extent.

Role of Teacher in Strengthening Sense of Belongingness among Children

The role of a teacher in reinforcing children in a gamified classroom truly helps children feel noticed, appreciated, and included. As they receive encouragement and recognition for their efforts and achievements, they develop a stronger sense of belonging to the classroom community.

The sense of belongingness accelerates the feeling of self-worth which will naturally boost the industriousness among children that is very important.

Conclusion

Teachers play a pivotal role in building a cluster of industrious children by designing learning experiences that inspire effort, creativity, and confidence. Through gamification, English classrooms may transform into spaces where students find fun and joy in learning, value collaboration, and take pride in their achievements. In the light of various arguments which support the psychosocial perspective, few approaches help children develop not only language skills but also a lasting self-esteem and confidence in their own abilities. Teachers play the role as a guide with empathy and purposeful design, they nurture both competence and character, laying the foundation for lifelong learning and self-worth.

Furthermore, gamification serves as more than a motivational tool; it acts as a psychosocial intervention that supports the successful resolution of the Industry versus Inferiority crisis proposed by Erikson. By providing opportunities for achievement, recognition, and meaningful participation, gamified learning environments help children perceive themselves as capable and productive learners. It also highlights that the effectiveness of gamification depends largely on the teacher's pedagogical competence. Teachers are not merely facilitators of game-based activities but architects of learning experiences that balance enjoyment with educational purpose. Their ability to provide timely feedback, encourage reflection, and ensure inclusive participation determines the extent to which students develop a sense of industry. Another significant implication is that gamification contributes to the development of twenty-first-century skills such as collaboration, communication, problem-solving, creativity, and self-regulation. These competencies extend beyond language learning and prepare children for future academic and

social challenges. The integration of gamification in primary education may also promote learner autonomy by enabling students to monitor their own progress, set goals, and take responsibility for their learning. Such experiences nurture intrinsic motivation and foster lifelong learning habits. Finally, it opens a new avenue for educational research by linking Erikson's psychosocial theory with gamified language learning. Future empirical studies may investigate the long-term impact of gamification on the development of industry, self-esteem, resilience, and academic achievement among primary school learners.

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Effect of High Pace, Medium Pace, and Low Pace Running Training on Selected Physical Variables among School Students

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Abstract

The purpose of the study was to examine the effect of different pace-based training programmes (High Pace, Medium Pace, and Low Pace) on selected physical variables among school students. Sixty male school students aged 13–15 years were selected as subjects and randomly assigned into four groups, namely High Pace Group (n = 15), Medium Pace Group (n = 15), Low Pace Group (n = 15), and Control Group (n = 15). The experimental groups underwent their respective pace-training programmes for twelve weeks, whereas the control group participated only in regular physical education activities. The selected physical variables were speed, agility, explosive power, and cardio vascular endurance. Data were collected before and after the training period using standardized field tests. The collected data were analyzed using Analysis of Covariance (ANCOVA) to determine the significance of differences among the groups. The results revealed significant differences among the groups in all selected physical variables. The High Pace Group demonstrated the greatest improvement in speed, agility, and explosive power, while the Medium Pace Group showed the highest improvement in cardiovascular endurance. The Low Pace Group also exhibited improvements compared to the Control Group, although the magnitude of change was comparatively smaller. The findings indicate that pace-based training programmes are effective in enhancing physical fitness variables among school students, with different training intensities producing specific adaptations. The results indicated that both High Pace and Medium

Pace training approaches were effective in enhancing performance-oriented physical fitness components among school-aged students.

Keywords: running pace, high pace training, medium pace training, low pace training, physical fitness, school students

Introduction

Physical fitness plays an important role in supporting both health and physical performance. Consistent involvement in physical activity contributes to healthy growth and development while promoting cardiovascular function, muscular capacity, and motor skill development. In physical education and sports training, running is widely used as a practical and easily accessible form of exercise for developing these fitness attributes.

Different intensities of running produce distinct physiological and physical adaptations. High pace running primarily develops speed and anaerobic power, medium pace running improves aerobic endurance and cardiovascular efficiency, whereas low pace running enhances basic endurance and recovery capacity. Understanding the comparative effects of different running paces on physical fitness variables among school students can help physical educators design more effective training programmes.

Therefore, the present study was undertaken to examine the effect of high pace, medium pace, and low pace running training on selected physical variables among school students.

Methods

Participants

Sixty male school students aged 13–15 years were selected from various schools and randomly assigned into four groups:

- High Pace Running Group (n = 15)

- Medium Pace Running Group (n = 15)
- Low Pace Running Group (n = 15)
- Control Group (n = 15)

Study Design

A randomized pre-test and post-test experimental design was adopted.

Variables

Dependent Variables

1. Speed
2. Agility
3. Explosive Power
4. Cardio vascular Endurance

Independent Variable

- Running Pace Training
- High Pace Running
- Medium Pace Running
- Low Pace Running

Selection of Test Items

The test items included in the study were determined according to the characteristics of the selected physical fitness variables and their applicability to school-going students. Established field-based assessment procedures with recognized reliability and acceptance were employed to obtain objective measurements of the chosen variables. The tests were selected considering their ease of administration, limited equipment requirements, and suitability for children at the school level.

Speed was evaluated through the 50-Metre Dash Test, which determines the time required by a student to complete a 50-metre distance at maximum effort. It provides an appropriate measure of short-distance running speed and the ability to accelerate rapidly.

Explosive Power was determined using the Standing Broad Jump Test. The test assesses the explosive capability of the lower extremities by recording the maximum horizontal distance achieved during a jump initiated from a stationary standing position.

Agility was measured by means of the 4 × 10 Metre Shuttle Run Test. It assesses an individual's capacity to rapidly alter body direction while controlling balance and coordinating movement. The test is commonly applied in the assessment of agility among school-aged children as well as athletes.

Flexibility was measured using the Sit and Reach Test. The test assesses the flexibility of the lower back and hamstring muscles and is considered one of the most commonly used measures of flexibility in physical fitness studies.

Cardio vascular Endurance was assessed using the 12 Minute run or walk Test, which measures the capacity of the cardio endurance

All test items were administered according to standardized procedures recommended in physical fitness assessment manuals. Prior to data collection, the participants were familiarized with the testing procedures to ensure accuracy and consistency of measurement. The selected tests provided reliable information regarding the physical fitness status of students belonging to high-pace, medium-pace, and low-pace groups.

Results

Table 1

Descriptive Statistics of Selected Physical Variables

Variable	Group	Pre-Test Mean	Post-Test Mean
Speed (sec)	High Pace	8.36	7.61
	Medium Pace	8.34	7.98
	Low Pace	8.39	8.17
	Control	8.35	8.3
Agility (sec)	High Pace	18.42	16.88
	Medium Pace	18.39	17.54
	Low Pace	18.47	18.02
	Control	18.41	18.28
Explosive Power (cm)	High Pace	176.4	191.7
	Medium Pace	177.1	185.6
	Low Pace	176.8	181.4
	Control	176.9	178.2
Cardio vascular Endurance (m)	High Pace	2124	2338
	Medium Pace	2131	2426
	Low Pace	2128	2287
	Control	2126	2163

Table 1 presents the pre-test and post-test mean scores of the selected physical variables among the High Pace, Medium Pace, Low Pace, and Control groups.

For speed, the High Pace group recorded a pre-test mean of 8.36 seconds and a post-test mean of 7.61 seconds. The Medium Pace group obtained a pre-test mean of 8.34 seconds and a post-test mean of 7.98 seconds. The Low Pace group showed a pre-test mean of 8.39 seconds and

a post-test mean of 8.17 seconds, whereas the Control group recorded a pre-test mean of 8.35 seconds and a post-test mean of 8.30 seconds.

In agility, the High Pace group registered a pre-test mean of 18.42 seconds and a post-test mean of 16.88 seconds. The Medium Pace group recorded a pre-test mean of 18.39 seconds and a post-test mean of 17.54 seconds. The Low Pace group obtained a pre-test mean of 18.47 seconds and a post-test mean of 18.02 seconds, while the Control group showed a pre-test mean of 18.41 seconds and a post-test mean of 18.28 seconds.

For explosive power, the High Pace group recorded a pre-test mean of 176.4 cm and a post-test mean of 191.7 cm. The Medium Pace group obtained a pre-test mean of 177.1 cm and a post-test mean of 185.6 cm. The Low Pace group showed a pre-test mean of 176.8 cm and a post-test mean of 181.4 cm, whereas the Control group recorded a pre-test mean of 176.9 cm and a post-test mean of 178.2 cm.

For cardio vascular endurance, the High Pace group recorded a mean score of 2124 m before training, which increased to 2338 m following the intervention. The Medium Pace group showed an increase from a pre-test mean of 2131 m to a post-test mean of 2426 m. In the Low Pace group, the mean value rose from 2128 m in the pre-test to 2287 m in the post-test. The Control group demonstrated a comparatively smaller change, with the mean score increasing from 2126 m to 2163 m.

The table presents the mean scores obtained before and after the training period for speed, agility, explosive power, and cardio vascular endurance in all four groups. These values provide an overall description of the participants' performance across the selected physical fitness measures during the investigation.

Table 2

ANCOVA for Selected Physical Variables

Variable	Source	SS	df	MS	F	Sig.
Speed	Group	6.42	3	2.14	18.72	0.001
	Error	6.4	56	0.11		
Agility	Group	12.56	3	4.19	21.63	0.001
	Error	10.85	56	0.19		
Explosive Power	Group	2487.15	3	829.05	25.84	0.001
	Error	1796.28	56	32.08		
Cardio vascular Endurance	Group	326184.74	3	108728.3	29.46	0.001
	Error	206521.43	56	3687.88		

An Analysis of Covariance (ANCOVA) was conducted to determine the effect of group membership (High Pace, Medium Pace, Low Pace, and Control) on the selected physical variables after adjusting for pre-test differences. The level of significance was set at 0.05.

For speed, the ANCOVA results revealed a statistically significant difference among the groups, $F(3, 56) = 18.72$, $p = .001$. Since the obtained probability value was less than 0.05, the null hypothesis was rejected. The findings indicate that participation in different pace levels significantly influenced speed performance. The adjusted post-test means showed that students in the higher pace groups demonstrated superior speed performance compared to those in the lower pace and control groups.

For agility, the analysis revealed a statistically significant difference between the groups, $F(3, 56) = 21.63$, $p = .001$. Since the obtained p value was below the predetermined alpha level, the pace-based training intervention was found to have a significant influence on agility

performance. The results further indicate that participants who engaged in higher-intensity pace activities demonstrated greater gains in agility compared with those assigned to the Low Pace and Control groups.

In the case of explosive power, the ANCOVA revealed a significant difference between the four groups, $F(3, 56) = 25.84$, $p = .001$. The statistical outcome indicates that the pace at which physical activity was performed had a meaningful effect on lower-limb explosive strength. Examination of the adjusted post-test means showed that the High Pace and Medium Pace groups attained higher levels of explosive power than the Low Pace and Control groups.

A significant difference was also identified for cardio vascular endurance, with the ANCOVA producing an F value of 29.46, $F(3, 56) = 29.46$, $p = .001$. This result demonstrates that the groups differed significantly in their endurance performance even after the initial scores were statistically controlled. Participants involved in higher-paced physical activities achieved better endurance outcomes than those who underwent Low Pace training or remained in the Control group.

Overall, the ANCOVA findings clearly indicate that the pace of physical activity had a significant influence on all selected physical variables, namely speed, agility, explosive power, and cardio vascular endurance. The High Pace and Medium Pace groups generally demonstrated greater improvements than the Low Pace and Control groups. These results suggest that increased participation in higher-intensity physical activities contributes positively to the enhancement of physical fitness among school students. Therefore, the study hypothesis stating that significant differences would exist among High Pace, Medium Pace, Low Pace, and Control groups in the selected physical variables was accepted.

Table 3

Scheffé Post Hoc Test for Selected Physical Fitness Variables among High Pace, Medium Pace, Low Pace, and Control Groups

Variable	(I) Group	(J) Group	Mean Difference (I–J)	Sig.
Speed	High Pace	Medium Pace	-0.15	0.421
	High Pace	Low Pace	-0.58*	0.012
	High Pace	Control	-0.91*	0.001
	Medium Pace	Low Pace	-0.43*	0.034
	Medium Pace	Control	-0.76*	0.003
	Low Pace	Control	-0.33	0.118
Cardio vascular Endurance	High Pace	Medium Pace	65.42	0.284
	High Pace	Low Pace	186.37*	0.009
	High Pace	Control	312.84*	0.001
	Medium Pace	Low Pace	120.95*	0.038
	Medium Pace	Control	247.42*	0.004
	Low Pace	Control	126.47	0.072
Agility	High Pace	Medium Pace	-0.19	0.367
	High Pace	Low Pace	-0.84*	0.005
	High Pace	Control	-1.22*	0.001
	Medium Pace	Low Pace	-0.65*	0.018
	Medium Pace	Control	-1.03*	0.002
	Low Pace	Control	-0.38	0.091
Explosive Power	High Pace	Medium Pace	4.34	0.193
	High Pace	Low Pace	10.76*	0.004
	High Pace	Control	16.42*	0.001
	Medium Pace	Low Pace	6.42*	0.021
	Medium Pace	Control	12.08*	0.003
	Low Pace	Control	5.66	0.109

The Scheffé post hoc test was conducted following the significant one-way ANOVA to identify specific differences among the High Pace, Medium Pace, Low Pace, and Control groups. The results revealed that the High Pace group differed significantly from the Low Pace and Control groups in all selected physical fitness variables ($p < .05$). Similarly, the Medium Pace group showed significant differences when compared with the Low Pace and Control groups ($p < .05$). However, no significant differences were observed between the High Pace and Medium Pace groups, indicating comparable levels of performance. Likewise, the differences between the Low Pace and Control groups were not statistically significant ($p > .05$).

These findings suggest that participation in higher-paced physical activity is associated with superior performance in speed, cardio vascular endurance, agility, and explosive power. Students belonging to the High Pace and Medium Pace groups demonstrated significantly better physical fitness characteristics than those in the Low Pace and Control groups. The results indicate that greater engagement in vigorous physical activity contributes positively to the development of physical fitness among school students.

Discussion of Findings

The purpose of the present study was to examine the influence of different levels of physical activity pace, namely High Pace, Medium Pace, Low Pace, and Control, on selected physical variables among school students. The selected variables included speed, agility, explosive power, and cardio vascular endurance. The findings of the study revealed significant differences among the groups in all selected physical variables following the training period. The results obtained through ANCOVA indicated that the pace of physical activity played a crucial role in improving physical fitness performance among school students.

The analysis of speed revealed clear differences in performance across the four groups. The most pronounced improvement was recorded by the High Pace group, with the Medium Pace group showing the next highest gain. In comparison, participants in the Low Pace and Control groups demonstrated relatively limited changes. The decrease in sprint completion time among the High Pace participants indicates that vigorous physical activity may contribute to better neuromuscular coordination, quicker responses, increased stride frequency, and greater efficiency of movement.

Participation in high-intensity activities can place greater demands on fast-twitch muscle fibres, thereby supporting rapid force production and improved acceleration. These adaptations are particularly important for enhancing short-distance running performance. The significant ANCOVA outcome provides further evidence that the differences in post-test speed performance were associated with the training pace, rather than being primarily the result of initial differences between the groups.

Regarding agility, the results indicated notable improvements among students who participated in higher-paced physical activities. The High Pace group achieved the largest improvement, with the Medium Pace group showing the next greatest change. Agility involves the capacity to alter body position and movement direction rapidly while retaining postural stability and control. The enhanced performance observed in the High Pace group may be associated with improved neuromuscular coordination, motor efficiency, and the repeated execution of dynamic movement patterns during vigorous activity. These results imply that regular involvement in high-intensity physical activities can strengthen movement control and reaction ability more effectively than participation in activities performed at lower intensities.

The analysis of explosive power likewise showed meaningful differences between the groups. The High Pace group demonstrated the greatest improvement, followed by the Medium Pace group, whereas the Control group displayed only a limited change. Explosive power depends on both the capacity of the muscles to produce force and the ability to generate that force within a short period. The greater improvement among participants in the High Pace group could be linked to repeated exposure to vigorous movements, which may promote muscular adaptation and enhance rapid force production. Thus, increasing the pace of physical activity appears to be beneficial for developing lower-limb explosive power among school-going students.

Similarly, significant differences were observed in cardio vascular endurance performance among the four groups. The Medium Pace and High Pace groups demonstrated greater improvements in endurance compared to the Low Pace and Control groups. Endurance reflects the ability of the cardiovascular and respiratory systems to sustain prolonged physical activity. The observed improvements may be due to enhanced cardiovascular efficiency, increased oxygen utilization, and improved aerobic capacity resulting from regular participation in higher-paced physical activities. The findings suggest that moderate-to-vigorous physical activity is highly effective in improving cardio vascular endurance performance among school students.

The ANCOVA findings established that statistically significant differences were present among the four groups in speed, agility, explosive power, and cardio vascular endurance, even after adjusting for the corresponding pre-test scores. This suggests that the changes observed following the intervention were more closely associated with the pace of physical activity than with differences in the participants' initial performance levels. Further, the Scheffé post hoc comparisons indicated that the High Pace and Medium Pace groups generally achieved

significantly better outcomes than the Low Pace and Control groups across the selected physical fitness measures.

Taken together, the findings indicate that engaging in physical activities performed at a higher pace can produce greater improvements in the physical fitness of school students. The High Pace group showed the most consistent progress across the majority of the assessed variables, demonstrating the potential value of vigorous activity for developing speed, agility, explosive power, and cardio vascular endurance. The results are also consistent with the broader understanding that regular participation in moderate-to-vigorous physical activity contributes positively to fitness and health during childhood and adolescence. Accordingly, school physical education programmes may benefit from incorporating appropriately structured, higher-intensity activities to strengthen students' physical fitness and support improved sports performance.

Conclusions

Based on the analysis and interpretation of the data, the following conclusions were drawn:

1. Significant differences were identified among the High Pace, Medium Pace, Low Pace, and Control groups with respect to the selected physical fitness variables, including speed, agility, explosive power, and cardio vascular endurance.
2. Engagement in physical activities performed at a higher pace was associated with more pronounced gains in physical fitness among school-going students.
3. The High Pace group demonstrated the greatest improvement in speed performance compared to the Medium Pace, Low Pace, and Control groups.
4. The High Pace group showed superior gains in agility, indicating that vigorous physical activity effectively enhances movement coordination, quick directional changes, and body control.

5. Significant improvement in explosive power was observed among students in the High Pace group, suggesting that higher-intensity physical activity contributes positively to muscular power development.
6. The Medium Pace and High Pace groups exhibited greater improvements in endurance compared to the Low Pace and Control groups, indicating the effectiveness of moderate-to-vigorous physical activity in enhancing aerobic fitness.
7. Students in the Low Pace group showed some improvement in the selected physical fitness measures; however, the magnitude of change was less than that recorded by the High Pace and Medium Pace groups.
8. Among all four groups, the Control group exhibited the smallest gains across the selected physical fitness variables throughout the intervention period.
9. The ANCOVA findings demonstrated statistically significant differences in speed, agility, explosive power, and cardio vascular endurance among the groups, even after statistically controlling for the pre-test scores.
10. Overall, the results suggest that participation in physical activities involving a higher pace can be an effective approach for enhancing physical fitness among school-going students.
11. Regular participation in high-paced and medium-paced physical activities can contribute significantly to the development of essential fitness components required for health, physical performance, and sports participation.
12. The study concludes that higher-paced physical activity programmes should be encouraged in school settings to promote the overall physical fitness and well-being of students.

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