

The High School Game: **An Intergenerational Board Game for Discussing** **Secondary School Stresses**

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Abstract: In contemporary society, the American high school experience requires students to strike a delicate balance between social and academic pressures. These students wrestle social issues while trying to meet academic requirements that prepare them for the world outside their secondary school microcosm. Typically teens are underprepared for these pressures and are left to face them alone. *The High School Game* is a solution that creates a safe discussion space for considering strategies for coping with these stresses and maintaining focus on academic achievement. The game exploits inter-generational play, supporting counselors and parents in critical exchanges with students.

Introduction

The high school experience is a critical time in any teenager's life. It is a journey that paves the way for a person's future. Unfortunately, most students start that journey blindfolded with no preparation or expectations (Brodkey, 2010). They are suddenly facing social and academic issues with little knowledge or experience. Teenagers struggle with personal identity, peer pressure, stress from academics and dating (Ryan, 2000). The transition from middle school to high school has a particularly unique set of challenges (Akos, 2004). It is no wonder that these students struggle to achieve academic success.

Likewise issues of peer pressure and academic cheating have been experienced by parents and grandparents. A primary goal of this game is not to prescribe solutions to players, but to simply facilitate conversations between family, friends, counselors, mentors and pre-secondary students.

The philosophical approach to these challenges is that an appropriate balance of social and academic issues should aid student success. Instead of encouraging students to prefer social concerns over academic concerns, the designers understood the challenge as one of balance. It is true that there is as much social growth in these formative years (Akos), as there is academic growth. As such, the game is designed to offer a safe space in which to practice real world skills in harmony with game based learning patterns (Crawford, 1984). They also encourage experimentation; as such safe spaces insulate players from the risks of real world experimentation (Huizinga, 1955) and help students avoid repeating mistakes by practicing through play (Marango, 1999).

Game Design

The team began by evaluating the United States secondary school experience commonly referred to as high school (grades 7-12 or grades 9-12). The design of the game translates those experiences into gameplay. The game is a turn-based experience for a minimum of two players and a maximum of 6. The primary goal of the game is to have the highest final score, calculated by combining academic points with popularity points. Players are given choices to achieve both types of points and they must balance the two to best their opponents.

Players take on the role of a student who just started high school. At game start, players must join a clique to determine their starting statistics for the game. For example, the jocks clique has high popularity points, while the nerds clique has high GPA. The obvious procedural rhetoric (Bogost, 2008) of joining a clique is mitigated by a simple design goal. The game's design demonstrates that the clique the player chooses doesn't matter; what really matters is how the game is played. The game does not bind the player to a clique; cliques demonstrate type labeling and offer players self-empowered movement beyond such labels. The play-balance avoids distinct clique advantage.

Once cliques are chosen, players proceed through the bulk of the game experience. Players move marker pieces around the board shown in Figure 1. Movement is managed by a roll of the dice, counting clockwise from the start position. Players are asked to answer age appropriate academic

trivia from four basic subjects: Math, Science, History and English. Correct answers to these questions improve a player's grade point average (GPA). The game concludes with a final exam, containing one question from each of the four topics.

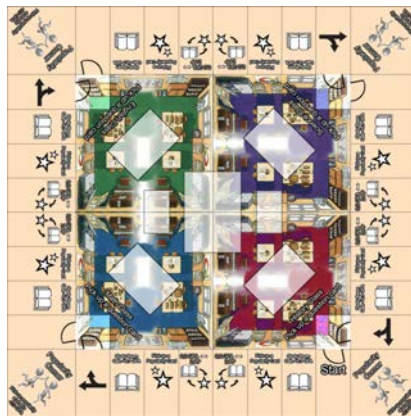


Figure 1: The game board.

Social savvy is reported through a popularity points average (PPA). Popularity in high school is largely evaluated and determined by a student's peer group. As such, players are awarded popularity points by other players. Popularity points are awarded through the player's ability to debate. After each round, two players debate on topics ranging from sex to religion in schools. The remaining players listen to these arguments and award their limited points accordingly.

This play strategy demonstrates three primary benefits: it encourages players to think about socially relevant issues before they arise; it allows players to negotiate the social systems around consensus building; it encourages players to view multiple perspectives on relevant issues. Importantly, the third benefit emphasizes that these challenges of a young person's life are not to be met alone.

Parents, counselors, or other individuals who have matriculated out of college benefit from discussing these topics with young people before they happen. All players are practicing the ability to make claims relevant to the other players. Players are encouraged to formulate debates focused not on their own justifications, but on the other players' priorities, values and judgments. The novelty is that intergenerational conversations are reoriented toward same level discussions. Players are free to make claims based on their personal values and experience.

Conclusion

The High School Game attempts to identify and address the challenges of high school life. The game focuses on finding the balance between social life and academics via exchanging ideas. Players young and old bring the experience of real life stress to a safe and consequence-free play space.

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“H”i5: Unblocking the barriers to learning games in education

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Abstract: One of the greatest challenges discussed in the field of educational technology is the difficulty in the successful adoption and implementation of these innovations in practice in the general classroom. Many beautiful games get developed, but few are used broadly in education. Research has teased out the various barriers to effectively integrating technology in the classroom. There is an array of reasons behind this lack of adoption, however many occur at the school and classroom level and can often be effectively mitigated if awareness and support are brought to the potential challenges—this is the goal of the i⁵. Game designers can use this framework to enhance their designs and marketing mechanisms to increase adoption, and educators can do the same to mitigate some of these barriers which can often thwart intentions to try new games and pedagogies in the classroom.

Overview

The i⁵ is an analysis and survey tool that assists teachers, school leaders, and researchers in the successful use of educational innovations. The i⁵ helps in identifying and mitigating the barriers to innovation—particularly technology-based innovations—at varying levels of the educational system—from the individual classroom up to macro/national level. The i⁵ was derived from a metasynthesis on the barriers to the integration of technology in education (Groff & Mouza, 2008); from this metasynthesis a framework (see Figure 1) and the i⁵ tool were produced, which subsequently has been used in numerous settings including regional teacher professional development and the design of educational innovations and supporting programs (Klopfer, Osterweil, Groff & Haas, 2009; Klopfer & Haas, in press). This framework gives a basic overview to the potential barriers across the different elements of the system with each of these boxes representing very nuanced elements such as school cultures. Using this framework in context with a specific game, we can identify likely barriers and challenges to adoption in schools and offer suggestions on ways to overcome or mitigate these barriers in order to increase the game’s likelihood of adoption and scale. Those elements within the gray box inside Figure 1 are elements that can be influenced in this way (Groff & Mouza, 2008).

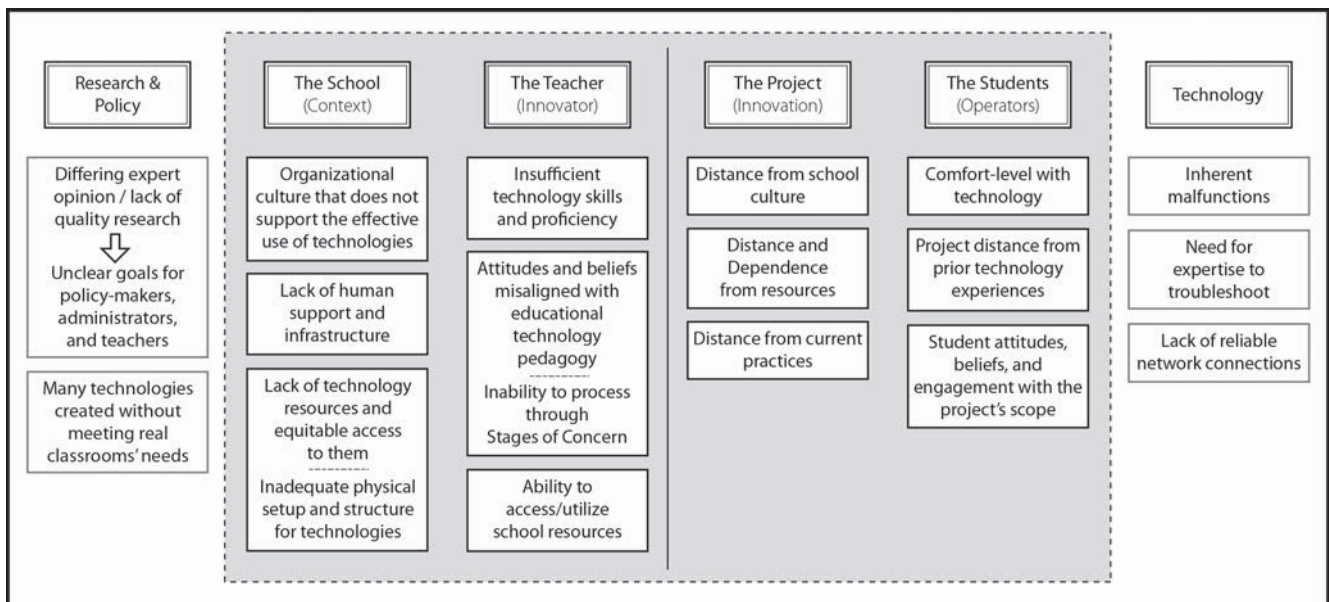


Figure 1: The barriers to integrating technology-based innovations in the classroom.

Each learning game can address likely barriers to adoption when considering the game’s design, but also post-production, by creating supports and mechanisms to reduce the barriers when teachers go to use the game (see Figure 2). The Learning Games Network has used the i⁵ framework with various learning games developers—some of these examples will be fleshed out in the paper/poster.

The Innovation (Game)	The Context (Schools)	The Innovators (Teachers)	The Operators (Students)
Distance from School Culture – The extent to which the game deviates from general school culture and beliefs, and is dependent on more than just the teacher to succeed.	Organizational Culture & Support – The extent to which school culture is supportive of the use of this type of innovation, through leadership, peer support/collaboration, and other school mechanisms	Technology Proficiency – Individual teacher aptitude, proficiency and comfort level with technology and new tech-based applications.	Technology Proficiency – Individual student aptitude, proficiency and comfort level with technology and new tech-based applications.
Distance from Resources – The extent to which the game requires new hardware and technologies to implement, and the teacher needs to have control over this hardware.	Human Infrastructure – The capacity of schools in regards to responsive technical staff, supportive administrators and other human capital resources	Pedagogy-Tech Proficiency – Attitudes/beliefs about learning via tech-based applications, and the degree of alignment of these with the pedagogy designed into the game.	Project-style Experience – The comfort level of the student with the role they must take during the implementation of the game (i.e. self-directed, collaborative, etc).
Distance from Current Practice – The extent to which the game/project is similar to previously implemented games/projects and/or pedagogies for this content.	Technology Infrastructure – The school's tech capacity in terms of access technology to support the game (i.e. computer labs, classroom computers, laptops, tablets, etc).	Knowledge of Resources – Individual teacher resources and supports, both within and outside the school, that support the game.	Beliefs/Attitudes – The attitudinal factors that vary greatly amongst students and will impact their performance with the game in the classroom.

Figure 2: The potential barriers to address when using a learning game in the classroom.

The i⁵ in Practice

The i⁵ has also been developed into an Online Survey for individual teachers who seek to try a new learning game in their teaching. The tool prompts a teacher to reflect on questions to these elements in regards to their context and the learning game they want to use. When finished, the tool feeds back a brief report to the teacher, helping them identify likely challenges they will face and suggestions on how to overcome them. Ultimately, this data can be aggregated to help a school and/or district leader understand the common challenges to using game-based learning in their school/district, and plan supports and interventions for those areas. Likewise, this data can be aggregated at a supra level, to inform game designers and developers on ways to create supports with their learning games to improve adoption and integration in the classroom. For example, the i⁵ has been used by the Learning Games Network to provide a market analysis of potential barriers to adoption and classroom integration of learning game developed by an external partner whose game was targeting financial literacy. Through this analysis, the game developer was able to create strategic supports and on-ramping mechanisms to increase the use and adoption of games by teachers, students, parents, etc.

A sample use case of a teacher using the i⁵ to support his personal classroom practice would be:

Mr. Smith has heard good things from colleagues who have used the game Civilization in their classrooms to teach the core unit of historical development and negotiation dynamics. He decides he wants to try this new approach this year in his classroom, but has little familiarity with games. A peer refers him to starting with the i⁵ to help him in his endeavor. He takes the brief questionnaire the i⁵ walks him through, and it identifies for him likely challenges he will run into; these include the Human Infrastructure in his school to support him in using this digital game, and Project-Style Experience of his students—as this will likely be a fairly new school experience for him. The i⁵ also suggests some ways he can find supports and overcome these potential barriers: he lets his tech-savvy colleagues know that he's going to be implementing this game-based learning during a given week, and asks if they would be available during that time to answer questions and give support as needed; he also decides to do a mini experience that exposes his students to an immersive game-based

learning experience first, so they are more familiar with it before jumping into the full unit with Civilization. After the unit is completed, Mr. Smith decides to take the i⁵ survey again to review what actual barriers and challenges he did encounter when he implemented the unit, so he can keep improving on them in the meantime before his next game-based learning endeavor.

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