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TIPS-INSPIRED FAIRY-TALE GAMES AS A PRACTICAL TOOL FOR DEVELOPING PRESCHOOLERS' THINKING: FROM COMPARISON TO RESOURCE-BASED PROBLEM SOLVING

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Abstract

This article presents a practice-oriented approach to developing preschool children's analytical and logical thinking through TIPS-inspired educational games embedded in well-known fairy-tale plots. Three game formats—**"The Little House (Mansion),"** **"Masha the Scatterbrain,"** and **"Little Red Riding Hood: The Transformed Grandma"**—are described as methodological scenarios that cultivate comparison, classification, functional reasoning, creativity, and communication. Special attention is given to techniques of identifying object properties, searching for resources, moving toward an Ideal Final Result (IFR), and resolving contradictions in a child-friendly form. The proposed games can be implemented in group and individual settings and may serve as a practical resource for preschool educators and methodologists.

Keywords

preschool education, TIPS technology, TRIZ elements, cognitive development, analytical thinking, problem solving, resources, IFR, contradictions, didactic games, fairy tales.

Introduction

Preschool childhood is a sensitive period for the formation of key cognitive operations—comparison, classification, generalization, and self-regulation. For educators, the methodological challenge is to organize learning situations in which children think actively rather than reproduce ready answers. A promising direction in this regard is the use of **TIPS-inspired (TRIZ-oriented) game technologies**, where the child's thinking develops through structured questions and playful problem situations.

Fairy tales provide a culturally familiar and emotionally engaging context for such work. When the rules of a game are embedded in a recognizable plot, children more readily enter the learning situation, sustain attention, and accept intellectual challenges. This article describes three fairy-tale-based game formats that can be used as a practical toolkit for developing thinking in preschoolers.

2. Conceptual Foundations: What "TIPS-Inspired" Means in Preschool Practice

Within preschool pedagogy, "TIPS-inspired" games can be interpreted as play scenarios that systematically train children to:

1. **Identify properties and functions** of objects (What is it like? What can it do?)
2. **Compare and find common features** (What is similar between two objects?)
3. **Search for resources** (What else can help us achieve the same function?)
4. **Move toward an Ideal Final Result (IFR)** in a simplified "magic" form (What if it happens by itself?)
5. **Notice and resolve contradictions** (It must be both X and not X—how can we do that?)

The educator's role is not to "give the correct answer," but to guide children's reasoning with prompts, questions, and a supportive atmosphere that encourages multiple solutions.

3. Methodological Scenarios

3.1. Game 1: "The Little House (Mansion)"

Purpose: to develop analytical thinking and the ability to identify shared features through comparison.

Materials: picture cards with everyday objects (e.g., guitar, teapot, bag, apple, pencil, tree). A "Mansion" can be any designated space in the classroom (a carpet square, a corner, a hoop, a cabinet area).

Preparation: briefly recall the fairy tale "The Mansion" and propose a new rule: entry is possible only after the child finds what two objects have in common.

Procedure (Basic version: one host)

1. Each child receives a card and becomes the "character" of the object shown.
2. One child is chosen as the host in the Mansion.
3. Guests approach one by one and perform a short dialogue:

- **Guest:** "Knock-knock! Who lives in the Mansion?"
- **Host:** "I am a … (names object). Who are you?"
- **Guest:** "I am a … . Let me in!"
- **Host:** "You may enter if you can tell how you are similar to me."

4. The guest compares objects and names shared features (e.g., both can be held, both have parts, both are made by humans, both are used in daily life).
5. If the answer is acceptable, the guest enters. If not, peers can provide hints.

Variations

- **Rotating host:** the guest who enters becomes the next host (increases participation).
- **Multiple Mansions:** two or three groups play simultaneously (reduces waiting time).

Methodical emphasis: encourage children to move from superficial similarities (color, size) to functional or categorical similarities (purpose, context of use).

Advanced challenge: require a "super-system" similarity (e.g., both belong to a kitchen; both are used to help people; both are part of a larger system).

3.2. Game 2: "Masha the Scatterbrain"

Purpose: to develop logical reasoning, attention, and the skill of identifying resources for solving a problem.

Preparation: discuss common objects and their functions (knife—cutting, spoon—scooping, opener—opening). Explain that a person might lose an item and need help finding alternatives.

Procedure (Teacher as Masha)

1. The educator acts as Masha and announces a loss:
   - "Oh no! I lost my … (object). How will I … (function)?"
2. Children suggest alternatives that can perform the same function (resources).
3. The educator accepts several answers, highlights the most safe and realistic, and praises creative solutions.

Group-organization options

- **Chain format:** each child becomes Masha after giving a strong answer.
- **Whole-group response:** everyone proposes ideas; Masha selects the best, and that child becomes the next Masha.

Advanced level: IFR and Contradictions

A) Transition toward IFR (child-friendly "magic" form)

After hearing solutions, Masha says: "I want it to happen by itself!"
Children propose how the function can be achieved with minimal effort or by changing the situation (e.g., bread is pre-sliced; packaging makes tearing easy).

B) Resolving contradictions

The educator formulates a contradiction in simple terms:

- "It should cut well, but it should not hurt fingers."

Children propose solutions such as separating properties in space (safe handles, covered ends) or changing conditions (protective gloves, using a tool designed for safety).

Methodical value: children learn that problems can have multiple solutions, and that thinking involves not only choosing tools but also changing conditions and rules.

3.3. Game 3: "Little Red Riding Hood: The Transformed Grandma"

Purpose: to develop imagination, property-based reasoning, and dialogic speech.

Materials: paper and markers.

Preparation: recall the episode where Little Red Riding Hood notices the "strange" grandmother. Offer a new plot twist: Grandma transforms into an object to avoid danger.

Procedure

1. The educator names the object Grandma became (e.g., glass, clock, candle, guitar, screen).
2. Children list key properties of that object (transparent, noisy, bright, cold, hollow, etc.).
3. Children draw "Grandma-object," combining human elements and object properties.
4. One child plays Little Red Riding Hood and asks:

- "Grandma, why are you so … (property)?"

5. Other children respond on behalf of Grandma with logical and humorous explanations connected to the plot (e.g., "So I can see the wolf," "So I can call for help," "So I can hide safely").

Reflection

After the dialogue, the group discusses how this transformation could protect Grandma and what other transformations might work.

Methodical extension: the educator can connect the game with self-regulation topics (e.g., "Grandma is a guitar"—we can "tune" our mood).

4. Implementation Notes for Educators

To make the games productive rather than chaotic, it is useful to follow several rules:

- **Use prompts, not answers:** ask "What is similar?" "What can replace it?" "What is the safest option?"
- **Encourage multiple solutions:** praise variety, not only correctness.
- **Support vocabulary:** model language for properties (shape, material, function) and relations (same as, similar to, belongs to).
- **Differentiate by age:** younger children may focus on visible features; older children can handle functions, categories, IFR, and contradictions.
- **Ensure safety and realism:** especially in "Masha the Scatterbrain," guide children toward safe and appropriate alternatives.

5. Conclusion

TIPS-inspired fairy-tale games represent a practical method for developing preschoolers' thinking in a natural play environment. The scenarios described in this article train children to compare objects, identify shared features, search for resources, imagine ideal outcomes, and resolve contradictions in an accessible form. The method is flexible for group and individual work and can be integrated into cognitive-development sessions, speech development, and social-emotional learning contexts. As a result, preschool children acquire not only knowledge but also the intellectual habits of inquiry, reasoning, and creative problem solving.

References

1. Altshuller, G. S. *Creativity as an Exact Science: The Theory of the Solution of Inventive Problems.* New York: Gordon and Breach, 1984.

2. Salamatov, Y. P. *TRIZ: The Right Solution at the Right Time.* London: Insytec B.V., 1999.
3. Bodrova, E., & Leong, D. J. *Tools of the Mind: The Vygotskian Approach to Early Childhood Education* (2nd ed.). Upper Saddle River, NJ: Pearson/Merrill Prentice Hall, 2007.
4. Ginsburg, H. P., Lee, J. S., & Boyd, J. S. Mathematics Education for Young Children: What It Is and How to Promote It. *Social Policy Report*, 2008, 22(1), 1–24. https://doi.org/10.1002/j.2379-3988.2008.tb00054.x
5. Clements, D. H., & Sarama, J. *Learning and Teaching Early Math: The Learning Trajectories Approach* (2nd ed.). New York: Routledge, 2014.
6. National Association for the Education of Young Children (NAEYC) & National Council of Teachers of Mathematics (NCTM). *Early Childhood Mathematics: Promoting Good Beginnings* (Position Statement). Washington, DC / Reston, VA, 2010.
7. National Council of Teachers of Mathematics (NCTM). *Principles and Standards for School Mathematics.* Reston, VA: NCTM, 2000.
8. Berk, L. E., & Winsler, A. *Scaffolding Children's Learning: Vygotsky and Early Childhood Education.* Washington, DC: NAEYC, 1995.
9. Пиаже, Ж. *Психология интеллекта.* СПб.: Питер, 2003. *(изд. на рус. яз.; используется в пед. исследованиях, если нужен русскоязычный корпус)*
10. Выготский, Л. С. *Мышление и речь.* М.: Лабиринт, 1999.