Experiential Learning and Student Performance

Pat Hendrickson

Abstract

The purpose of this action research was to study the effects of traditional methodology and experiential learning methodology (traditional vs. simulation) and student performance.

The subject population was comprised of a heterogeneous grouping of 48 fourth-grade students. The subjects were divided into two groups according to treatment. One group received instruction in a traditional lecture format and the other group engaged in a simulation. The data was analyzed by a T-test based upon the hypothesis addressing the teaching methods. The results revealed the following conclusion: a significant difference was detected in regard to instructional method.

Introduction

Boredom is one of the most frequently cited reasons for dropping out from school. Nationwide, more than 2,000 students make this decision every day. Of the prison population, 80% are school drop-outs. Identifying possible causes of their detachment and employing effective instruction, may save some students from becoming someone else's thesis statistic.

Effective teaching involves the active processing of the lesson content by learners. Instructional effectiveness is increased if information is presented from multiple perspectives. According to Edgar Dale's Cone of Experience, students remember more when they participate in an actual experience or even a simulation.

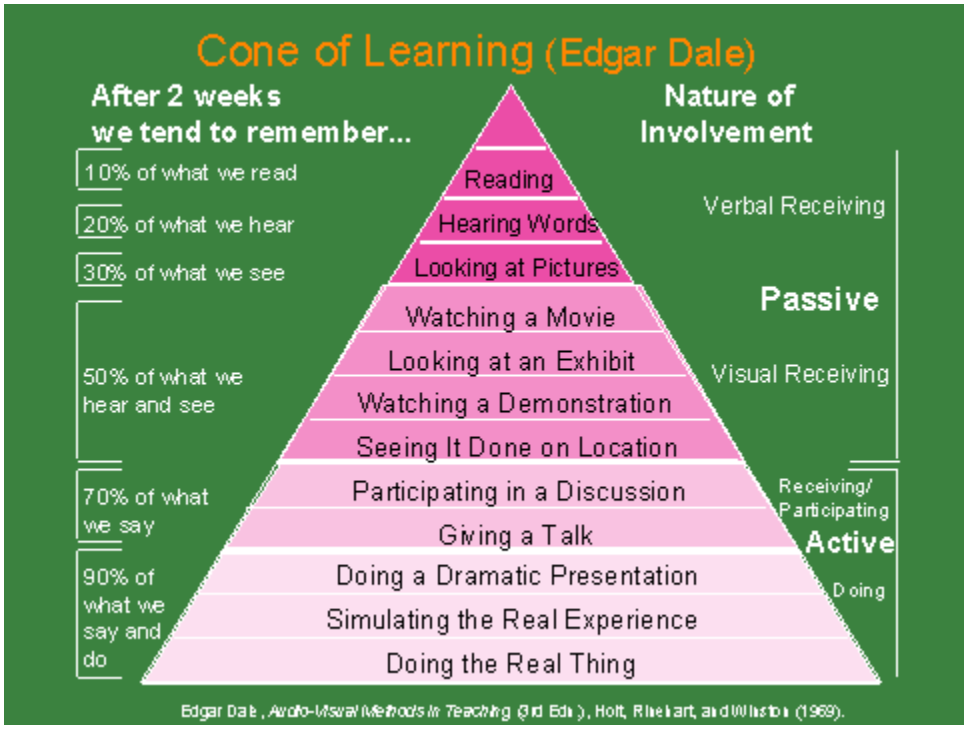

FIGURE 1

The Real Game Series Curriculum transforms the classroom into a simulated society in which students assume and explore aspects of adult life in a safe, supportive environment. The programs let students experience some work-related situations and lets them see the importance of education.

Each game is designed to work across the curriculum, adding relevance to, and incorporating such areas as: social studies, career planning, language arts, fine arts, decision making, communication, group work, analysis, team building, self awareness and critical thinking. The programs are designed so that, teachers can exercise their creativity to adapt the game to their localities and students' needs.

The games originated in Canada and are currently being used throughout the United States, France, the United Kingdom, Australia, New Zealand, and most recently, Hungary. The need to make learning meaningful and engaging is one shared across disciplines and even oceans.

Related Literature

Accelerated Learning (AL) is both a methodology for teaching/facilitating and an instructional design model. It uses games, simulations and game-like activities to facilitate the learning process. At the same time, it is a model that focuses on how the learning is orchestrated. It pays close attention to the learning environment, both physical and emotional.

The model emphasizes the special role of the facilitator as the filter for any method or approach used. Trainers, facilitators and organizations have achieved both quantitatively and qualitatively positive results when they have used the model for different types of learning interventions (Heidenhain, 1999).

Games are defined as any contest or play among adversaries, operating under constraints or rules for an objective like winning, victory, or payoff; which have two characteristics - overt competition and rules. Simulations are a representation of an actual physical or social situation reduced to manageable proportions to serve a specific purpose. Therefore, simulations and games can be defined roughly as a series of activities in a sequence, in which players participate, which has stated rules, usually involving competition and leading towards an objective. The more popular and classic examples of simulation games are board games like Monopoly and Chess. Simulation games are

believed to have started a long time ago, when board games were first being introduced, some thousands of years in the past. They are also associated closely to games like Tower Of Hanoi and other similar games. Simulation games vary widely and they have grown along with time and technology, making them more interesting, enjoyable and undoubtedly, more challenging.

The Problem and Problem Statement

The intended area of research expands on Edgar Dale's Theory of Learning, "Students remember more (70%) when they participate in an actual experience or even a simulation."

Traditional teaching methods of lecture, discussion, or seatwork modes do not reach the majority of learners. Research with high school students found that students using dramatic enactment performed as well as students in traditional settings. Moreover, they experienced more instances of higher order thinking, more topic-specific emotions, decreased apprehension, and less topic-irrelevant thought than students in the non-dramatic mode.

The independent variable is simulation versus a traditional model of lecture, discussion, and seatwork modes. The dependent variable will be the results of a teacher-made test. Two heterogeneous groups of the same grade level will be examined, one using a simulation style curriculum while the other will not use simulation.

Methods and Procedures

Of the two classrooms studied, one used the Real Game Series Curriculum for a career exploration simulation and the other used the same content without a simulation. Students in the non-simulation classroom used a more traditional approach such as lecture, discussion, and seatwork modes. The students using the Real Game curriculum used the premises of

- vicarious learning, in which they created a simulated society and adopted alternate personas from which to learn and experiment;
- sociological learning in which a learning environment was created so that student reconfirm, build from, and make use of their own experiences, knowledge and dreams;
- cooperative learning and peer tutoring
- experiential learning and
- learning styles.

Through role-playing, written exercises, structured game activities and interaction with classmates, teachers and community members, students gain an understanding of the value of work and the importance of ongoing education, teamwork and positive attitudes.

The Simulation

The Play Real Game is a career development program, fully compliant with the National Career Development Guidelines (United States) and Blueprint for Life/Work Designs (Canada) competencies and performance indicators for the Primary/Elementary level. Targeted for 3rd and 4th grade students, the program was developed through an unprecedented international partnership of over 5,000 Canadian and American educators, students and parents. The Play Real Game is experiential, involving creative role-playing and simulation activities. As a result, students have fun as they learn about adult life and work roles in a community setting, and see how and what they are learning in school will help them prepare for a good future. The Play Real Game is an educational program with clearly defined learning outcomes and performance indicators, presented in the form of a game. (See Appendix)

Traditional Treatment

Implementation of the program took approximately fifteen hours of class time to complete the core activities of the program. Those students not involved in the simulation were not required to develop some of the items required for the simulation (coloring and or activities requiring knowledge/implementation of a game facilitator, costumes) and had approximately two hours less time with the facilitator, however, the regular classroom teacher spent this time reviewing terms and concepts. Students not engaged in the Play Real curriculum used the same materials and worksheets as those in the simulation. The only exceptions were those developed as a result of the simulation. All non-simulation learning objectives and performance indicators were the same (see Appendix). Content specific to the simulation was still, however, covered through the use of glossaries and discussion questions specific to the Play Real program.

Analysis of the Data

The test was chosen as the source of data analysis as it was based on the Palmetto Achievement Challenge Test (PACT), which has had a significant impact on teaching strategies for the last two years. The test was modeled on another teacher-designed test on the story "Stone Fox." Half of the test was based on traditional methods such as multiple choice and matching.

Data was examined by reviewing and recording the scores for both groups in the study. The scores were compared and resulted in significant differences between the two student groups based on the instructional method.

t-Test

simulation vs. traditional instruction

23 scores	25 scores
≠ = 2.04, df=46, pL.05	

The dependent variable is student academic achievement as measured by the teacher-made test.

Discussion and Implications

In 1997 "What Our Children Need: South Carolinians Look At Public Education," A Report from Public Agenda was prepared for the South Carolina Department of Education, by researcher John Immerwahr. The focus groups Immerwahr conducted revealed that when South Carolinians think of what a school should be, they typically speak of a place where children learn not only academics, but also discipline, self-control, respect for authority, and the work habits and skills necessary for success in the adult world. South Carolinians are convinced these essential qualities are missing from their schools. According to Immerwahr, South Carolinians have high expectations of their schools. They want schools to set standards for both behavior and learning, and to prepare young people for the economic possibilities they see for the state. At the same time, they see severe problems with their schools. In a survey of 800 South Carolina residents, only 4% of the population believes the schools are doing an excellent job, and only a third (33%) give the schools a rating of good. The majority (61%) give the schools a grade of fair or poor. This perception is shared across various demographic groups in South Carolina: by whites and African-Americans, and people of all ages and income

levels. When South Carolinians compare their local schools to what they think schools should be doing, a majority (56%) say they are doing badly. Public opinion researchers know that in many areas people form their attitudes based on what they see on TV or read in the papers. Educators often told the researcher that the public does not really know what goes on in the schools and that people base their views mostly on a few sensationalistic stories in the media. In their research on the schools, however, people usually illustrated their views with anecdotes from their own lives and from the lives of people they know. Only a quarter of South Carolina residents (25%) say they get the most useful information on the public schools from TV, radio, or newspapers. The majority base their opinions either on their own experiences (43%) or on conversations with people they know (27%).

While the following outcomes of the simulation appear more anecdotal than quantitative, they correlate with John Immerwahr's report. Student essays, responses to test questions, and teacher observations indicated that through the simulation subjects:

- discovered unique personal skills and talents with respect to life/work roles and relationships in community settings.
- built and reinforced a positive self-concept and developed positive relationships with others.
- saw how school subjects and activities relate to future life and work roles.
- observed links between education and training achievements, and income and lifestyle options.
- explored a range of teamwork, problem-solving, and communication skills.

- developed a clearer understanding of work habits in the context of living and working in a community.
- explored diverse work and community roles and discover what aspects of these roles bring the most satisfaction.
- explored links between work and broader life roles, including the dynamics of building, living in, and contributing to, a community.
- understood that a local community is part of the global economy.
- prepared to make good choices regarding family, school, and community activities.

Computer simulations that support similar concepts would include Animal Crossing and The Sims. Like, Play Real both are somewhat goal-based. With these simulations, however, the facilitation is built within the structure of the software. The student experiences the ramifications of choice and chance, but within the confines of a solitary experience and no guiding hand of a teacher or trained facilitator.

The Sims is more closely correlated with the seventh grade through high school versions of the Real Game curriculum. In The Sims, the player can control the lives of other community members. The player creates a family, buys a house to put them in, finds them jobs, and buys food, furniture and other items to keep them happy and healthy. Apprised of their wants, needs, and moods by a status panel, deprivation of any can result in comic and/or tragic consequences. Nearly every facet of life appears from heterosexual, bisexual or homosexual relationships, marriage, having/adopting a baby, losing child custody, extra marital affairs and even death.

In Animal Crossing, a more age-appropriate correlation, creatures live their everyday lives in time with an actual 24-hour clock, 365-day calendar. This clock factor allows for special events on certain days of the weeks and even holidays. To become a part of the thriving village community, players get work, buy a house and interact with other villagers. In this game, some aspects can be controlled by other players. Relationships are built by talking to other villagers, helping them with tasks and writing letters back and forth. Throughout the game, players collect an assortment of items and artifacts to ensure a desirable place.

Both computerized games are as close to the classroom simulation experience as possible. While the content in the computer simulations are quite close, the goals are based on a more materialistic view and one that embodies the philosophy of "Keeping Up with the Joneses." The Play Real Game, however, encouraged students toward a common goal and one that was designed to make their town a better place for themselves and others.

Recommendations

Themes in the curriculum Play Real, can be learned through discussion and lecture. However, an analysis of the data would reflect the validity of Dale's Theory. The majority of the existing research for simulations in the classroom has been conducted on students at four-year colleges and universities. Of these simulations, most are computer generated, however, many are now web-based with an on-line moderator or facilitator.

Current use of this learning method spans all academic areas and is used in English as a Second Language, corporate, medical, 4-H Club, National Parks Service and law

enforcement settings. Role play enables students to experience a situation from the past or to prepare for a future situation. As with all learning theories, however, it has its strengths and weaknesses. While role-play encourages participants to discover outcomes rather than being told the answers, it can be time-consuming to prepare and effectiveness difficult to evaluate. While useful in extending knowledge into feeling, unless well facilitated, role-play may cause discomfort and embarrassment. Outcomes usually vary with the participants and sometimes may veer from the desired path. For example, in a role-play representation of the historical significance of Columbus using the Nina, Pinta, and Santa Maria, modern day solutions such as air travel would not be acceptable. In discussions with students who have used role-play, they recommended the use of guidelines and sanctions against those not following the prescribed format.

The set-up and debriefing for simulations are also important. In this study, the simulation was that of a problem-solving framework. Role play took place through the structuring of activities that were open-ended in the sense that several solutions could be found to a given scenario, but close-ended in the sense that certain proposed solutions didn't fit the allowed ranges.

Conclusion

Discussion of this non-traditional learning environment raised important questions about classroom management, learning styles, teacher education, assessment and evaluation. The focus of this study, however was merely to compare the effectiveness of a non-traditional methodology to a traditional one. In an effort to continue to improve learning strategies that meet the needs of all learners, it is anticipated that non-traditional models will continue to be evaluated. Non-traditional models however, are often overlooked due

to the need for teacher training, more preparation on the teacher's part, and lack of developed evaluation methods. Educators truly seeking to reach all learners and ensure student success will continue to explore non-traditional methods that meet their needs.