

Inside Track – Educational Theory

Group Conductors

(Sharon Ching, Julia Itani, Phillip Stewart and Gina Antao)

The game, *Inside Track*, is designed to explore the semiotic domain of subway systems. The goal of the game is to develop a subway network for Manhattan Island through strategic management of the players' available resources. This game also seeks to explore the concept of achieving goals through social collaboration and interaction. Over the course of *Inside Track*, players need to make decisions regarding the formation and dissolution of partnerships, and to undertake constant evaluation and re-evaluation of the decisions to make. Overall, the design and dynamics of the game enable the creation of a constructivist environment within which players can abstract some of the nuances of the semiotic domain, while simultaneously discovering the complexities of negotiating a business venture in a competitive and volatile social environment. Moreover, the constructivist principles of *Inside Track* also provide a foundation that can support understanding of real-world educational applications, offering a dynamic environment to assess, learn, and practice higher order thinking and strategic resource management.

According to Duffy and Savery (1995), constructivism is a philosophical view on how we come to understand or know. They argued that knowledge grows out of a learner's interactions with the environment and is situated in the context of the learner's exploratory activities and goals, and the content itself. The authors also emphasized the importance of developing authentic tasks as the basis for the learning activity, stating that an authentic learning task should reflect the complexities of the real environment that the learner will encounter. Honebein concurred with

this view, stating that one of the pedagogical goals of constructivist activity should be to embed learning in realistic and relevant contexts (as cited in Olsen, 1999).

Although the game, *Inside Track*, is not intended to be an accurate representation of the process of designing a mass transit system, several aspects of its content and structure echo factors that the original creators of New York City's subway system would have had to consider in their design. For instance, the game board itself is highly evocative of Manhattan in its proportions, neighborhoods, and grid-like street layouts, while the content and design of the game pieces strongly represent the investment and construction activities associated with the subway system. Players considering construction activity must contend with varying real estate values that mostly correlate with a neighborhood's centrality of location. As the game unfolds and the subway system evolves, these real estate values may alter, resulting in benefits or setbacks to a player's strategy. This is intended to simulate risks presented by shifts in land values, which may result from unforeseen development activity in a real life urban environment. The game is also designed to encourage collaborative activities such as entering into partnerships to share the costs of building stations. However, players must also constantly evaluate the viability of their partnerships and can choose to overturn them if an opportunity arises for personal gain, much like business entities make strategic decisions based on personal benefit.

As a constructivist environment, *Inside Track* also provides clear feedback on a learner's progress in the form of game pieces such as the tracks and Metrodollar tokens. Over the course of the game, players can keep track of their own strengths and weaknesses relative to that of their opponents by looking at the pieces on the board as well as "in stock" with each player. For

instance, the tracks laid out on the board provide evidence of each player's advancement towards the final goal as well as indications of possible strategy decisions that a player may have undertaken. By forcing players to build their networks through a gradual, cumulative system of investment and returns, *Inside Track* echoes Fosnot's views on learning, which state that as learners struggle to make meaning, they proceed towards the development of structures, gradually constructing progressive shifts in perspective and creating in a sense, "big ideas" (as cited in Olsen, 1999). In addition, players can use the game pieces to judge the expected revenue from upcoming turns by looking at the number of stations on the board versus the number of debt tokens held by each player.

Players also receive immediate feedback on the effects of strategic decisions that they undertake in the course of the game. Players pursuing a strategy of rapid expansion can see a physical depletion of their resources through the loss of Metrodollar tokens, while observing evidence of their progress on the game board by the extension of their track networks. Players who choose to expand by forming alliances can see an increase in their influence through the greater number of stations on the board that carry their color, and can reap the financial benefits from the next turn onwards by claiming a larger number of Metrodollar tokens. Similarly, players who choose to dissolve their partnerships can access larger amounts of revenue in the form of Metrodollars, but will also see evidence of the loss of social capital caused by their hostile actions when their former partner puts away their partnership card, and gains veto power on all future offers of partnership.

Another hallmark of a constructivist environment is the flexibility for learners to pursue multiple learning paths towards understanding a particular concept. *Inside Track* strongly encourages players to take complete control of their game strategies, and provides multiple opportunities for players to reshape their approach according to changes in the game state. In line with Duffy and Savery's (1995) recommendations for instructional activity design, the game does not prescribe a winning strategy or series of steps to achieve the end goals. Instead, players self-direct their strategies, deciding on the locations, directions, and amounts of investment in a manner that seems appropriate to players given their current circumstances. Players can select partners and overturn partnerships at will, and must also deal with similar hostile and friendly actions initiated by other players. To decide on the right course of action, players must consider all available sources of information, including potential risks posed by Sidetracked! cards held by other players. This is a practice encouraged by Brooks as a way to develop critical thinking skills by drawing from raw data, primary sources, and interactive physical materials (as cited in Olsen, 1999). The game emphasizes the kind of calculated decision-making that challenges players to develop unique approaches to winning, sometimes over multiple game sessions, using problem-solving techniques such as immediate and long-term cost-benefit analyses.

Players of *Inside Track* quickly recognize that their game strategy cannot exist in a social vacuum, isolated from the actions of the other players. Instead, their perspective of the game is socially negotiated, and is constantly altered by decisions made by other players for their own benefit. This aspect of game play is what makes *Inside Track* such a valuable tool for constructivist educational activities. According to social constructivist thinkers such as Vygotsky, knowledge is actively generated through multiple interactions with other learners.

Other individuals provide opportunities to expand knowledge through sharing of perspectives, as well as to test current knowledge against that of others. Players of *Inside Track* learn this first hand as they try out strategies that bring them into contact with other players on the game board. Each player has the opportunity to observe and internalize the micro-strategies employed by opponents in their turns, and use that as a factor in their own decision-making. Players may also learn from their opponents' mistakes and successes. For instance, a player who races towards the hubs and receives a reward for being an early connector will quickly find that other players are adopting this strategy and using it to their own advantage.

The social aspect of the game also requires players to carefully manage relationships with other players and make conscious decisions about forming and dissolving partnerships. Certain Sidetracked! cards are designed to encourage cooperation and are only beneficial to players in a current partnership. Others provide players with options that do not result in betrayal of a partner. Therefore, when a player decides to go the backstabbing route, it is with the clear intention to put personal benefit ahead of another player's wellbeing. Over the course of the game, players will encounter multiple experiences, from both initiating and being the victim of a hostile, backstabbing move, and must plan for and protect themselves accordingly. This awareness of a potential hostile takeover adds an interesting layer of complexity to the approach players take in developing a winning strategy. It also leads to the creation of a learning environment that Honebein has described as embedding learning in social experience, and providing learners with an appreciation for multiple perspectives (as cited in Olsen, 1999).

The decision-making and strategic skills developed and employed throughout the game can be applicable to the kinds of actions individuals must undertake in real-life situations. While the objective is clearly to win, the game's players must undergo a series of steps to achieve the winning result. From understanding the game's environment and rules (what the physical elements are and what one can do with them) to negotiating the creation and dissolution of partnerships when beneficial, players must constantly think and access various methodologies to interact with fellow players, responding to their actions and thinking both short-term and long-term. While the semiotic domain employed in this game rests upon the space of underground railroads – their construction, maintenance, and functionalities – the game also makes use of concepts regarding business development.

One of the prominent features of this game offers the opportunity for individual players to embrace the entrepreneurial spirit; each player taking ownership of creating a subway line that services the game's imaginary version of Manhattan. Beginning with the physical representation of the island, each game piece and each card's statement reflects an aspect of subway construction as well as the business-minded underpinnings of a subway development project. *Inside Track* provides a relevant and useful platform to engage in exploration, discussion, and learning of the intricacies and complexities of business partnerships; and demands that players carefully consider every single action, and importantly, its particular implications to both their individual player status and that of fellow players. In real-life business partnerships, both parties harbor individual agendas and reasoning when agreeing to a partnership, but its sustainability is grounded on mutual benefit. The cards provided in the game certainly aim to explore and exploit this relationship, questioning the motivations behind individuals who initiate a partnership and

those who accept or decline. Furthermore, the backstabbing element of *Inside Track* emphasizes the need to “watch one’s back,” offering individuals the opportunity to quickly see the role of partnership in business development as well as to understand visually, how interactions between players as in real life, can immediately shift based on one particular action by one person. Ultimately, *Inside Track* offers a dynamic and engaging platform that provides a visual mode to engage in negotiation, critical thinking, and strategic assessment.

In conclusion, the game of *Inside Track* provides a platform to explore the semiotic domain of the subway systems in a major urban center such as Manhattan, with many of the complexities that are involved in designing, constructing, and maintaining a real-world mass transit network. The game is also designed to engage players in analysis of the social and collaborative aspects of business ventures, using a strongly constructivist framework that supports individual ownership of decision-making and goal-oriented interaction between players. The understanding of negotiation and strategic resource management derived from game play makes *Inside Track* a valuable educational tool to stimulate critical reasoning about business environments and entrepreneurial decision-making.

References

Duffy, T. M. and Savery, J. R., (1995). Problem-based Learning: An instructional model and its constructivist framework. *Educational Technology*, 35, 31-38.

Olsen, D. G. (1999). Constructivist Principles of Learning and Teaching Methods. *Education*, Vol. 120(2), 347-55.