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Learning the Legislative Process with a Board Game

Honors Project

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Abstract

Standard methods of teaching classroom material can generally work effectively for educating the majority of a class's students, but some students may still struggle to find the information to be comprehensive, enjoyable to learn, or even necessary. Alternative methods of instruction can be used to educate students in different ways, and this study looks into the educational merit that a board game can provide to learning new material. Previous research has shown the effectiveness of board games on various elements of education, and this project addresses the findings of previous works to predict the effects that a game will have on learning. This project involves the construction of a board game which was created specifically for educational purposes with the goal of teaching the process of how a bill becomes a law in the American government. A pre-test and a post-test were created alongside the game and the questions ask about the information within the game. The game designed for this project is designed in a way that could allow for this type of learning method to be used within a real classroom setting.

Keywords: board game, learning, interacting, legislative process

Introduction and Research Questions

This project has been constructed around understanding the effectiveness of a board game as a learning tool by analyzing the impact it has on the knowledge of participants regarding the legislative process. The research question is “How does a student’s knowledge of the legislative process change with the use of a board game as an information device?” After researching the impact that board games often have on learning and constructing a game for this process, I hypothesized that students who play this game will have an easier time understanding the content within a classroom. In other words, students are expected to acquire a better understanding of the legislative process than they previously had after playing a board game designed to explain the process. I have taken a great interest in political science in the last few years, and I chose to construct a game around this specific area of education because of a previous assignment I had done in high school which is part of the reason why I have become so interested in political science today.

In my freshman year of high school, my teacher gave an assignment to the class about designing something to clearly explain the steps for how a bill becomes a law. The idea behind making something like this was so that we could use them as study tools for ourselves. For the assignment, I drew out a diagram of each of the steps in the form of a maze, and my teacher liked the way that it broke down each of the steps involved in the process. The positive feedback I received from my teacher is what inspired me to turn this assignment into something bigger, and to see if others could benefit from using it as well. For this project, I revisited that initial assignment from high school to try and turn it into a fully playable game. In the process of

building upon the original assignment, it became something almost completely different in terms of its complexity and detail.

The purpose behind creating this project was to test how effective a board game format might be for informing players about the American legislative process. Previous research (NAEP) has shown that the average test score for students learning about this process resulted in only about 50% correct responses in 2022. This percentage is concerning because this area of study has very broad real-world implications about American knowledge regarding its government. The process of how bills become laws has a critical impact on American democratic life, as citizens determine societal rules and regulations for civic life. The game designed for this project is intended to be usable by middle school and/or high school teachers to assist in providing their students with a greater understanding of the legislative process. Turning a complicated process like this into a game allows for the steps involved to be clearly defined and presented to students in an interactive way that can make learning more fun. Fun and enjoyment are other reasons that a game format is important, because people will be more interested in learning something if it is something they enjoy (Zeng 187).

There are several questions that drive this project and influenced the way it was created as well as how the experiment was conducted. Much of the preparation for the game was centered around finding a balance between making something that is informative, yet easy to follow, and fun to play, yet still provides opportunities for learning. Another important factor to consider when preparing the game was approachability; there was always the risk of making the rules of the game too complex to the point where players would be overwhelmed by trying to understand the rules that they would not learn properly from the game. The questions for this project revolved around properly striking a balance between all of these different factors. All of these factors were important to consider because of how they each relate back to the main

research question of how to make learning more enjoyable and/or how to provide lesson alternatives that might make content easier for some students to understand the material and to better retain the information they are given in class.

Literature Review

This project is designed around the construction of an educational board game for the purpose of informing players about the American legislative process and analyzing the effectiveness that board games can have as a learning device for students. Board games can serve as more than just an alternative information device, and this research investigates how games can assist students with developing their education and classroom skills. This research also looks more broadly at how effective new teaching methods can be in a classroom as well as how these findings connect to multiple aspects of education. There are already a variety of methods used to teach classroom material like the American legislative process, but classes often still utilize standard lectures for instruction which can limit learning opportunities for students. Introducing a board game into a classroom provides new opportunities to engage students with material which is why it could be very beneficial for teaching this information. This game is aimed at providing players with a new perspective on the subject by making the steps involved easily comprehensible yet finding a balance for players to recognize the complexity involved in the American legislative process.

Background and Context

As stated earlier, the American legislative process is an important part of a school's curriculum because of the broader context it has for a student's understanding of their government. This information is useful far beyond a classroom setting, yet many Americans report a poor level of comprehension of this material (NAEP). The NAEP national report card

displays average test results for eighth graders across various school subjects, and information about the legislative process falls into the Civics category for this report. In the report collected from 2022, it showed that the average score among eighth graders reported to be about 150 out of a possible 300 (NAEP). The report card shows results from previous collections of data which are gathered every four years and the results were generally close to, if not exactly, the same. With this said, it should be noted that 2022 was the first time that the average test result had ever declined by 3 points on average. Though it does not claim this, it can be presumed that the Covid-19 pandemic contributed to this decline in scores. Regardless of what is responsible for the decline in average scores, it is still apparent that trends on the NAEP national report card are moving in the wrong direction for students to leave school with a better understanding of how government processes work.

Student engagement with class material is an important characteristic of the learning process because it has been shown to promote motivation and improve the learning outcomes of students (Zeng 192). This is not to directly claim that a lack of student engagement is necessarily what led to the declining average scores in 2022, but that improving student engagement could help to raise this average score. As stated before, the sources do not point to the Covid-19 pandemic as an explanation for why average test scores have been reported to decline, but student engagement with a classroom and its material was certainly not at a peak during this time. Zeng's research has suggested that the gamification of classroom content can generate new levels of engagement in students which would likely lead to an increase in average test scores (Zeng). With average test scores most recently declining, it is becoming increasingly necessary to reevaluate teaching methods and to look for new approaches to providing information. Gamification may help to resolve many of the issues regarding student engagement and it may contribute to an increase in average test scores.

Further research has been conducted to look at the decline in knowledge of American civic content, but this information looks more broadly at this impact beyond an eighth-grade classroom (Maroni). This research investigated the knowledge of American adults, and it found that more than half of them did not know several basic questions about civics and the American government. For this study, information was collected about the public's knowledge of the general structure of the American government, several characteristics about each branch of government, and the amendments. This research collects information annually, and it notes a downward trend in civic knowledge from 2021 to 2022, but the variable of engagement within a classroom does not apply to this study (Maroni). Regardless of whether or not engagement with government material is a factor, a decline is still reported in general knowledge of this subject and the implications of this decrease in knowledge spark concerns over how well informed the American public is about civic programs, and government policies.

Another important aspect to look at regarding education is how students are performing in other subject areas. Schools' attention toward civic education and engagement has been low compared to other subjects, and average test scores for reading, math, and science have improved while civics scores have not (Winthrop 3). This source also claims that movements to improve most areas of education except for civics date back to the "Sputnik moment" during the Cold War which induced a panic for a better understanding of math and science, but improvements in civics were not viewed as vital. Despite where efforts for improving education have been placed, civic knowledge is still extremely necessary for students to understand because it is necessary for the government to continue being responsive to the needs of its citizens and to properly function, but citizens also need to understand how to improve their government (Winthrop 5). These findings indicate that the approach to civic learning in schools needs to be reformed to provide

students with better opportunities for understanding how the American government operates that compare to opportunities for improvement given with other subjects.

Research conducted in the Galston article (Galston) indicated that civic knowledge has returned to relevance for political science knowledge, but that improvements are not being shown among citizen knowledge. This study indicates that when information was published, college graduates had a similar understanding of politics to high school graduates in the 1950s. It also indicates that political knowledge has been shown to impact levels of political participation with those who are more knowledgeable about the subject being more often engaged in American politics (Galston). This research suggests that traditional classroom-based civic education can significantly raise political knowledge which goes against the need for a new approach to civic learning. With that said, this research looks at what it calls “service learning” which is essentially learning from community service activities, and learning with this method has resulted in rapid growth of civic education (Galston 229). While a traditional classroom lecture might still be an effective form of instruction, this research indicates that alternative methods of instruction can provide opportunities for increased growth in civic learning. This research does not look explicitly at using games as an information device, but the findings about service learning and the additional research gathered here provides implications for how the gamification of classroom content might impact learning and help to improve average test scores for students regarding civics content.

While civic test scores have not improved on average, and efforts towards improvement have not been as significant as in other subjects, methods of improvement are still being developed to assist in this learning process. A publication from St. Mary’s University categorized these efforts to reevaluate learning to be labeled as “simulations” (Wright-Maley). This work defines how simulations relate to social studies course learning, and it recognizes the

similarities between this concept and using games, but there are notable differences as well. Simulations work for teachers to effectively pursue a “form of life” in which social studies is viewed as important, and simulations can assist with the goal of having more engaged, better informed, and more capable and caring citizens in the world (Wright-Maley 65-66). Simulations can assist with achieving these goals because simulations, along with similarly related concepts like games, roleplays, and different models contain certain “affinities” that can help to form “family resemblances” throughout these types of concepts which aids in learning (Wright-Maley 66). Simulations and more innovative approaches to learning have been increasingly used in order to address the issues surrounding civic learning.

While simulations and games offer different benefits to learning, simulations assist with learning in four distinct ways that align very closely with the ways in which games can also assist with learning. Simulations can better reflect real scenarios with applicable examples, and the four steps in this research define ways that simulations impact learning potential. Simulations are expected to reflect reality, but this must be in a structured and limited way, they must also illustrate dynamic events, processes, or phenomena (Wright-Maley 67). Additionally, the last two characteristics of simulations state that they must also incorporate learners into active roles to reveal what is being studied, and they must be pedagogically mediated (Wright-Maley 67). These characteristics of simulations were listed because of the important role that interaction and hands-on learning both can play in this form of instruction. The qualities that are necessary for simulations to promote learning can easily extend to using games as learning devices because they rely on similar mechanisms to promote learning.

It is important to understand the research that has been gathered to explain the broader implications of the relationship associated with learning through board games. The research from the Universities of Kentucky and Michigan State (Greenhalgh) looks at pre-existing board games

and categorizes them in ways based on how they can educate players. These categories break down different desired learning outcomes based on a game's themes, mechanics, and genres. These categories were created based on player-provided descriptions of the games listed on BoardGameGeek.com; in addition to categorizing these games, a game's popularity was also analyzed to interpret how players responded to these types of games. It is recommended to view board games as educational technologies because viewing them as educational technologies aids in recognizing how the game impacts certain behaviors (Greenhalgh 3).

In addition to creating a board game for this project, a study will be conducted with a pre-test and post-test given to participants. The tests will ask questions that directly correlate to the rules of the game to test a participant's prior knowledge and to gain a sense of how informative the game can be. While the game is certainly expected to provide participants with an increased knowledge of the subject, there are other skills that could develop in the process that may not be tested in the pre/post-tests. Some of these may be cooperation skills as well as social interactions that may develop more noticeably in students playing the game than they may in the participants for this study. Previously conducted research on this subject has tested various related topics that provide a basis for expectations from this project. The research concluded different results depending on what specifically was being tested, and the sources analyzed broadly test classroom development, the effects of new teaching methods, educational development, and the broader context behind these findings.

Classroom Development

Beginning with the analysis of classroom development in students, this is tested in relation to board games by studying how interactive skills developed in students. Competitive board games have been categorized into two main types of games: races and brawls, where races

are multiple single-player games occurring at the same time and brawls involve more strategy against another player (Linderoth 5). Based on this categorization, the game designed for this project would be considered a race, because players will each try to reach the end objective before everyone else. This study largely focused on different kinds of board games and how classroom skills develop with them, so it seems important for players to be more involved with each other's gameplay. Linderoth's findings indicate that games can promote interactions among classmates more frequently when they are brawl-type games because they interact more often with each other's gameplay, but races still offer high levels of classroom interaction. The race format is better suited for this type of game because the legislative process does not put bills directly against each other so the brawl format could confuse players about this particular concept and a race would eliminate this confusion.

The research conducted by the IARTEM (Bruillard 6) organization tested both the process of making board games and their implementation in classrooms. The main finding regarding classroom usage was that board games work best when used to introduce a new topic to students. Because of this, it indirectly states that simpler games would be more effective if they are merely laying a foundation for future lectures. This research also indicates that board games should not be used too often in a classroom, and it seems they should be used for explanatory purposes based on this research. There is also an emphasis on the development of social relationships in a process like this. The participants described the game as a basis for discussion and noted that its rules should not be burdened with information, and it should prioritize providing a memorable experience for players. With all of this considered, it would seem that simpler is better and that a board game should not focus so intently on providing an in depth understanding of a subject but should take a surface level approach to the material to provide something different from a standard classroom lecture.

The IARTEM study (Bruillard 6) focuses specifically on using board games to teach history materials, which relates most closely to this project. Other studies have been conducted to look at a more general application for board games in other areas of study. The study conducted to test a board game about education in physiology used a similar structure to the game for this project. One of the biggest differences between the two games is that the physiology board game asked players quiz questions each time they landed on a space and the questions asked corresponded to the color of the space they landed on. The rules indicate that this process is essentially a more fun way of drawing flashcards to study for an exam. The results of the testing indicated that students who played the board game to study performed significantly better than the control group which was given a standard study guide. This game has a simple structure that could easily be applied to many different fields of study and its results indicate that it was very effective at achieving its desired outcome. The legislative board game designed for this project has considerably more complex rules, but the rules should ideally still achieve similar results. The idea of drawing trivia cards on certain spaces could be useful for this type of game.

Effects of New Methods

Looking at other outlets that can be used for educational purposes allows for comparisons between the effectiveness of board games with other informative devices. A primary example of this can be comparing board games with E-learning which is discussed in Boyan Bontchev's study (Bontchev) of adaptive E-learning. This study explores the popularity of online quizzes that people will voluntarily take for fun. E-learning has taken off as a more practical and approachable form of assessing students' progress because they often use a less intrusive format than a standard quiz or test, and they can incorporate elements of board games to make the experience more enjoyable. For example, map or board-based presentations are being more frequently used to assure safe navigation through the E-learning process (Bontchev). Quizzes

have been modeled to ask more dynamic questions for the purpose of making the content more engaging, which is where board games have a natural advantage.

A publication from MIT (Jorgenson) discusses the concept of a rule-adjustment mechanic in board games and how it can be utilized for knowledge growth and retention among players. The main idea behind this work explicitly revolves around altering the rules of a game in a way that does not fit with the previously defined rules for a game. There is an emphasis on player agency in this process as the player's contributions are important for making the rule-adjustment mechanic work properly (Jorgensen 22). The study notes a similarity between this practice and the idea of house rules, but this suggests custom rule changes could happen mid-game. An early finding from testing this is that players found the rule-adjustment process to be very difficult because it did not provide any direction of how the rules could change.

It seems that on an individual level, participants were slower to alter the rules, but they were more interested in changing the game's rules when they were permitted to work in a group. A key criticism from participants regarding the tested model of the board game was unanimously met with the response that players were unsure of what direction to move the game in. The complications that come with leaving the game too open-ended, along with the fact that changing the rules could make many games more difficult to follow, suggest that this design model for development through rule-adjustment would not be a necessary concept to implement in this project's game. Overall, this research is worth analyzing to better understand how a game's design influences learning outcomes, but this information has not directly impacted the design process for this project.

Long-term Development of Learning

While several sources choose to compare board games with other methods of educating and their short-term impact on learning, other sources have analyzed more long-term effects. These sources analyze ways that board games have helped players develop in a more cognitive sense and provide a more general look at ways board games can lead to forms of development beyond a classroom setting. An article specifically looking at educating adults defines two major types of learning theories which are behavioral theories and constructivist theories (Boghian 1). Constructivist learning theories rely on the learner's active role in the process while behavioral learning theories present players with questions for them to answer where they are met with certain positive or negative responses from the game based on their answers. This source also defines several sub-categories within educational games that further define ways that a game specifically assists in educating. Educational games and didactic games correspond with the previously-stated learning theories, and they relate to how a player is expected to learn.

This study (Boghian) also focuses on life-long learning and how it can be formal, non-formal, and informal. More serious, or formal, games have been used in professional settings and are popular education tools for careers in the military and healthcare because it is difficult to train in real situations. Other fields that require stronger communication skills, like public administration, tend to utilize these games as well for a similar purpose. Games can be useful in this sense because they provide learners an opportunity to make mistakes without facing real-life consequences which can remove a degree of stress from learning many subject matters. While focusing on education in a classroom is the primary focus on this research, studies indicate that learning continues after school and should continue to be developed by something like board games. Learning throughout adulthood is largely an independent process that becomes less accessible compared to learning in adolescence. Because of this, utilizing board games for educational purposes actually becomes increasingly necessary as access to knowledge becomes

more limited in many career fields. Board games have been shown to provide a more effective method of learning and retaining practical knowledge that can be used in professional settings (Boghian), and the skills games can develop are skills that can be applied in both professional settings and throughout years of schooling (Boghian).

Broader Implications and Methodology

A major finding from the multiple models used to study reviews concluded that a game's theme, on its own, impacted a player's average enjoyment of the game nearly as much as the theme, mechanics, and genre put together (Greenhalgh 11). The categories created by this study are designed not only to organize games and distinguish them based on certain criteria, but to also help teachers who examine the list of categories to plan lessons around concepts found within these defined categories. The reception of students toward a game is another important characteristic that teachers will need to consider when selecting games to relate to classroom content. A game's reception has been indicated to correlate with its theme which makes some subject material naturally more challenging to be incorporated with lessons depending on how well received a game is by players. Ultimately, educators should take a game's theme into consideration, but also need to further evaluate games and their relationship to subject material when deciding what to include in a class lecture (Greenhalgh 19).

The article, "Lessons Learned From Building Board Games," raises an interesting point early on that has been considered for the project I am working on. That point has to do with how realistic the game should be; the example used in this article talks about a game designed by the author to simulate the frustrating process of crossing from Mexico to the United States (Ortega-Grimaldo 3). The intention behind this was to provide commentary on border conflict, but imitating this method could be an issue with my project because of the difference in intentions.

The article uses this game about border conflict, along with other games to explain the broader message a game is trying to send which is largely meant to spark conversation or designed to be cautionary with cases like the given examples. When a game is designed to be primarily educational, then comprehension of the material should be at the forefront of its objectives.

Still, the methods may not completely align, but the objective remains the same which is to engage players with new material that informs them on a topic and provides them with an opportunity to interact with content in a new way to encourage further discussion on a topic. The results gathered indicate that players became increasingly informed about the subject of the game and the author suggests that games can have a cultural impact depending on the subject and content of a game and suggests that games should be used more frequently in schools (Ortega-Grimaldo 20). Well-designed games can leave an impact on players, especially if the game addresses a unique topic and if it explains the topic thoroughly, so ensuring it will be extremely important to create a game that thoroughly explains the topic without overwhelming players with unnecessary information and should instead emphasize what is most important.

With all of this information taken into consideration, there are several points of interest that seem to be the most important things to address in designing this project. The primary goal to focus on is making a game that can effectively inform students about a particular subject while also making the learning process more enjoyable. Going along with this, the content not only needs to be approachable but also engaging with players to encourage further interaction. The theme of a game is also important to consider as it likely correlates with the initial response players have toward it, and a theme contributes to making something more approachable. While that initial response to a game's theme is important, the content also needs to be interactive and enjoyable to encourage players to not only play a game but to return to it. If players are interested in the game enough to play it multiple times, then the rules of the game will likely

become easier to remember which means that players will be remembering the steps of the legislative process which is the desired outcome of the project.

Data & Methods

In order to address the main questions of this research regarding how games and alternative teaching methods can impact learning, a game was developed with the intention of containing relevant classroom material and being used in a class setting. When designing a game for this project, educational value was an important point of emphasis throughout the design process, and it was necessary to find a way of quantifying changes in knowledge. In order to achieve the goal of quantifying how a student's knowledge changes by playing the game, a pre-test and post-test were created for this project that can be issued to players before and after they play this game. The questions in the test address content that is covered in the game, and they range in difficulty with some basic questions about the government in general and more specific questions about various vocabulary terms. When designing both a game and test for this project, it was important to have their content match and for the game to provide a balance between its educational merit and its entertainment value.

Hypothesis and Procedure

The main hypothesis states that students are expected to acquire a better understanding of the legislative process after playing a board game designed to explain the process. I decided to look at how effective board games are as learning devices because board games can provide a greater entertainment value to education and more engagement than a standard lecture, but I also wanted to see if the education value was still present. In order to test this hypothesis, a prototype of the board game was created that can be played through by students. Additionally, I designed a

pre-test and a post-test with questions that cover content within the game. Additional questions were included on the post-test which allowed any participants to leave feedback with their opinions on the game.

Designing the Pre-test and Post-test

The questions in the pre-test and the post-test were carefully selected to reflect some of the key elements of the game, but they were also intended to ask about several of the most important terms and concepts within this area of study. Some of the questions asked on these tests were written after the game was created based on what was included in the final version, while others were written before the game's design was finished and they were based on practice tests found online for this content. These online practice questions often needed to be reworded to fit with what the game had covered, but the concepts covered in these practice questions did influence what was included in the final game. Many of the questions chosen were primarily selected based on the content of the game, but several other questions were more general in an effort to better address standard classroom curriculum. Both the rules and design of the game were simplified throughout the creation process to make the content more direct and to increase the likelihood of players interacting with content that would be on the tests. This presented another challenging questions to answer about how to ensure players interacted with the game enough to learn from it and perform better on the post-test.

This project was designed so that the rules and steps involved in playing the game were easy to follow, but the test questions would indicate how challenging the material was for students. As state before, some of the questions for the pre-test and post-test were generally based on information found in online practice quizzes, but the information in the quiz also comes from American government textbooks, vocabulary lists, and online lecture material to ensure that

the game and quiz covered necessary information. With all of this said, the questions used in the quiz were all designed for this game, and the outside resources were used to reaffirm what needed to be included in the game. The pre-test and post-test would both be issued to participants in order to compare how their scores changed between the two tests, and the mean of each test would be taken to compare these results. To compare the scores, a difference of means test would be issued by using a t-test format to show how the average difference between the two tests would change.

The idea of creating an identical pre-test and a post-test alongside a t-test was to allow for variables in results to be seen among participants. The pre-test information would serve as this study's independent variable to show what participants know before playing the game. The post-test would then be used as this study's dependent variable because any variations in test results after the game was played would indicate that a player's knowledge would have been impacted by playing through a game. Collecting data by using this method would allow for the impact of the content covered in the game to be well monitored and it can help with showing where participants might have gaps in knowledge about the subject. As stated earlier, several of the questions in these tests were written before the game was designed, but some were written in response to what was eventually included in the game and the design process for the game was very important for creating the tests to be studied.

Planning Game Mechanisms

After researching the different ways in which board games can provide a unique educational experience for student learning, there were several elements of designing the game that were very important to get right. A significant challenge with designing a game to be used for educational purposes is finding a way to balance entertainment with education. The

educational side of this project was the most important part to include because that was the main reason for creating the project and it needs to be made in a way that can be tested to show whether students will actually learn from the game or not. With that said, the entertainment value could not be overlooked, and it still needed to be enjoyable for students to play to provide opportunities for engagement with the material. Being able to engage with class material in an interesting and fun way can provide students with an alternative form of learning that helps them interact with class content to help them learn in a different way.

The length of the game, likewise, became another challenge to determine. How long a game lasted was mainly determined by dice rolls, so it could vary greatly based on the group size and how well players rolled. This was a concern throughout the design process because using a game like this in a class setting could be more difficult to do if the length of the game is dependent on chance, so making it shorter to play was a priority. As previously stated, the game was simplified throughout the creation process because the earliest versions of the game were meant to involve more strategy for players, but this did not fit with the more straightforward approach I later chose to use. For the purposes of using something like this in a classroom, it would be more beneficial to have a straightforward game with rules that are easy to follow so that students can quickly begin playing rather than reading a big rulebook beforehand. When considering all of the factors necessary for testing, I decided to prioritize simplicity and comprehensiveness after speaking with a teacher who suggested that a game should serve a similar purpose to a blueprint for class materials.

After finalizing the tests and deciding on a blueprint for the game, I had theorized several expectations for what results might look like among students. Some of my expectations were that students with an already established interest in history and civic course material might naturally be more engaged with a game of this subject. This game is designed to be applicable as an

information device for all students regardless of any prior knowledge or interest in the subject which is why adding an element of randomness to the rules can be beneficial to prevent players from having any big advantages. Removing some of the more strategic elements of the game was done to help with this aspect as well because there is the possibility of players not learning material if they become overwhelmed by learning the rules of the game. Another expectation that fits with the educational aspect is that most if not every student who plays this will be able to perform better on the post-test than they did on the pre-test. Overall, many of these expectations were made based around the ways that students might interact with the tests and with the game based on the ways it was created.

Design of the Game

The design process for the game incorporated much of what was previously discussed about the expectations for a game and how it might be perceived by students playing it. The game was created on a white posterboard, and square tiles were placed around the posterboard to form a path for players to follow. The tiles on the board alternated between red, white, and blue, and decorative stickers, such as stars and the American flag, were placed around the board for players to associate these ideas together. Additionally, large pictures of the capital building and the white house were placed on the board with the tiles running over the capital building to indicate for players when a bill enters the capital building in its approval process. The white house was placed at the end of the board to let players know that the last step for a bill to become a law is for the president to sign the bill into becoming a law. The tiles throughout the game each have information written on them that instruct players about what stage they are at in the law-making process, and it indicates what terms mean in relation to the game.

Students who play this game will be playing as the bills themselves, and they will use pawns to move along the path in the game with the objective of being able to become a law. Only one player will be able to be signed into a law and various setbacks are placed throughout the game to remind players how challenging the law-making process can be. Again, the goal of the game is to make the information easier to learn, but it is also important for players to recognize that it can be very difficult for a bill to be passed. To make the game more enjoyable to play and less about being completely accurate, certain changes were made to make it more convenient for players to go through. The biggest change made was about what happens when a bill dies because in reality, a bill can die at any stage in the process and that is where it would end. To make the game less tedious and more enjoyable for players, checkpoints were included in the game so that even if a player's bill dies, then they are sent back to an earlier location on the board rather than being sent all the way back to the start.

The steps involved in the game are designed to walk players through the stages of a bill becoming a law and they are designed to explain the process in a simplified format while still informing players of how complex this process can be. Players will move through different committees and make their way through congress until they reach the white house and end the game by getting signed into law by the president. To progress, players will each roll one six-sided dice and move the number of spaces rolled which allows for the elements of randomness to be added because certain spaces can either help or hinder a player's progress. Finally, after players have made it to the end of the game and are at the white house, they will need to make one final dice roll to win the game. Players must roll a four or higher to be signed into law by the president to give players a 50/50 chance to win at that stage, and if they are unsuccessful then their bill is vetoed and is sent to a rules committee to be amended which takes one turn and gives other players the opportunity to catch up and potentially win instead.

In total, the board contains 36 square tiles with terms and descriptive information on them that inform players about what happens at different steps in the law-making process. Additionally, as players reach the capital building, the tiles split off into two paths with one path representing the Senate and the other being for the House of Representatives. Once players reach the end of one path, they will reach a sticker of a stop sign and the adjacent tile tells them they will need to move back to the beginning of the capital building to move through the other path before completing the game. To make it easier for players to quickly find locations and for them to recognize when a bill begins a new phase of the process, star-shaped stickers were placed throughout the board, and they were placed on tiles that marked a change in location. Vocabulary terms and legislative concepts were included on many of the tiles, and they were intended to explain the following terms: discharge petition, pigeonhole, rules committee, open rule, restrictive rule, close rule, filibuster, cloture, conference committee, and veto. These terms also contained descriptions of what they do and how that will impact a player's bill in the game. An example of this would be with a filibuster which is a tactic to slow down the process of passing a bill, so players must lose two turns if they land on this space. Additional concepts were incorporated into the game like how a bill can be amended or what it means for a bill to be signed by the president.

Ways to Improve

While the game designed for this project was successful at achieving its objectives for this project, there is still room for improvement that could be made before this could be applicable to a classroom. I tested the game a few times on my own and found that the game moves very quickly which could be preferred in some classroom situations, but it generally took less than five minutes to complete the game once which could be reworked. Additionally, certain parts of the game seem far more difficult to encounter than initially anticipated, so this could be

reworked. The most noticeable change that I believe would need to be made is with the conference committee and amending spaces. These can easily be missed when playing the game which means that in the game, they do not accurately reflect what most commonly happens because it is very common for a bill to be amended and sent to a conference committee. The ending of the game was also made a bit unclear and there could be changes made that more clearly explain what occurs at this stage of the process.

Some other changes could be made throughout the game to help improve the quality of playing experience. One way to improve the chances of learning would be to add flaps to the vocabulary terms so students need to lift the card to learn what the term does first and how it applies to the game second by reading the cards. Another change that could help players would be for the spaces that involve losing two turns because players may need to keep track of how many turns they have missed, and a way to help with this would be to include smaller spaces on the side of a tile for players to keep track of this. Some of the more major mechanics of the game could use some reworking as well to either make it more competitive or less luck-based to help with making the game more fun to play, but it would be important that the educational qualities are not removed in favor of this change. Overall, there are many changes that could be made to this game to make it more fun or more educational, but changing things too drastically runs the risk of favoring one of these aspects too drastically. While various kinds of changes could be made to this game, it still managed to achieve many of the goals that it was designed to do, and it managed to blend many legislative concepts.

Conclusion

The purpose of this study was to see if a board game could be designed to serve as an effective learning tool for teaching players about the American legislative process. The pre-test and post-test created alongside the game was created as a way to monitor how effective the game might be at teaching students the intended content. The game was structured in a way to walk players through the steps of how a bill becomes a law, and certain terms were used to help players advance or to hinder their progress in ways that correspond with their real-life function in this process. The research gathered for this study aided in creating a game that was designed for supporting the hypothesis that the game would help participants to learn the material well enough to perform better on a post-test. The questions were designed to become more difficult as the test went on, and this was done so that students who take the test might show more variation in results as the test progresses. Overall, designing the tests and the game was a process that focused on creating opportunities for students to learn classroom material in a more enjoyable way that encourages them to engage with their learning process. Moving forward, I would like to investigate the broader implications of designing a game like this to see how effective it could be as a learning tool used within a classroom for students to benefit from. The information gathered for this project helped me to recognize the effective role that a board game can have for educational purposes, and I am interested in looking at how effective this type of education could be in classrooms and with different course content.

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Appendix

Fig. 1

Group # ____ Participant # ____

Pre-test/Post-test Questions

1. How do all bills start
 - a. The President proposes them to congress
 - b. Lobbyists draft bills for the Vice President to read
 - c. Individuals present an idea to local Congressman
 - d. They are proposed by the Supreme Court

2. How many chambers of congress are there in the American legislature?
 - a. 1
 - b. 2
 - c. 3
 - d. 4

3. What building houses the legislative branch and is where bills are decided on?
 - a. The White House
 - b. The Supreme Court
 - c. The Capitol Building
 - d. The Pentagon

4. What can happen if a bill is disliked by a committee or sub-committee?
 - a. The bill is sent to Congress without approval
 - b. The bill is amended by a Supreme Court Justice
 - c. The bill automatically dies if this happens
 - d. The bill can be amended or die in this process

5. If the President signs a bill what happens?
 - a. It becomes a law
 - b. It is vetoed
 - c. It goes back to the Senate
 - d. The Speaker of the House reviews it

6. What happens if the President refuses to sign a bill?
 - a. The bill can be sent to the Supreme Court
 - b. The bill goes to a Rules Committee
 - c. The bill is vetoed
 - d. A sub-committee can force the President to sign it

7. What happens if a bill is not passed in one chamber of congress?
 - a. The bill dies and is forgotten about
 - b. The bill goes back to committee and can be amended
 - c. The bill goes to another chamber of congress
 - d. The bill is sent to the Supreme Court

8. Before going to the President, where does a bill need to go if it has been amended by congress?
 - a. The Supreme Court
 - b. The Rules Committee
 - c. A Conference Committee
 - d. It can be sent directly to the President even if it was amended

9. What is it called when a bill's progress is stalled because Senators keep talking about it?
 - a. A cloture
 - b. A filibuster
 - c. Gerrymandering
 - d. Meeting with a conference committee

10. When a bill is set aside by a committee and dies, this is an example of what?
 - a. A cloture
 - b. A pigeonhole
 - c. A closed rule
 - d. A discharge petition

11. When a bill is not open to being amended by a rules committee this is called what?
 - a. An open rule

- b. A restrictive rule
- c. A closed rule
- d. None of the above

12. Which branch of government is not involved in the law-making process?
- a. The executive (President)
 - b. The judicial (Supreme Court)
 - c. The legislative (Congress)
 - d. They are all involved

Post-test only

Please explain if/what you learned more about the legislative process from participating in this study.

Was the game easy to understand and follow?

Please describe what you enjoyed about the game.

Please describe ways you would like to see this game improved.

- 1. Are you currently attending a college/university?
 - e. Yes (enter major and year)
 - f. No
- 2. What is your highest level of education?
 - g. High School Diploma/GED
 - h. Currently enrolled in college
 - i. Bachelor degree
 - j. Masters degree
 - k. Doctorate
 - l. None of these

Fig. 2

