



Playful Heritage: The Reawakening of Budhni Toys in Madhya Pradesh

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ABSTRACT

Nestled in the heart of Madhya Pradesh, the village of Budhni is renowned for its unique and culturally rich tradition of wooden toy-making. Recognized as an endangered craft in India, Budhni's wooden toys showcase the intricate craftsmanship and heritage of local artisans, who have carefully passed down their skills through generations. These toys are not merely playthings; they are tangible representations of the community's cultural legacy and artistic expertise.

However, Budhni's wooden toys have faced significant challenges in the modern era. The rise of the plastic toy industry, characterized by mass production and lower costs, has overshadowed traditional wooden toys. This shift has diminished the demand for handcrafted toys and jeopardized the economic stability of the artisans who create them. Consequently, many artisans have struggled to sustain their livelihoods, leading to a decline in this once-thriving craft.

To tackle these challenges and revive Budhni's wooden toy industry, an innovative approach has been proposed: integrating these traditional toys into the educational sphere through strategic board games and puzzles. By transforming classic games such as Ludo and chess into educational tools, there is a substantial opportunity to rekindle interest in wooden toys. These inherently engaging and educational games can captivate a broad audience, including children and educators, thereby creating a sustainable market for these artisanal products.

Keywords: Budhni Craft / Thematic Games / Revitalization

INTRODUCTION

Nestled in the heart of Madhya Pradesh, the village of Budhni is home to a distinctive and culturally rich tradition of wooden toy-making. Classified as an endangered craft of India, Budhni's wooden toys embody the intricate craftsmanship and heritage of local artisans, who have meticulously passed down their skills through generations. These toys are more than mere playthings; they are tangible representations of the community's cultural legacy and artistic prowess.

Despite their cultural significance, Budhni's wooden toys have faced significant challenges in the modern era. The rise of the plastic toy industry, characterized by mass production and lower costs, has overshadowed traditional wooden toys. This shift has not only reduced the demand for handcrafted toys but has also threatened the economic stability of the artisans who create them. As a result, many artisans have struggled to sustain their livelihoods, leading to a decline in this once-flourishing craft.

To address these challenges and revitalize Budhni's wooden toy industry, an innovative approach has been proposed: integrating these traditional toys into the educational sphere through strategic board games and puzzles. By transforming classic games such as Ludo and chess into educational tools, there is a significant opportunity to reignite interest in wooden toys. These games, inherently engaging and educational, can captivate a broad audience, including children and educators, thereby creating a sustainable market for these artisanal products.

Moreover, infusing these games with themes from India's ancient empires and historical narratives can enhance their educational value. Thematic chess and Ludo boards can provide a playful yet informative way for children to learn about their heritage, making the games not only enjoyable but also culturally enriching. This approach ensures that the cultural essence of Budhni's wooden toys is preserved and appreciated by new generations, fostering a deeper connection to India's rich historical and cultural tapestry.

Revitalizing the Budhni wooden toy industry through the incorporation of strategic and thematic educational games presents a multifaceted solution. It safeguards an endangered craft, supports the livelihoods of local artisans, and introduces an enriching educational tool for children. This initiative has the potential to create a sustainable and vibrant market for Budhni toys, ensuring the perpetuation of these cultural artifacts in the face of modern economic and industrial challenges. By adopting this strategy, we can protect and celebrate the heritage of

Budhni's wooden toys while contributing to the educational and cultural development of future generations.

1.1. Budhni

The town of Budhni, located in the Sehore district of Madhya Pradesh, India, is celebrated for its exquisite wooden toy-making craft. This tradition, which has been passed down through generations, showcases the

remarkable skill and creativity of local artisans. The toys are primarily crafted from Dudhi wood (*Wrightiia tinctoria*), sourced locally from the Budhni Ghat region, along with other types of wood like Shagwan (*Tectona grandis*), Eucalyptus, and Babool (*Vachellia nilotica*).



Crafting Process

The process of making Budhni wooden toys is intricate and involves several detailed steps:

1. **Wood Drying:** Initially, the selected wood undergoes a drying process to attain the appropriate moisture level for crafting. Proper drying is crucial to prevent cracking and ensure durability.
2. **Shaping:** Once dried, the wood is mounted on turning machines where artisans shape it into various components of toys such as cars, kitchen playsets, and tricycles. The shaping process requires precision and expertise to ensure each piece meets the desired specifications.
3. **Lacquering:** After shaping, the toys are meticulously lacquered using traditional techniques. This involves applying multiple layers of lacquer, a resinous substance, to achieve a smooth and glossy finish. Artisans often use vibrant colors and intricate patterns, employing a technique known as etching to create detailed designs on the lacquered surface. This method enhances the aesthetic appeal and durability of the toys.

Historical and Cultural Significance

Historically, Budhni's wooden toy-making flourished under the patronage of the Nawab of Sehore, expanding from a few families to nearly 80-100 families with assistance from local tribes supplying wood. The craft has evolved from manual and diesel-powered production to modern electric power, showcasing the artisans' adaptability. Despite the challenges posed by inexpensive plastics and high wood costs, Budhni craftsmen have innovated by incorporating bright fluorescent colors and focusing on quality craftsmanship.

Promotion and Innovation

Efforts to promote Budhni wooden toys include obtaining Geographical Indication (GI) status to enhance their market appeal and participation in various national and international toy fairs. These initiatives aim to ensure that the unique cultural heritage and artisanal skills of Budhni continue to be recognized and celebrated worldwide.

Government initiatives like the "Ek Zila Ek Utpad" program have also been pivotal, providing training and production clusters for Budhni toys to boost local artisans' livelihoods through festivals and online marketing. These efforts are crucial in sustaining the traditional craft and ensuring its continued relevance in modern markets.

1.2. Revitalization

Revitalization of Budhni Toy Craft

The Budhni toy craft, a traditional wooden toy-making practice from Budhni, Madhya Pradesh, is facing significant challenges that have rendered it an endangered craft. Modern economic and social dynamics have drastically impacted this age-old tradition. The widespread availability of inexpensive plastic toys has severely diminished the demand for traditional wooden toys. Plastic toys are not only cheaper to produce but are also more appealing to contemporary consumers due to their bright colors, diverse designs, and lower prices.

Moreover, the cost of essential raw materials like Dudhi, Shagwan, Eucalyptus, and Babool wood has escalated, making wooden toy production increasingly expensive and less competitive in the market. The labour-intensive nature of the Budhni toy-making process, which involves meticulous shaping, lacquering, and decorating, further limits production scale and increases costs per unit, making it challenging to compete with mass-produced plastic alternatives.

Another critical issue is the declining interest among the younger generation in pursuing traditional crafts. Many young people are opting for more lucrative and less labour-intensive employment opportunities, leading to a dwindling number of skilled artisans capable of continuing the intricate work required for Budhni toy-making. This generational shift is a significant threat to the continuity of this craft.

Traditional artisans also face substantial challenges in accessing broader markets. Without effective marketing and distribution channels, sustaining the craft economically is difficult. Many artisans rely on local sales, which are insufficient for long-term viability. The lack of consistent and adequate government support has exacerbated these issues. While there have been initiatives to promote traditional crafts, the support has often been inconsistent and insufficient. Robust policies and financial assistance are crucial to help artisans modernize their techniques and access wider markets.

In response to these challenges, efforts are underway to revitalize the Budhni toy craft by introducing new educational toys and theme-based board games into the craft. This approach aims to blend traditional

craftsmanship with contemporary educational needs, making Budhni toys more appealing and relevant to today's consumers. By diversifying the product range, these initiatives strive to enhance the market appeal of Budhni toys, ensuring the preservation and promotion of this unique cultural heritage.

1.3. Thematic Games

Thematic games provide an innovative approach to combining education with entertainment, revitalizing the traditional Budhni toy craft. By incorporating themes such as historical events, cultural stories, and scientific principles, these games transform playtime into an educational experience. For instance, classic games like Ludo and Chess can be reimagined with the theme of ancient Indian empires, allowing children to learn about history while they play. Each game piece and board element can be designed to represent significant historical figures, locations, and events from ancient India, making the gameplay both informative and engaging. This method not only enhances cognitive and social skills but also instils a deeper appreciation for India's rich cultural heritage.

Thematic games serve a dual purpose: they preserve traditional craftsmanship while adapting it to meet modern educational needs. These games appeal to families, schools, and educational institutions, ensuring that the rich cultural heritage of Budhni's wooden toys remains relevant and valued. By integrating educational content into the design, thematic games can foster a greater understanding and appreciation of history, culture, and science, making them a valuable tool for learning and development. Through these creative adaptations, Budhni's wooden toys continue to captivate and educate new generations, maintaining their cultural significance and market appeal in a dynamic world.

Thematic Games: Chess and Ludo

Thematic games like Chess and Ludo provide a unique blend of entertainment and education, making them ideal for both children and adults. Chess, a strategic game of skill, and Ludo, a classic board game of chance and strategy, can be enriched with historical and cultural themes to offer a deeper, more engaging experience.

Introduction of Ludo

Ludo, a timeless board game cherished by families worldwide, originated in ancient India as "Pachisi." With a colourful history dating back centuries, it was initially played by Indian royalty and nobility. Over time, it evolved and spread to different cultures, undergoing transformations along the way. In the late 19th century, it gained popularity in England under the name "Ludo," a Latin term meaning "I play." Today, Ludo remains a beloved pastime, known for its simple rules, strategic gameplay, and the joy it brings to players of all ages, making it a true classic in the world of board games.

Origin of Ludo

Ludo, a game loved by families around the world, has an origin story as colourful as its game board. Believe it or not, this beloved board game traces its roots back to ancient India, where it was known as In Sanskrit, "Pachisi" means "twenty-five," referring to the 25 markers that players would move around the board.

Pachisi was initially played by Indian royalty and nobility, with evidence suggesting its existence as far back as the 6th century AD. The game was not just a pastime but also a reflection of strategic thinking and diplomacy, often used to settle disputes or forge alliances.

Over time, Pachisi evolved and spread to different parts of the world, each culture adding its unique twist. In the late 19th century, the game underwent a significant transformation in England, where it was patented under the name "Ludo," derived from the Latin word for "I play."

Today, Ludo remains a timeless classic, cherished for its simplicity, excitement, and the joy it brings to friends and families gathered around the board. From its humble origins in ancient India to its global popularity, Ludo continues to delight players of all ages, proving that some games truly stand the test of time.

Theme for Ludo Board Game: Ancient India's Greatest Empires

I have chosen the theme of ancient India's greatest empires for a Ludo board game to offer children an engaging and playful way to learn about history. As they play, they will explore the vibrant stories and achievements of the Maurya, Gupta, Mughal, and Chola Empires, making history exciting and memorable. Each turn and move on the board will provide an opportunity to discover fascinating facts about these empires, including notable rulers, monumental architecture, cultural advancements, and epic battles. This interactive approach ensures that learning about India's rich past is not only educational but also fun and engaging.

1. Maurya Empire:

- Rulers: Chandragupta Maurya & Durdhara
- Era: 322 BCE to 185 BCE
- Region: Northern and central India
- Highlights: Founded by Chandragupta Maurya, renowned for Ashoka the Great's promotion of Buddhism and advanced administrative systems.

2. Gupta Empire:

- Rulers: Chandragupta I & Kumaradevi
- Era: 320 CE to 550 CE
- Region: Northern and central India
- Highlights: Known as India's "Golden Age" for its advancements in arts, science, and literature, and famous for the iron pillar of Delhi.

3. Chalukya Dynasty:

- Rulers: Pulakeshin II & Vikramaditya VI
- Era: 6th to 12th centuries
- Region: Southern and central India
- Highlights: Renowned for their magnificent rock-cut temples at Badami and structural temples at Aihole and Pattadakal (UNESCO World Heritage Site), and significant contributions to Kannada and Telugu literature and culture.

4. Chola Empire:

- Rulers: Rajaraja Chola I & Sembiyan Mahadevi
- Era: 850 CE to 1279 CE
- Region: Southern India (Tamil Nadu)
- Highlights: Noted for naval power, extensive trade, magnificent temples like Brihadeeswarar, and pioneering bronze sculptures.

Introduction to Chess

Chess is a classic strategy board game that has been played for centuries. Originating in India around the 6th century, it has evolved into one of the most popular and intellectually stimulating games worldwide. Played on an 8x8 grid, the objective is to checkmate the opponent's king while utilizing a variety of pieces, each with unique movements. Chess enhances critical thinking, problem-solving, and strategic planning skills, making it a beloved pastime for both casual players and competitive enthusiasts.

Origin of Chess

Chess, one of the world's oldest and most revered strategy games, traces its origins to northern India around the 6th century. Known then as "Chaturanga," the game represented four military divisions: infantry, cavalry, elephants, and chariots, which evolved into the modern pieces of pawns, knights, bishops, and rooks. Chaturanga spread to Persia, where it became "Shatranj," and from there, it moved to the Islamic world and Europe, transforming along the way into the chess we know today. This rich history reflects the game's deep cultural significance and its enduring appeal across different civilizations.

Theme for Chess Board Game: Ancient India's Two Greatest Empires

The chessboard transforms with the grandeur of ancient India's two greatest empires, the Maurya and the Gupta. This theme adds a historical dimension to the classic game, allowing players to delve into the rich cultural and political legacies of these iconic periods.

1. Maurya Empire:

- Key Figures: Chandragupta Maurya & Ashoka the Great
- Highlights: Chandragupta's unification of India, Ashoka's promotion of Buddhism, and the creation of monumental pillars with edicts.

2. Gupta Empire:

- Key Figures: Chandragupta I & Kumaragupta I
- Highlights: The "Golden Age" of India, advancements in arts, science, and literature, and the construction of the iron pillar of Delhi.

This historical theme enriches the chess-playing experience, blending strategy with a journey through time. Players will encounter the significant achievements and contributions of these powerful empires, making each move not just a game strategy but a step into India's illustrious past. This thematic approach ensures that learning about these empires is both educational and engaging, bringing ancient India's heritage to life on the chessboard.

REVIEW OF LITERATURE

SIGNIFICANCE OF TOY-BASED PEDAGOGY FOR ELEMENTARY STUDENTS

Lone S.A. (2024), Toy-based pedagogy, or play-based learning, is recognized as an effective educational approach, especially in early education. This review traces its historical origins from ancient philosophy to modern educational policies, highlighting Aristotle's recognition of the developmental benefits of toys. The National Education Policy (NEP) 2020 marks a pivotal shift, advocating for play-centered learning and the use of educational toys, games, and puzzles. Toy-Based Pedagogy (TBP) integrates theoretical knowledge with practical application, promoting play, imagination, innovation, and exploration. This review examines the literature on TBP, highlighting its potential to transform education and foster lifelong learning.

REVIVING THE EDUCATIONAL CHARACTERISTICS OF TOYS AND GAMES IN INDIA WITH DESIGN INPUTS: DESIGN SOLUTIONS TO REVIVE THE DISAPPEARING TOY INDUSTRY IN INDIA BY ADDING EDUCATIONAL VALUE

Malkani K, Raval Z, Patel M (2023), Indian toys, essential to childhood, are struggling as Western technologies dominate, causing a loss of uniqueness. Standardized designs in form, color, material, and process have hindered their ability to meet evolving child development needs. Despite their cultural and craft significance, Indian toys lack advanced design, consistent growth, and innovation in educational value. To address this, design-driven solutions are essential for their revival. Globally, toy design has merged technology with fun, creating educational and interactive toys. Incorporating educational values through design is key to revitalizing India's declining toy industry.

THE CHOICE OF TOYS BY EARLY CHILDHOOD CHILDREN

Artemova L., Zahorodnia L., Marieieva T. (2023), This article explores toy preferences among children aged 0-48 months, examining the shift from situational involuntary interest to cognitive interest. It investigates how cognitive interest shapes toy choices, identifying three popular types: figurative-interactive, figurative, and collapsible. Figurative-interactive toys are most favored, followed by figurative and collapsible toys. The study highlights that sound, mobility, and bright colors significantly influence children's choices, correlating with the frequency, duration, and meaningfulness of play. The findings reveal that toy preferences align with children's psycho-physical and sensory abilities and their interaction capacity. This research enhances understanding of the cognitive and sensory factors driving young children's toy selections.

TOYS, DESIGN AND TECHNOLOGY: INTERGENERATIONAL CONNECTS AND EMBODIED CULTURAL PRACTICES

R. Khunyakari (2023), Toys embody the symbolic, material, and cultural facets of design and technology. Understanding these artifacts through indigenous technological knowledge systems offers significant benefits and encourages discourse on technological practices. Indian toys exemplify this well. This literature review, based on a study with pre-service teachers exploring Indian childhoods through toys, uses a heuristic framework to analyse indigenous toys across two dimensions: toy functioning (static vs. dynamic) and production influence (realistic vs. creative ingenuity). This analysis highlights cultural and cognitive aspects and the interactions between humans, technologies, and societies. It suggests opportunities to enhance technology education through authentic engagements informed by indigenous knowledge systems.

GREEN TOYS FOR EARLY CHILDHOOD CARE & EDUCATION

Das P., Kalita P. C. (2023), This literature review explores the effectiveness of activity-based teaching in early childhood education in developing countries like India. It focuses on creating engaging, affordable activities using local materials to support developmentally appropriate education and align with the new National Education Policy (NEP). Employing a design and development research approach, the study collaborates with educators to design and test activities with children, showing potential to reduce dropout rates

and promote inclusive education, especially in rural areas. Advocating self-reliance in sourcing materials, it suggests a sustainable shift from global supply chains to local resources, benefiting Anganwadi schools and the broader early education sector.

TOYS AS ARTIFACTS OF THE MATERIAL CULTURE OF CHILDREN AND CHILDHOOD: IMPLICATIONS FOR FUTURE RESEARCH

Marina Ž. Semiz (2022), This paper explores the implications for future research by analyzing findings from social sciences and humanities related to toys as elements of children's material culture and childhood. It distinguishes between toys made by children themselves and those created by adults for children, emphasizing the role of toys in personality development, cognitive abilities, socialization, and creativity. The paper suggests future research directions, including investigating toys as artifacts of children's material culture, integrating perspectives of both children and adults, understanding social practices in toy-making, conducting qualitative research on educational toys, exploring improvised toys' integration, and evaluating the incorporation of local cultural values into educational curricula.

FAILURES OF INDIAN TOY INDUSTRIES: PROBLEM IDENTIFICATION AND PROPOSED SOLUTIONS THROUGH FIELD VISIT

Samadhiya A., Argawal R. (2022), Toys hold cultural significance in India, tied to traditions and festivals, yet the Indian toy industry struggles for local and global prominence. This paper explores overlooked issues in the sector and highlights recent government initiatives to boost its scale. Field visits and interviews with toy manufacturers in the Delhi/NCR region reveal key challenges, including governmental policies, skill shortages, high-tech costs, and limited variety. The research proposes solutions to address these obstacles, emphasizing India's untapped potential to become a global leader in toy manufacturing. The findings underscore the need for strategic improvements to foster industry growth.

SMART TOYS IN EARLY CHILDHOOD AND PRIMARY EDUCATION: A SYSTEMATIC REVIEW OF TECHNOLOGICAL AND EDUCATIONAL AFFORDANCES

Komis V.; Karachristos C.; Mourta D.; Sgoura K; Misirli A ; Jaillet A (2021), This paper conducts a systematic review of Smart Toys spanning 30 years, focusing on early childhood and primary education (ages 3–12). It categorizes 50 articles, analyzing technological and educational affordances. Four main technological affordances and their combinations are identified. Educational affordances are explored across various use modes, addressing subjects and competencies like problem-solving, spatial and computational thinking, collaboration, and symbolic thinking. Multiple correspondence analysis uncovers correlations between technological and educational affordances over time. Findings reveal a recent shift towards emphasizing programming and 21st-century skills (STEM and computational thinking), contrasting with earlier focus on transversal skills like collaboration, emotional and symbolic thinking, and problem-solving.

THE EFFECTS OF BOARD GAMES ON CREATIVE POTENTIAL

Mercier M., Lubart T. (2021), This study aimed to investigate the potential of board games in enhancing creative abilities, an area relatively overlooked compared to video and role-playing games. Using a repeated-measures design, participants engaged in both creative and non-creative board games over two sessions, a week apart. Creative potential was assessed through a divergent thinking task, focusing on fluency and originality. Results revealed an increase in originality after gameplay of both game types, with no significant differences in fluency. Participants with lower initial performance levels showed improvements in both fluency and originality.

However, the study acknowledges potential limitations in statistical power. Overall, it suggests board games may temporarily enhance divergent thinking abilities.

INCREDIBLE “HANDMADE IN INDIA” TOYS ON THE BRINK OF EXTINCTION

Dr C. Sunanda Yadav (2020), The Indian toy industry has a rich cultural heritage, with local toys reflecting the country's diversity. However, the industry is predominantly small-scale, labour-intensive, and faces challenges like limited innovation, low investment, and an unorganized market. The entry of low-cost Chinese toys has threatened the livelihoods of local artisans, and the government and NGOs are working to promote these traditional crafts globally. This paper aims to study the role of local toys in a child's development and explore ways to prevent the extinction of this cherished art form.

TOY REPURCHASE BEHAVIOUR AMONG PARENTS.

Frank Sunil Justus T (2020), This literature review delves into parental repurchase behaviour in the toy segment, acknowledging their significant role in purchasing decisions. Through an extensive examination, it identifies gaps and develops a conceptual framework. A questionnaire with 150 respondents from Chennai, India, focused on brand perception, quality, hedonic shopping, emotional buying, and pester power. Path analysis reveals direct and indirect influences of brand perception, hedonic shopping, and emotional buying on repurchase behaviour, mediated by pester power. These findings deepen understanding of parental repurchase drivers, highlighting the intricate relationship between perceptions, shopping motivations, and purchasing outcomes in the toy segment.

EXAMINING BOARD GAMEPLAY AND LEARNING: A MULTIDISCIPLINARY REVIEW OF RECENT RESEARCH

Rebecca Yvonne Bayeck (2020), In recent years, there's been a renewed interest in board games for entertainment and education. While digital games are extensively studied in learning, board games are less explored. This review fills the gap, examining how board games aid learning across subjects, settings, and demographics. Findings show board games effectively teach various subjects, fostering computational thinking, teamwork, and creativity. They simplify complex concepts, making learning accessible for all ages. However, further research is needed to fully grasp their educational potential. In essence, board games promise enhanced learning experiences and skill development across diverse learners. Leveraging board gameplay, educators and researchers can innovate learning in formal and informal settings.

TOY USER INTERFACES: SYSTEMATIC AND INDUSTRIAL MAPPING

Anna Priscilla de Albuquerque, Judith Kelner (2019), Toys, once simple leisure items, have transformed into sophisticated interactive devices known as "smart toys," now termed Toy-User-Interfaces (Toy UI). This paper introduces the concept of Toy UI and investigates its intersections with human-computer interaction, mixed reality, and the Internet of Things. Through an extensive review of research papers and industry releases from 2008 to 2017, 297 Toy UIs were identified and categorized based on play and interface features. Analysis reveals trends in design and technology, culminating in six key findings. This comprehensive review provides valuable insights for researchers, designers, educators, therapists, and end-users involved in Toy UI projects, shaping the future of this evolving field.

BOARD GAMES FOR HEALTH: A SYSTEMATIC LITERATURE REVIEW AND META-ANALYSIS

Gauthier A., Kato P. M., Kim C.M. Bul, Dunwell I. , Walker-Clarke A., Lamas P. (2019), This systematic review and meta-analysis examine the impacts of nondigital board games on health and medical outcomes across various populations and settings. Twenty-one eligible studies, involving 6554 participants, were identified through extensive electronic searches. The primary focus of interventions (76%) was health education to enhance knowledge and behaviors. Evaluation encompassed diverse outcomes, including self-efficacy, attitudes, biological health markers, social functioning, anxiety, executive functioning, alongside knowledge and behaviours. Utilizing the Cochrane Collaboration tool, most studies showed an unclear risk of bias, with non-significant publication bias tests. Meta-analysis revealed a substantial effect on health-related knowledge, moderate impact on behaviors, and similar effects on biological health markers, contributing significantly to healthcare gaming literature. Future research should prioritize consistent high scientific standards in evaluation and reporting.

CHESS AS A POWERFUL EDUCATIONAL TOOL FOR SUCCESSFUL PEOPLE

Jankovic, Alojz, Novak, Ivan (2019), Addressing contemporary educational challenges demands modernized learning methods tailored to individual development. Integrating chess into curricula emerges as a promising innovation, offering cognitive, critical thinking, and creative benefits. This review delves into the multifaceted advantages of using chess in education, emphasizing its role in enhancing concentration, memory, logical reasoning, and fostering strategic thinking and decision-making skills. It also explores chess's potential to nurture creativity and problem-solving, positively impacting academic performance and behaviour. Highlighting Croatia's implementation process, the review underscores educators' flexibility to integrate chess creatively, advocating for play-based learning to engage young learners. Ultimately, chess equips individuals with essential skills for success in academic and professional realms, making it a valuable educational asset.

BOARD GAMES AS EDUCATIONAL MEDIA

A.I. Rajkovic, M.S. Ruzic, B. Lujic (2019), Qualitative research investigates the use of board games as educational tools in history teaching. 58 pedagogy students from Belgrade University, comprising 13 game-designers and 45 evaluators, along with a subject teacher, participated. Project-based learning involved creating, playing, and evaluating board games. Through focus group discussions, students shared perspectives on board games' potential in history education. Game-designers found crafting board games intellectually and emotionally challenging, enhancing historical understanding through problem-solving. They saw the teacher as a guide. Evaluators perceived playing the games as offering a unique approach to acquiring and reviewing historical knowledge. This study illuminates the educational value of board games in history instruction.

DESIGNING PLAYFUL LEARNING BY USING EDUCATIONAL BOARD GAME FOR CHILDREN IN THE AGE RANGE OF 7-12: (A CASE STUDY: RECYCLING AND WASTE SEPARATION EDUCATION BOARD GAME)

Mostowfi, Sara; Mamaghani, N. Koleini; Khorramar, Mehdi (2016), This paper explores the creation and evaluation of a board game designed to teach recycling concepts to children, crucial for fostering sustainable practices. Employing methods like focus groups and the Fun Toolkit, the iterative design process was employed. Initial concepts were drafted, and a prototype was developed, receiving feedback from children in focus groups. Subsequently, 20 children assessed two computer recycling games using the Fun Toolkit, which indicated consistent preferences. Insights from these evaluations guided further refinement, aided by the game checklist. Shaped by children's responses, the final board game is suitable for both home and school settings, effectively promoting environmental education.

PRODUCTIVITY & COMPETITIVENESS OF INDIAN TOY INDUSTRY: PROSPECTS & CHALLENGES.

KP Sunny, R Sund (2014), This literature review scrutinizes the toy manufacturing sector's challenges, especially in India, and explores avenues for its growth. It compares export-import dynamics between India and China, outlining the industry's competitive landscape. Productivity levels, covering labor, capital, and total factor productivity from 2008-09 to 2011-12, are assessed. The study also explores the impact of 'edutainment' toys on the Indian market, highlighting their dual role in entertainment and skill development. Despite rising demand, about 40% of manufacturing units closed, largely due to cheap Chinese toys. With Chinese toys dominating 80% of sales, Indian manufacturers face significant hurdles. Technology is stressed as crucial for sectoral productivity enhancement and global competitiveness.

WHO TURNS THE TOYS OF CHANNAPATNA? INDIAN TURNED WOODEN LAC WARE AND THE ROLE OF FAIR TRADE IN THE DESIGN AND COMMERCIALISATION OF THE CRAFT.

C. Gent (2013), The abstract examines how the commercialization of the Channapatna lac toy craft in India impacts the local community. It documents the history and changes in the craft, including the shift from hand to power lathes leading to mechanization, centralized production, and the exclusion of women. While Fair Trade organizations aim to support the craftspeople, they face the challenge of selling to mainstream markets where a less personal product has broader appeal. The paper highlights the tensions between the local craft tradition and the demands of the global market.

THE SYMBOLISM OF CHESS

T. Burckhardt (1969), Originating in India, chess holds deep symbolic significance rooted in Hindu cosmology. The chessboard mirrors a Vastu-mandala, symbolizing the cosmos' divine powers. Its 8x8 pattern aligns with spatial and celestial cycles. In gameplay, the struggle between devas and asuras unfolds, with white representing Light and black symbolizing Darkness. The king embodies the spirit, while other pieces denote soul faculties. Moves reflect the interplay of will, intelligence, and destiny, showcasing how choices align with cosmic laws. Chess serves as a meditative system, bridging warrior ethics and spiritual principles. Mastery of the game cultivates governance of inner and outer realms through wisdom.

S.NO.	Author name and year of publication	TITLE OF PAPER	Aim and objective	METHOD
1.	Lone S.A. (2024)	Significance of toy-based pedagogy for elementary students	The transformative potential of toy-based pedagogy in education and lifelong learning.	Qualitative research with students.
2.	Malkani K, Raval Z, Patel M (2023)	Reviving the educational characteristics of toys and games in india with design inputs: design solutions to revive the disappearing toy industry in india by adding educational value	Revitalize Indian toys.	Revamp toy design.

3.	Artemova L., Zahorodnia L., Marieieva T. (2023)	The choice of toys by early childhood children	Understand children's toy preferences	Analyze children's choices.
4.	R. Khunyakari (2023)	Toys, design and technology: intergenerational connects and embodied cultural practices	Explore indigenous toy significance. Analyse indigenous toy diversity.	Heuristic framework analysis.
5.	Das P., Kalita P. C. (2023)	Green toys for early childhood care & education	Enhance early childhood education. Develop activity- based teaching.	Design and test activities.
6.	Marina Ž. Semiz (2022)	Toys as artifacts of the material culture of children and childhood: implications for future research	Explore toy implications. Analyse toy research findings.	Review social science research.
7.	Samadhiya A., Argawal R. (2022)	Failures of indian toy industries: problem identification and proposed solutions through field visit	Enhance Indian toy industry. Identify industry challenges	Field visit and interviews.
8.	Komis V.; Karachristos C.; Mourta D.; Sgoura K; Misirli A; Jaillet A (2021)	Smart toys in early childhood and primary education: a systematic review of technological and educational affordances	Review Smart Toys evolution. Analyse technological and educational affordances.	Systematic review and analysis.
9.	Mercier M., Lubart T. (2021)	The effects of board games on creative potential	Explore board games' creativity impact. Compare creative and non-creative board games.	Repeated- measures design analysis.
10.	Dr C. Sunanda Yadav (2020)	Incredible "handmade in india" toys on the brink of extinction	Preserve Indian toy heritage. Study local toys' impact.	Analyse industry challenges.
11.	Frank Sunil Justus T (2020)	Toy repurchases behaviour among parents.	Analyse parental toy repurchase. Examine repurchase behaviour factors.	Survey and path analysis.
12.	Rebecca Yvonne Bayeck (2020)	Examining board gameplay and learning: a multidisciplinary review of recent research	Explore board games' educational potential. Examine learning facilitation.	Literature review analysis.

13.	Anna Priscilla de Albuquerque, Judith Kelner (2019)	Toy user interfaces: systematic and industrial mapping	Explore Toy UI concept. Analyse ToyUI landscape.	Mapping and classification analysis.
14.	Gauthier A., Kato P. M., Kim C.M. Bul, Dunwell I., Walker-Clarke A., Lamerar P. (2019)	Board games for health: a systematic literature review and meta-analysis	investigate effects of board games. Analyse health outcomes.	Systematic review and meta-analysis.
15.	Jankovic, Alojzij, Novak, Ivan (2019)	Chess as a powerful educational tool for successful people	Explore benefits of chess. Assess educational advantages.	Literature review analysis.
16.	A.I. Rajkovic, M.S. Ruzic, B. Ljubic (2019)	Board games as educational media	Explore educational board games	Qualitative research, project-based learning
17.	Mostowfi, Sara; Mamaghani, N. Koleini; Khorramar, Mehdi (2016)	Designing playful learning by using educational board game for children in the age range of 7-12: (a case study: recycling and waste separation education board game)	Teach recycling to children	Iterative design and evaluation
18.	KP Sunny, R Sund (2014)	Who turns the toys of channapatna? Indian turned wooden lac ware and the role of fair trade in the design and commercialisation of the craft.	Enhance Indian toy industry competitiveness	Comparative analysis and productivity assessment
19.	C. Gent (2013)	Who turns the toys of channapatna? Indian turned wooden lac ware and the role of fair trade in the design and commercialisation of the craft.	Impact of commercialization on community	Historical and qualitative analysis
20.	T. Burckhardt (1969)	The symbolism of chess	Symbolic representation in chess	Analysing chessboard symbolism

RESEARCH GAP

Despite extensive research highlighting the educational benefits of toys and board games, there is a notable gap in integrating traditional, culturally significant toys into modern educational practices. Existing studies primarily emphasize the impact of contemporary and smart toys on cognitive and social development, often neglecting the educational potential of indigenous toy crafts, such as those from India. Additionally, while the symbolic and cultural dimensions of games like chess are well-explored, research on adapting these traditional games to include educational themes relevant to modern curricula is limited. This gap underscores the need for

a multidisciplinary approach that blends cultural heritage with innovative educational design, thereby enhancing the pedagogical value of traditional toys and games and ensuring their relevance in today's educational landscape.

All these topics were covered in earlier research papers; therefore, this study delves into areas overlooked by previous research, particularly delving into the disappearance of the Budhni craft. While earlier studies extensively covered historical themes in chess and Ludo games, the focus on the waning Budhni craft introduces a fresh perspective. This research aims to bridge this gap by examining the factors behind the decline of Budhni craft and suggesting revival tactics. Through exploring the incorporation of historical narratives into game design and assessing their educational merits, this investigation strives to present inventive solutions for safeguarding cultural heritage and immersing children in enriching learning adventures.

Aim

This research aims to explore the integration of historical themes from ancient Indian empires into chess and Ludo board games, fostering cultural appreciation and educational engagement among children.

Objectives

1. Investigate the feasibility of incorporating historical narratives into game design.
2. Evaluate the educational benefits of themed chess and Ludo games for children.
3. Propose innovative design strategies to enhance the immersive experience of themed games.

RESEARCH METHODOLOGY

This methodology section outlines the comprehensive research approach undertaken in developing Revving Buddhi Toys' chess and Ludo board games. Emphasizing user-centred design, the research integrates extensive studies in early childhood development and cultural heritage. By exploring diverse research types—such as user needs, design processes, material technologies, and market analysis—the methodology ensures informed design decisions. It also incorporates iterative prototyping, sustainability, and aesthetic appeal. The result is educational and inclusive games that foster cognitive, sensory, and emotional growth in children, bridging traditional and contemporary craftsmanship to create engaging and culturally enriching play experiences.

DATA FINDINGS AND ANALYSIS

Informed Design Decisions:

Revving Budhni Toys designs chess and Ludo board games based on extensive early childhood development research. These games blend traditional and contemporary elements inspired by Budhni's cultural heritage, emphasizing inclusivity and innovative educational play.

User-Centred Design:

Revving Budhni Toys employs user-centred design principles, focusing on the cognitive, sensory, and emotional needs of children. These games cater to diverse learning styles and abilities, continuously evolving to foster inclusive learning environments.

Innovation and Creativity:

Revvig Budhni Toys integrates play with education in their themed chess and Ludo games, enhancing cognitive and motor skills. Their creative designs captivate children while incorporating educational elements.

Problem Solving:

Revvig Budhni Toys addresses the decline of traditional wooden toys by blending creativity and innovation. Their research-driven approach ensures each game supports holistic childhood development and inclusivity.

Efficient Prototyping:

Using a two-step prototyping process with 3D software (Fusion 360) and Dudhi wood, Revvig Budhni Toys ensures thorough design understanding, error correction, and refinement for high-quality final prototypes.

Sustainability Integration:

Revvig Budhni Toys emphasizes sustainability by using Dudhi wood and natural-colour lacquer, promoting eco-friendly and non-toxic practices. This commitment ensures broad accessibility and a positive environmental impact.

Aesthetic Appeal:

Combining traditional colours and drawings with innovative designs, Revvig Budhni Toys creates aesthetically appealing chess and Ludo games. Inspired by Budhni's heritage, these games provide an immersive, culturally enriching experience. This structured methodology ensures the design of chess and Ludo board games preserves cultural heritage while promoting educational and developmental benefits for children.

CONCLUSION

The integration of historical themes from ancient Indian empires into chess and Ludo board games offers a significant opportunity to revitalize the endangered Budhni toy craft while promoting cultural appreciation and educational engagement among children. Revvig Budhni Toys has leveraged extensive research and a user-centered design approach to create innovative chess and Ludo games that seamlessly blend traditional artisanship with contemporary educational needs.

These themed games captivate children's imaginations and provide an immersive learning experience, allowing them to explore the rich narratives and achievements of the Maurya, Gupta, Chalukya, and Chola empires. By transforming classic gameplay into a journey through India's illustrious past, these games help children develop cognitive and problem-solving skills while fostering a deeper connection to their cultural heritage.

The research methodology employed by Revvig Budhni Toys emphasizes sustainability, inclusivity, and efficiency, ensuring that the production process adheres to eco-friendly practices and caters to diverse learning abilities. The iterative prototyping process, using Dudhi wood and natural lacquers, ensures the highest quality standards while preserving the authenticity of Budhni's traditional craftsmanship.

This research not only contributes to the revival of an endangered craft but also demonstrates the potential of innovative educational tools to bridge the gap between cultural preservation and modern learning needs. By

embracing India's rich history and integrating it into engaging gameplay, Revving Budhni Toys has paved the way for a new era of culturally enriching and educationally valuable toys.

As the world evolves, it is crucial to find innovative ways to celebrate and pass on cultural legacies to future generations. The themed chess and Ludo games developed by Revving Budhni Toys exemplify this pursuit, showcasing the power of design, research, and creativity in shaping educational experiences that resonate with both tradition and modernity.

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