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Published June 2026

NAVKOSH JOURNAL
Journal of Immersive Learning, AI and Digital Media
Volume 1 | Issue 1 | 2026 | Pages 26-37
Navkosh Publications

A Study on the Contribution of Indian Animation to Enhancing Cognitive and Creative Skills among Animation Students

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ABSTRACT

With the increasing growth in the animation industry, there has been a transformation in the nature of animation from a purely entertaining tool to a means of educating and fostering cognitive development. There are several distinctive advantages for the development of cognitive skills and creative ability that arise from exposure to Indian animations which are based on the country's culture, visual storytelling traditions, and modern digital practices. The current article focuses on the contribution of Indian animations to the development of cognitive skills including memory, attention, problem-solving, visual perception, spatial reasoning, and critical thinking, as well as creativity, imagination, innovation, and visualization skills among animation students. Data is collected using surveys, interviews, observations, and practical assignments from animation students, educators, and professionals in the field using a mixed-method approach. The findings reveal that interaction with the content of Indian animations and their production process contributes greatly to students' cognitive and creative development. This research highlights the educational value of Indian animations and provides suggestions for the integration of culturally-specific animation content in the curricula of animation education.

Keywords: Indian Animation, Cognitive Skills, Creative Skills, Animation Education, Visual Learning, Creativity, Cognitive Development, Higher Education.

1. INTRODUCTION

Animation as an art form and tool of visual communication has become increasingly significant in modern education and entertainment. With the growing popularity of digital technologies,

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animation has gone beyond being just a story-telling mechanism to becoming a means of educating, training, simulating and immersive learning. India has a long and rich tradition of visual storytelling through mythology, folklore and culture which played an important part in shaping the Indian animation industry.

Modern Indian animated productions are created by merging traditional artistic values with modern digital technology, offering interesting experiences for the viewers stimulating their cognitive and creative development. Cognitive skills like memory, attention, problem-solving, and spatial reasoning are necessary for animation students in order to be able to perceive the visual information and produce animated content from it.

Creativity is another important skill of any animator and helps students come up with innovative ideas and communicate them visually. While there have been numerous studies on animation education in general, the role of Indian animations in the development of students' cognitive and creative skills has not yet received much attention.

1.2 Research Problem

While significant progress has been made within Indian animation regarding the quality of animation production, development of narratives and technology, there is a lack of evidence that would clarify the role of animation in the development of cognitive and creative skills of Indian animation students. Understanding the role of animation in the development of cognitive and creative skills can assist educators in the design of appropriate animation curricula and learning environments.

1.3 Research Objectives

- Evaluation of the contribution of Indian animation in the development of cognitive skills among animation students.
- Evaluation of the impact of Indian animation on the development of creative skills of students.

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- Clarification of the cognitive processes involved in animation learning and creation.
- Students' evaluation of the value of Indian animation in their learning process.
- Suggestion of strategies for integration of Indian animation into animation education in order to enhance learning results.

1.4 Research Questions

1. How is Indian animation involved in the development of cognitive skills of animation students?
2. What is the impact of Indian animation on the creative skills of students?
3. What are the cognitive skills influenced the most by exposure to Indian animation?
4. Perception of animation educators of the role of Indian animation in the development of students' skills.

2. Literature Review

2.1 Theoretical Foundations of Cognitive Learning and Visual Processing

According to theories of cognitive learning, visual means play a very important role in information processing and memory. According to the foundational theories of Piaget and Vygotsky, the use of visual and symbolic representation mediates learning in which people construct mental schemas by interacting with organized external stimuli. Further development of the theory was done by Paivio whose Dual Coding Theory posits that simultaneous processing of visual and verbal material enhances cognitive retention and recall as different mental channels are engaged.

For complex visual stimuli, it is important to apply Sweller's Cognitive Load Theory and principles of interactive multimodal learning suggested by Moreno and Mayer, in order to achieve a proper balance in working memory and optimal instruction delivery. As indicated in contemporary synthesis by Connolly, animated representations help in comprehension of abstract dynamic

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processes, in directing attention and reducing extraneous cognitive load. In instructional animation, it was demonstrated empirically by Ploetzner and by Berney et al. that visuospatial working memory is the main predictor of successful learning while dynamic visual media represent complex time-dependent processes effectively when cognitive load is well-managed. Gardner's theory of multiple intelligences recognizes spatial and visual-spatial modalities as separate cognitive domains needed for visual-spatial reasoning and knowledge processing.

2.2 Creativity, Divergent Thinking, and Visual Art Cognition

Researches on the development of creativity skills have shown that structured training in the area of artistic activity facilitates high-order cognition and divergent thinking. Guilford [10] and Torrance [11] developed early psychometric models of creativity and formulated fluency, flexibility and originality as key measurable components of creative thinking. In turn, Runco and Jaeger [12] reaffirmed the standard definition of creativity, defining real creative output as something original and appropriate to context. According to the psychological perspective, Csikszentmihalyi [13] highlights that deep immersion into creative activities – a so-called 'flow' – encourages innovations, discoveries and artistic mastery.

In the field of visual arts, Arnheim [14] states that vision is not a passive perception of images but an active mental process named visual thinking. Along with that idea, Efland [15] and Eisner [16] highlight that artistic activities involve complicated cognitive processes, which allow students to build sense using shape, colors, dynamic composition, and symbolic imagery. Recent research on design thinking conducted by Mustofa and Hidayah [17] proves that structured iteration of ideas and visual prototyping encourage lateral thinking and creative problem-solving abilities.

2.3 Animation Aesthetics, Digital Media, and Applied Skill Development

Animation is a special kind of visual media combining artistic design, rhythm of time, and dynamics of motion. The research of Thomas and Johnston [18] shows how key principles of animation create the illusion of images and engage characters, while Priebe [19] reveals the level

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of technical and spatial thinking necessary for working with various types of animation. Works of Furniss [20] and Wells [21] place animation into the context of artistic expression, cultural storytelling and production practices, giving learners opportunity to develop narrative skills. From the perspective of digital media theory, Manovich [22] states that animation is a key language of new media that radically changes the paradigm of user interaction and visual synthesis.

Empirical research proves the applied potential of animation art: Leung et al. [23] showed that working with animation art improves visual problem-solving and computational thinking skills through iterative visual design.

2.4 Synthesis and Research Gap: Indian Animation Context

Plenty of research globally recognizes the use of animation in enhancing visualization, critical thinking, and spatial reasoning abilities, along with fostering creativity, storytelling, and design thinking. Nonetheless, research studies focused on Indian animation and its impact on students in terms of learning remain relatively uncommon.

Indian animation represents a special blend of education and arts, which is distinguished by cultural approaches to storytelling, different artistic norms, and advanced technological innovations in the area of digital production. Recent surveys in industry and academia demonstrate that India successfully transitioned from the role of service provider to being one of the major AVGC (Animation, Visual Effects, Gaming, and Comics) content creators and centers for special design education. Still, most of the research conducted so far focuses on the Western animation approaches, and, hence, there is no information about how viewing Indian animation affects the development of both cognitive and creative skills of animation students at the same time. This research is intended to bridge this gap.

2.5 Conceptual Framework Independent Variable

- Exposure to Indian Animation

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Dependent Variables

Cognitive Skills	**Creative Skills**
Attention	Imagination
Memory	Innovation
Visual Perception	Storytelling Ability
Spatial Reasoning	Artistic Expression
Problem-Solving	Design Thinking
Critical Thinking	Idea Generation

Table 01:Dependent Variables

3. Research Methodology

Research Design

Mixed-Method Research Design

Population

Students studying animation get bachelor's and master's degrees at universities in India.

3.1 Sample Size

About 200 to 300 animation students are expected to be recruited from each institution randomly using the stratified random sampling method.

3.2 Data Collection Methods

Quantitative

a. Structured Questionnaire
b. Cognitive Skill Assessment Tasks

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c. Creativity Assessment Scale

Qualitative

1. Semi-Structured Interviews
2. Focus Group Discussions
3. Classroom Observations
4. Portfolio Analysis

3.3 Data Analysis Techniques

Quantitative Analysis

- Descriptive Statistics
- Correlation Analysis
- Regression Analysis
- ANOVA
- Reliability Testing (Cronbach's Alpha)

Qualitative Analysis

a. Thematic Analysis
b. Content Analysis
c. Narrative Analysis

4. Expected Findings

According to expectations, the results of the study will indicate how Indian animations contribute to the improvement of cognitive and creative abilities of animation students. Involvement of participants into interacting with the Indian animation and its production will contribute to the

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development of visual thinking abilities, increased attention and memory retention skills, better storytelling techniques and the enhancement of problem-solving skills.

Also, culture-oriented animation materials can be used to ensure higher involvement of learners into studying process by providing them with meaningful experience and linking the traditional storytelling with the creative work.

5. Educational Implications

The findings can contribute to using the Indian animation in learning modules in the course of animation studies. Animation institutions can use films, series, and production of Indian animations as the instrument for the development of their cognitive and creative skills and preservation of cultural heritage.

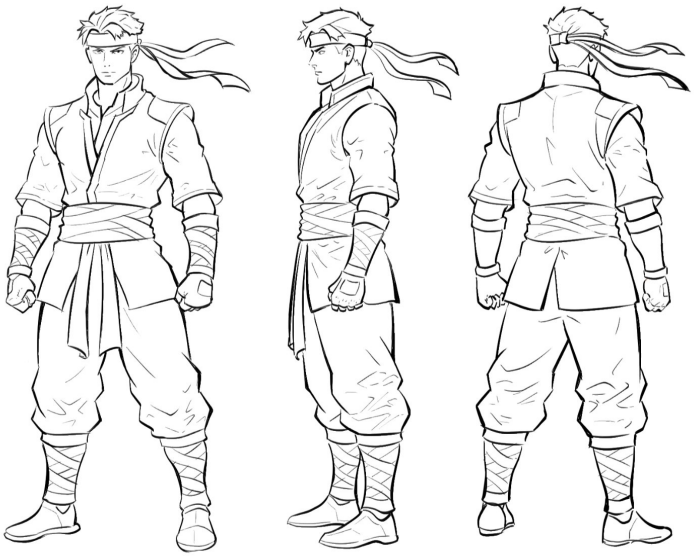

Fig 01: Line Art and color main character (Animation students' work)

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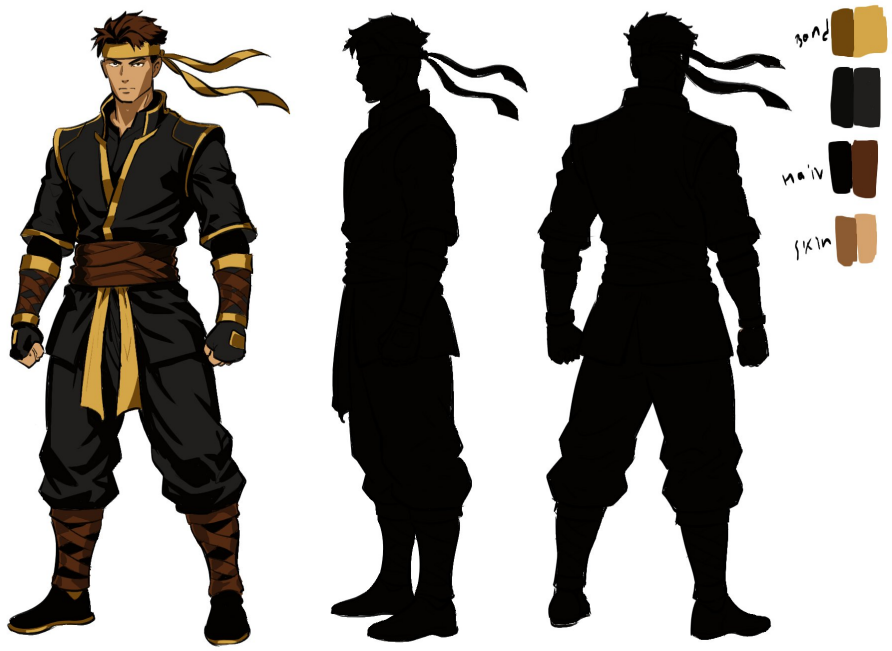

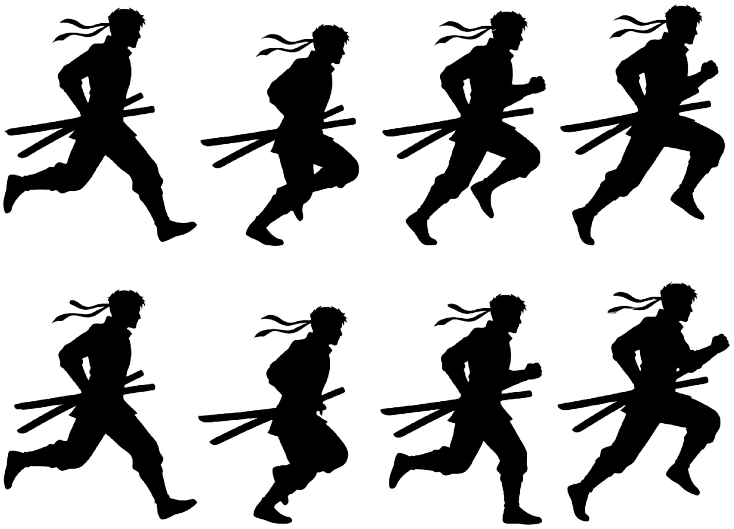

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Fig. 02: Animation SPRITE sheet

6. Conclusion

Indian animation serves as a unique educational tool that can contribute to the improvement of the cognitive and creative skills among animation students. Being the combination of the traditions of storytelling with the innovations of modern animation technologies, Indian animation can provide the unique opportunity to the animation students for the development of cognitive and creative skills.

References

1. Piaget, J. (1972). *The Psychology of the Child*. Basic Books.
2. Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Harvard University Press.

NAVKOSH JOURNAL
Journal of Immersive Learning, AI and Digital Media
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Navkosh Publications

3. Paivio, A. (1986). *Mental Representations: A Dual Coding Approach*. Oxford University Press.
4. Sweller, J. (2011). Cognitive Load Theory. *Psychology of Learning and Motivation*, 55, 37–76.
5. Moreno, R., & Mayer, R. E. (2007). Interactive Multimodal Learning Environments. *Educational Psychology Review*, 19(3), 309–326.
6. Connolly, M. (2025). Educational Animation Effectiveness: Research Findings and Application. *Journal of Educational Technology Studies*, 12(2), 45–58.
7. Ploetzner, R. (2024). Learning Changes in Educational Animation: Visuospatial Working Memory Is More Predictive Than Subjective Task Load. *Frontiers in Psychology*, 15, 1342101.
8. Berney, S., Bétrancourt, M., & Plötzner, R. (2020). Learning Demands in Instructional Animations. *Computers & Education*, 151, 103859.
9. Gardner, H. (2011). *Frames of Mind: The Theory of Multiple Intelligences*. Basic Books.
10. Guilford, J. P. (1967). *The Nature of Human Intelligence*. McGraw-Hill.
11. Torrance, E. P. (1974). *Torrance Tests of Creative Thinking*. Scholastic Testing Service.
12. Runco, M. A., & Jaeger, G. J. (2019). The Standard Definition of Creativity. *Creativity Research Journal*, 31(1), 1–5.
13. Csikszentmihalyi, M. (2014). *Creativity: Flow and the Psychology of Discovery and Invention*. Harper Perennial.
14. Arnheim, R. (2004). *Visual Thinking*. University of California Press.
15. Efland, A. D. (2002). *Art and Cognition: Integrating the Visual Arts in the Curriculum*. Teachers College Press.
16. Eisner, E. W. (2017). *The Arts and the Creation of Mind*. Yale University Press.
17. Mustofa, A., & Hidayah, N. (2024). Implementation of Design Thinking to Support Creativity-Oriented Learning: A Literature Review. *Jurnal Penelitian Pendidikan IPA*, 10(4), 188–197.
18. Thomas, F., & Johnston, O. (2019). *The Illusion of Life: Disney Animation*. Disney Editions.

19. Priebe, K. (2020). *The Advanced Art of Stop-Motion Animation*. Cengage Learning.
20. Furniss, M. (2022). *Animation: Art and Industry*. John Libbey Publishing.
21. Wells, P. (2019). *Understanding Animation*. Routledge.
22. Manovich, L. (2020). *The Language of New Media*. MIT Press.
23. Leung, S. K. Y., et al. (2024). Examining Young Children's Computational Thinking through Animation Art. *Early Childhood Education Journal*, 52(1), 115–128.
24. Journal of Advanced and Future Research. (2026). A Survey on the Evolution of the Animation Market in India: From Outsourcing Hub to Global AVGC Leader. *JAAFR*, 4(5), 618–630.