

The Case for Chess

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I. How Chess Impacts Education

- A. Engages Students
- B. Introduces Fundamental Skills in Literacy, Math, and Critical Thinking
- C. Offers Low-cost Program for Extracurricular and Parental Involvement
- D. Provides Real-World Applications

II. How Chess Creates a Culture of Critical Thinking

- A. Continues Education Outside Classroom
 - 1. Individual Study
 - 2. Family Interaction
 - 3. Competition (Local, State, National)
 - 4. Internet Chess Community
- B. Provides Immediate Feedback
 - 1. Accuracy and Improvement Immediately Evident
 - 2. Proficiency Based on Skill vs. Chance
 - 3. Self-esteem
 - 4. Entertainment
- C. Offers Extensive Reinforcement
 - 1. Socialization
 - 2. Extra-Curricular Involvement and Travel
 - 3. Parental Involvement
 - 4. Community Recognition
- D. Creates Life-Long Involvement
 - 1. No Economic/Age/Physical Barriers
 - 2. Cross Cultural Opportunities
 - 3. Cycle of Student-Parent-Coach

III. How Chess Impacts STEM/STEAM Education

- A. Develops Culture of Mathematical Thinking
 - 1. Algebraic and Geometric Thinking
 - 2. Concrete to Abstract Application
 - 3. Manipulatives
 - 4. Fine Motor Skills
 - 5. Spatial Skills
- B. Develops Culture of Critical and Creative Thinking
 - 1. Play Equals A Series of Problems to Solve (Often Within Time Limits)
 - 2. Increased Skill Allows Creativity and Adaptability in Problem Solving
 - 3. Immense Variety and Quality of Problems
 - 4. Scientific Method Inherent in Problem Solving
 - 5. Meta-cognitive Skills
 - 6. Independent Thinking

7. Intellectual Perseverance
 8. Confidence in Reason
 9. Comparison of Analogous Situations
 10. Developing Perspective
 11. Visualization
 12. Pattern Recognition
 13. Making Interdisciplinary Connections
 14. Practicing Socratic Discussion
 15. Developing Criteria for Analysis
 16. Generating and Assessing Solutions
 17. Distinguishing Relevant from Irrelevant Facts
 18. Exploring Implications and Consequences
 19. Examining or Evaluating Assumptions
 20. Developing Inductive and Deductive Reasoning
 21. All Levels of Bloom's Taxonomy Addressed
 22. All Learning Modalities Accommodated
- C. Develops Culture of Gender and Socio-Economic Equality
1. Success Independent of Age, Gender, Economic Background
 2. Low Cost Access to Chess Equipment, Materials, and Competition
 3. Increased Opportunity for Middle and High School Females
 4. Internet Access to World Wide Chess Community
- D. Develops Critical Life Skills
1. Positive Self-Esteem
 2. Increased Social Interaction
 3. Responding Effectively to Criticism
 4. Stress Management
 5. Response vs. Reaction in Conflict Resolution
 6. Time Management

IV. Conclusion: Benefits of a Scholastic Chess Program

- A. Addresses Key Education Issues
1. Poverty Thinking
 2. Peer Mentoring
 3. STEM Education
 4. Teacher Education and Recognition
- B. Addresses Graduation Rates
1. Increased Involvement Extra-Curricular Activities
 2. Increased Parental Involvement
 3. Increased Expectations
 4. Improved Behavior
 5. Increased College Awareness
- C. Addresses Economic Development
1. Increased Leadership/Workforce Development
 2. Improved Community Identity
 3. Improved Cycle of Positive Reinforcement
 4. Increased University Involvement