

The Transmediation of *Journey to the West* into a board Game

By

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Abstract

China is a cultural and economic giant in today's world, but has been somehow misunderstood in the past decades ¹. With more and more educational and economic communication between China and the western world, more non-Chinese people find a need to know China. This project has created a board game based on *Journey to the West*, a 2000-page novel which is one of the four great classical novels in China. The project seeks to transmit some of the cultural aspects of China, stimulate people's interest in China through simple gameplay. The ultimate goal of this project was to develop a game which was fun for friends and families to play together, as well as to offer a relaxing and pleasant play space for people to experience a different culture without extensive reading.

The paper explains the research that has been done to realize the project, *Journey to the West: the Board Game*, and the production expectation. A study has been done behind the project explored the game's mechanics, appeal and effectiveness. The paper also details the results of this study to determine if players of this board game learn about Chinese culture more than readers of the book.

¹ Jacques, Martin.2009

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Introduction

China has been somehow misunderstood and overlooked in the past decades ¹. With more and more economical, educational and cultural exchanging ² between China and the world, there is more need for non-Chinese people to know more about this emerging global power.

A traditional Chinese novel, *Journey to the West*, which is one of the four great classic novels in China (The other three great classic novel are *Romance of the Three Kingdoms*, *Dream of the Red Chamber* and *Water Margin*), was used as the basis for a board game in order to disseminate some of the Chinese cultural aspects and stimulate non-Chinese people's interest in China. The motivations behind this decision were:

Journey to the West is one of the few books that have received huge popularity from people in all ages. It is also among the list of the most representative and influential books of China. Some aspects of Chinese culture, like the religious views of ancient Chinese people, are shown in the book and can be put into the game. These aspects are widely-known by Chinese people and should be known by non-Chinese people. The board game was chosen to be the medium that the book would be transformed into because it has an important advantage that is not seen in other types of games. This advantage is that board games can offer Chinese and non-Chinese people opportunities for face to face communication, which allow them to discuss cultural aspects while playing, so that besides learning, they can gain mutual understanding during game play as well.

² "China Overview." <<http://www.worldbank.org/en/country/china/overview>>.

For the project, the ultimate goal was to develop a game which is fun for friends and families to play together, as well as to offer a relaxing and pleasant play space for people to experience a different culture in an untraditional way.

Analyzing

Why should western people know Chinese culture?

Nowadays, people are more globally connected and therefore are more interested in foreign cultures. As one of the predominant cultures in the world, Chinese culture has received more and more interests from those with a non-Chinese heritage, from all over the world. One of the notable aspects of Chinese culture is its 5,000 years of rich history and archaeological values³.

China has become the second largest economy and is increasingly playing an important and influential role in the global economy². Since there are more business contacts between China and the world, there is more need for non-Chinese people who have the demand to communicate with Chinese people in knowing this country. Another aspect that shows the cultural exchanges between China and the world stands on the educational experience. In the past few decades, more and more Chinese students choose to study abroad. For example, there are more than a quarter of a million students from China in colleges in the United States - a third of all international students in the country-which is almost a fivefold increase since 2000⁴.

Chinese people can be seen everywhere around the world. In the daily life, non-Chinese have

³ "Chinese Dynasty Guide - The Art of Asia - History and Maps." <<http://archive.artsmia.org/art-of-asia/history/chinese-dynasty-guide.cfm>>.

⁴ Svoboda, Sarah. "Why Do so Many Chinese Students Choose US Universities? - BBC News." <<http://www.bbc.com/news/business-32969291>>.

more chances to contact with Chinese people. Mutual understandings are required for Chinese and non-Chinese people to build up good relationships. All these phenomena below can show China's deep connection with the world.

Chinese culture, which was conceived through its glorious history, its people, and its vast landscape, has been regarded as a point of pride for this country. Knowing some of the cultural aspects, this focal point can connect individuals from China with those who are not. China has always and continues to be regarded as a nation that is intertwined with both prominent and developing countries. These connections are based off of sharing ideas and innovations that concern anything with education, resources, and economics. These ties have demonstrated the ever-increasing needs of what China can provide to external masses, including Chinese culture.

Why choose the book *Journey to the West*?

The novel *Journey to the West*, was the inspiration of the board game. It is a thick book and the length of this novel can prevent people from reading it. The most well-known English translation version of the book has more than 2,000 pages. Many transmediations of this book have been done before and helped the story to gain huge popularity among Chinese people of all ages.

There are several reasons of choosing this book. Firstly, as one of four classic novels in China, the book itself is an icon in Chinese literary culture. Knowing the book implies knowing some of the aspects that are integral to Chinese literary culture. Secondly, many Chinese cultural aspects are shown in this story, such as Chinese folk religion, Chinese mythology, and Taoist and Buddhist philosophy⁵. A successful transmediation of *Journey to the West* would not only teach

⁵ "Journey to the West." <https://en.wikipedia.org/wiki/Journey_to_the_West>.

the story, but also introduce some of the related cultural aspects. Thirdly, the book vividly depicts a magical, timeless and complex world with ancient Chinese people, deities and demons. The themes of the book are illustrated through many interesting, entertaining, and engaging short stories that can be easily accepted and understood by non-Chinese people. As a result, *Journey to the West* is undoubtedly a great book that could be used in teaching cultural aspects without being too serious.

Board games and their educational functions

In the book *Popular Culture in Counseling, Psychotherapy, and Play-Based Interventions*, the author Lawrence C. Rubin discusses some of the benefits that people can get from board games. “Board games can help people to develop skills and moral instruction”⁶. And although in a digital age where everybody worships technology, a growing number of companies are going in the opposite direction. According to board game historian Margaret Hofer, board games serve as “cultural mirrors of our societal and technological progress and offer fascinating windows on the values, beliefs and aspirations of humans”⁷. These studies show that board games could potentially be a way of teaching.

Board games have a long history and have received a lot of popularity, especially in the western world. Combining board games with eastern culture would be a good way to stimulate people’s interest in culture, and compared to the book, *Journey to the West: the Board Game* offers a more dramatic and entertaining way of disseminating culture. Furthermore, since the book is too long for people to get a general idea of it in a short time, the board game will help people more easily achieve that goal. Board games do not take long to be played while at the

⁶ Rubin .Lawrence C. 2008.

⁷ Hofer , Margaret. 2003.

same time, the replayability of them is high. Board games are supposed to be played many times. As a result, with the experience of the whole journey being condensed in the game, people can learn the story and the cultural aspects behind the story and get the chance to gradually learn the story for multiple plays.

Board games can offer opportunities for people to sit together and to communicate with each other face to face. This merit could potentially create perfect spaces for Chinese and non-Chinese people to play and discuss Chinese culture together, and will definitely help to achieve the goal of sharing cultures.

Learning objective of the board game

A board game is designed to help non-Chinese players gain the awareness of Chinese culture. Ultimately, this game will be the first step in allowing players to learn more about China.

The game gives players a general idea of some of the important components of Chinese culture, which involve Chinese composition characters, Chinese religions, etc. These components of the Chinese culture will be explained in later sections.

Since Chinese culture is a field of study that includes extremely rich and complex contents, it is difficult to explain the various aspects in detail of this complex culture. The task of the game is not to teach everything, but to give non-Chinese people a general idea of some major components of Chinese culture. For example, the game can introduce people to some Chinese culture aspects by familiarizing them with some of the traditional art styles and Chinese gods, such as Maitreya and Queen Mother of the West who was worshiped by ancient Chinese people.

Beside the functionality of the board game, the playability and the amusement that the players get from playing are essential to game as well.

Teaching culture is meaningful and the book *Journey to the West* was authored to make a game. The intended purpose of the game was to provide players an enjoyable board game to play, and expose them to an environment which could show some different aspects of Chinese culture, including famous Chinese mythological figures (which involves deities that Chinese people worship and demons that Chinese people fear of), Chinese folk tales, Chinese religions, etc. Those aspects are all considered to be very well-known and as important culture aspects to Chinese people in all ages.

Background

The novel Journey to the West

Journey to the West was published in the 16th century during the Ming Dynasty and attributed to Wu Cheng'en⁸. In China, it is considered one of the four great classical novels of Chinese Literature and is one of the few classic novels that have received popularity from all ages. The book is a long novel. The original Chinese version contains an approximate of 866,000 words. The most common unabridged translation to English has a total of more than 2,000 pages and published in four volumes⁹. It vividly described a magical, timeless and complex world with ancient Chinese people, deities and demons.

Brief summary and structure

The novel has in total 100 chapters and can be divided into two parts based on its plot. The history of Wukong (the Monkey King) and his companions is introduced in the first 12 chapters. These chapters talk about the conversion of the Monkey King, Sha Wujing (Friar Sand), Zhu Bajie (the Piggy) and the White Dragon Horse to Buddhism and their promises to wait for the master Sanzang (the monk, also known as Tripitaka) and accompany him on a journey. Also told in these chapters is the background story of the Tang Emperor Taizong and his selection of Sanzang to undertake the pilgrimages¹⁰.

⁸ "The introduction of *Journey to the West*". <<http://www.thn21.com/wen/chang/9965.html>>.

⁹ The review of Wu, Cheng. *Journey to the West*. Trans. W. J. F. Jenner. Foreign Languages, 1993. Print.

¹⁰ "ExEAS - Teaching Materials and Resources.". <<http://www.columbia.edu/cu/weai/exeas/resources/buddhism-journey-to-west.html>>.

The main part of the story, the actual journey to the Western Paradise, the obtainment of the scriptures, and the trials are presented in chapters thirteen to one hundred: The Master Sanzang and his disciples undergo the necessary eighty-one trials, the nine by nine of perfection. Along the journey, they confront numerous encounters, which include a variety of wild beasts, supernatural monsters, demons, as well as good and evil humans. Some of these demons and monsters are defeated by Wukong and his companions, some of them were taken away by Chinese gods and deities. In the final three chapters, the pilgrims present the scriptures to Emperor Taizong and return to the Western Paradise for their rewards¹⁰.

The popularity in China and other cultures

Journey to the West has been received popularity from all ages through all time. It is difficult to find someone, even a child, in China that doesn't know about *Journey to the West*. It is probably also the best-known Chinese novel to the people in other Asian countries or even outside of the Confucian cultural sphere¹¹. With its fabulous magical battles starring the lovable short-tempered Wu Kong (the Monkey King), *Journey to the West* has an immediate appeal that transcends cultural differences. The translations have been done in many languages, including English, French, Japanese, German, Russian etc.¹². The book has been scholastically analyzed inside and outside the world of China. Outside China, Japan has done the most work on it, including early works like Inomata Shohachi's writing *About Journey to the West*, and the scholar of Chinese culture, Nakano Miyoko's works¹⁰. On the other hand, many transmediations that have been realized in different counties and regions include movies, TV series, video games, Beijing operas, Manga, animations, dramas, etc. Some of the most notable movies are *Journey to*

¹¹ Miyamoto, Yoko. "The Journey to the West: Chinese Views of History - Demystifying Confucianism." <<http://www.demystifyingconfucianism.info/the-journey-to-the-west-chinese-view-of-history>>.

¹² Wang, Lina. <<http://www.literature.org.cn/article.aspx?id=18314>>.

the West (1966, China), *A Chinese Odyssey Part One: Pandora's Box* (1994, Hong Kong), and *Journey to the West* (2013, China). *The Monkey King Returns* (2015, China), a hugely popular animated movie in China, is also among this list. Ever since the first TV series *Journey to the West* had been shot in 1982, the novel has been transformed to TV shows in 1998, 2000, 2010, and 2012 in China. Even Japan shot the TV Series *Journey to the West* in 1993, 1994 and 2006¹³. There is also an American miniseries of this novel called *The Monkey King* that was directed by Peter MacDonald and produced by NBC and the SciFi Channel¹⁴ in 2001. Another TV show that is based on the novel is the Japanese anime series titled *Dragon Ball Z*, which has been popular in America¹¹.

Video games that have been inspired by this story include *Fantasy Westward Journey*, *QQ Journey*, *Fantasy Westward Journey Mobile*, and so on. The main character, the Monkey King, can also be seen in some other games such as *Warriors Orochi* and *League of Legends* and Manga such as *Sukiyaki* (,Japan), *Dear Monkey* (Japan). Animations such as *The Monkey King* (China) and *Havoc in Heaven* (1964, China) are well-known in China. Furthermore, more than 30 Beijing operas were made based on *Journey to the West*¹³.

Chinese Culture

Chinese has more than 5,000 years history and its culture is one of the world's oldest cultures³. Thanks to the extraordinarily rich and complex Chinese history³.and the vast territory of China, Chinese culture has its glorious, unique and notable aspects. The components of

¹³ Baidu baike.<<http://baike.baidu.com/subview/2583/5315045.htm>>

¹⁴ "The Monkey King (TV Movie 2001)." < <http://www.imdb.com/title/tt0198779/>>

Chinese culture include, architecture, music, literature, martial arts, visual arts, religion and many more. When discussing Chinese culture, a variety of topics could arise.

Religions and Philosophies

China has been a cradle and a host to a variety of the most enduring religions and philosophical traditions of the world. Confucianism, Taoism and Buddhism are generally known as the "three teachings", and combined to form the foundation of Chinese religion. They played a significant role in shaping Chinese ancient culture ¹⁵¹⁶.

Confucianism, which is sometimes considered a system of philosophical and "ethical-sociopolitical teachings" ¹⁷ rather than a religion to Chinese people, had been the predominant philosophy in China for a long time since Confucius first started it. Because of its unique training that could allow multiple religions to coexist and to be practiced by the public at the same time, other religions, such as Taoism and Buddhism were able gather large followings. As a result, these three religions peacefully coexisted in China for a long time.

Taoism (also called Daoism), which originated in China, is a polytheistic religion that contains a multitude of gods and goddesses. Its profound impact on Chinese culture can be seen in many aspects, such as Chinese alchemy, Chinese astrology, and traditional Chinese medicine¹⁸.

In China, some of the widely-know theories were first proposed by Taoism, such as the theory of Yin and Yang, and the theory of Five Elements. Five Elements (Wuxing), which refers

¹⁵ Miller, James. Chinese Religions in Contemporary Societies. 2006. p57.

¹⁶ Yao, Xinzhong, and Yanxia Zhao. Chinese Religion: A Contextual Approach. 2010.

¹⁷ Engler, Steven. Historicizing "Tradition" in the Study of Religion. p232.

¹⁸ Levitt, Susan.2013.

to Metal, Wood, Earth, Water and Fire¹⁹, is a fivefold conceptual scheme that many traditional Chinese fields used to explain various scientific or mysterious phenomena. These phenomena encompass cosmic cycles, the internal body functions, the succession of political regimes and the properties of medicinal drugs²⁰.

Another religion that was somewhat widespread in ancient China is Buddhism. Traditions, beliefs and practices of this religion are based on teachings attributed to Buddha²¹. When Buddhism was first introduced into China from India in the Han Dynasty more than 2,000 years ago, its theory continually interacted with and gradually became an important part of Chinese culture²².

These three religious philosophies, Confucianism, Taoism, and Buddhism, as a whole coexisted in harmony with each other in China for a long time. They became the sources of the deities and the gods that people believed in and some of them were shown in the book *Journey to the West*.

Chinese characters

Chinese characters, also known as Han characters are logograms used in the writing of Chinese²³. Chinese characters constitute the oldest continuously used system of writing in the world²⁴. and are among the most widely adopted writing systems in the world. In Chinese myths, Cang Jie invented a lot of symbols that were inspired by the footprints of animals in

¹⁹ Dr Zai, J. 2015.

²⁰ Jin, Zhengyao. 1990.

²¹ Lopez, Donald. < <http://www.britannica.com/biography/Buddha-founder-of-Buddhism>>.

²² "Buddhism in China." . <<http://www.chinahighlights.com/travelguide/buddhism.htm>>.

²³ Potowski, Kim. 2010.

²⁴ Fisher. Study guide for World History with Student Activities. 2013.

5,000 years ago²⁵, and these symbols gradually transformed to Chinese characters that we have today. Chinese language and its characters are an essential part of Chinese culture.

Ancient literature

The Zhou dynasty is regarded as the touchstone of Chinese literary development. Concepts covered include a wide range of subjects including poetry, astrology, astronomy, calendar, constellations and many more. The Song dynasty was also a period of great scientific literary progress. There were also enormous works of historiography and large encyclopedias. The notable works are the Four Great Classical Novels. Countless fictional stories were inspired by these four classics in that period²⁶.

Visual art

Different forms of art have developed under the influence of great philosophers, teachers, and religious figures. Chinese painting became a highly appreciated art form. For example, a type of painting called Shui Mo (ink and wash painting), which was first developed in Tang Dynasty²⁷, has been popular and influential in China.

Chinese line drawing is another drawing style that involves traditional ink and brush. It could show an object's quintessence using simple and concise lines without redundant embellish. This painting technique was also very common in ancient China.

²⁵ "Legendary Origins of Chinese Character." <<http://characters.cultural-china.com/talk14.html>>.

²⁶ Dr. Ulrich Theobald, phil. "Chinese History - Song Dynasty Literature, Thought and Philosophy." <<http://www.chinaknowledge.de/History/Song/song-literature.html>>.

²⁷ "Chinese Painting (from C.200 BCE) Characteristics and Aesthetics." <<http://www.visual-arts-cork.com/east-asian-art/chinese-painting.htm#washpainting>>.

Journey to the West the Game the board game

The following section details the process of transforming the theoretical work and the book into an actual game play. The complete game will be described in the later sections as well.

Initial development of the game

The board game was initially meant to be an entertaining game with the function of disseminating Chinese culture. The book *Journey to the West* was chosen to be the main theme of the game because of its profound influence and popularity in China. This board game aimed to combine the entertainment elements with educational functions, helping Non-Chinese, who are interested in Eastern culture become familiar with this influential Chinese literature and know more about traditional Chinese culture. In this way, they will build a basic concept of Chinese culture and may create a better understanding when communicating with Eastern people. In short, the intended purpose of the game was to provide players an enjoyable board game to play, and expose them to an environment which could show some different aspects of Chinese culture.

The designer, a Chinese citizen, wanted to develop a game that she could bring to her non-Chinese friends and create a space that they could play together and build up more connections based on a mutual understanding.

The targeted audiences are defined as non-Chinese people who are not familiar with but could be possibly interested in Chinese culture. However, other groups of people, such as Chinese people, can also play the game if they are interested.

There are in total three major questions that need to be answered in the earlier stages during the design process:

- Which Chinese culture components should be put into the game?
- What kind of experience can people get from the game?
- What kind of mechanics should be involved in the game?

Chinese culture components in the game

Based on research and the feasibility of the game design, the following Chinese culture aspects were chosen to be included in the game:

The book Journey to the West

The novel *Journey to the West* itself is among the list of the Four Great Classical Novels in China. Knowing stories of the book implies some knowledge of Chinese literature culture. Getting people familiar with the book is a major task for this game.

Some culture aspects related to the book will also be discussed in the game, such as Chinese gods, ancient costumes, Painting art and Chinese characters.

Chinese religions and Chinese gods

The novel depicts a magic world with a variety of Chinese supernatural spirits and evils, which could largely reflect the religious concepts and beliefs that ancient Chinese people conceived. Showing these supernatural figures and introducing their religious origin helps non-Chinese people build up a basic idea of the religious view of ancient Chinese people.

Chinese costumes, painting art and Chinese characters

Some culture aspects such as Painting art, Chinese characters, and Chinese ancient costumes, can directly convey aspects of Chinese culture and are easily incorporated with the cards or board of the game. Therefore, these aspects were decided to be included in the future revisions of the board game.

Experience

The game aimed to create an opportunity for each player to play a role in the story, *Journey to the West*, to experience the characters' difficulties, fighting vicious powers, in order to obtain the final goal, which is gaining enlightenment. This experience is actually related with a Taoism theory of helping people in need, fighting the bad and eventually achieving immortality.

The game also aimed to provide players a sense of accomplishment. Although in the original story, four protagonists worked together to face multiple trials, the game was defined to be a competitive game, in order to increase the interest and reach a larger audience.

Mechanics and inspirational references

The term “journey” in following sections refers to the whole process of Master Sanzang and his disciples, who were going through a journey to reach the west. They started from Xi'an, China and ended up in India.

Grid Movement-Istanbul(2014)

The term Grid Movement in board games refers to an action that pawns, (the player's token) move on the grid in various directions. Usually, the grid is a square or hexagon²⁸.

“Istanbul”, which was designed by Rudiger Dorn and published in 2014, is a tiles based table- top game that involves dice rolling, grid movement and some other mechanisms²⁹ The Grid Movement mechanism helps to make the character's movement more flexible. At the early stage of the game design, in order to generate randomness and add flexibility to the game, this mechanism was first brought in to simulate the journey.

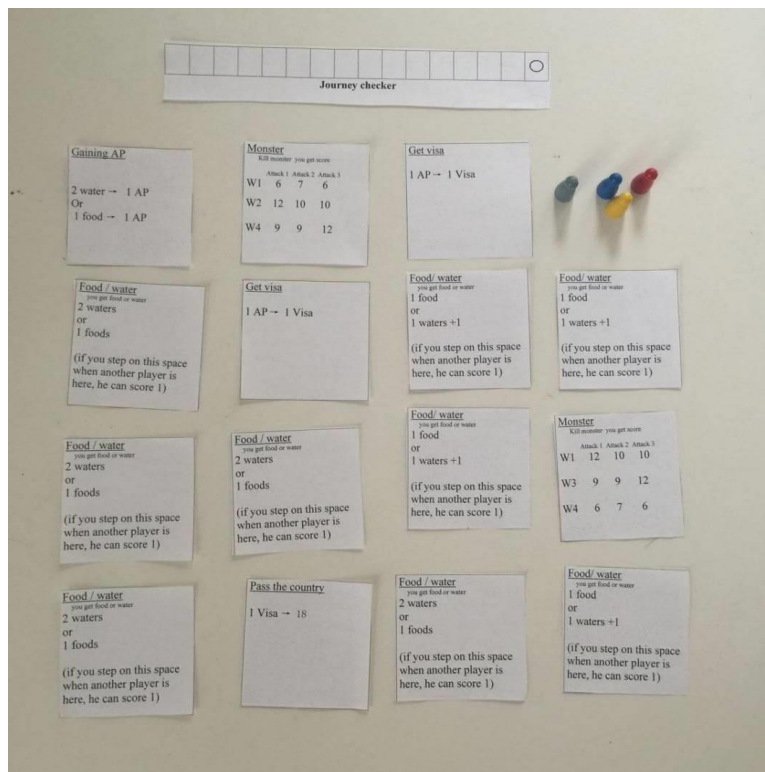


Figure 1- An early design's prototype

²⁸ "Grid Movement." <<https://boardgamegeek.com/boardgamemechanic/2676/grid-movement>>.

²⁹ "Istanbul." <<https://boardgamegeek.com/boardgame/148949/istanbul>>.

Figure 1 shows an early design of the game. As shown above, multiple situated tiles are randomly placed on the table. The characters could move around on all the tiles and encounter different monsters and events.

This mechanism was eventually removed because it weakened the players' perception of the experience of a linear journey, and the tiles couldn't show a whole picture of a map that depicted the journey from start to finish, as a whole.

Racing - Lewis and Clark(2013)

The Board game *Lewis and Clark* is a racing game made by Cédric Chaboussit. The game play utilizes Deck Building and Worker Placement ³⁰.

Deck Building is a mechanism in which players start the game with a pre-determined set of cards and could add more or exchange cards during the game. These new cards generally expand the capabilities of players and allow them to build up a system that would be helpful for further playing ³¹.

Worker placement is defined as a game mechanic where players allocate a limited number of tokens ("workers") to multiple spots that provide various defined actions, for example, getting resources.³²³³

A very impressive aspect of the game is a simulation of an actual journey with the combination of multiple mechanics. This was a mechanical system that could be used as a reference for the board game *Journey to the West*.

³⁰ "Lewis and Clark." < <https://boardgamegeek.com/boardgame/140620/lewis-clark>>.

³¹ "Deck pool building." < <https://boardgamegeek.com/boardgamemechanic/2664/deck-pool-building>>.

³² Woods, Stewart.2012.

³³ Adams, Ernest, and Joris Dormans.2012.

In the early stages of designing *Journey to The West: the Board Game*, the game board imitated the board design of Lewis and Clark, and all players were competing and racing to strive for being the first one to get to the end. While in the original story, all of the main characters would stick together during the whole journey and eventually reach the west paradise as a team. Taking the mechanical aspect of racing into the *Journey to the West* game would set players apart in game play and reduce the sense of being unison. Since the mechanics in Lewis and Clark lack the ability of offering the real experience, only parts of this game were used as references.

Below is a picture of the game board of *Lewis and Clark*:

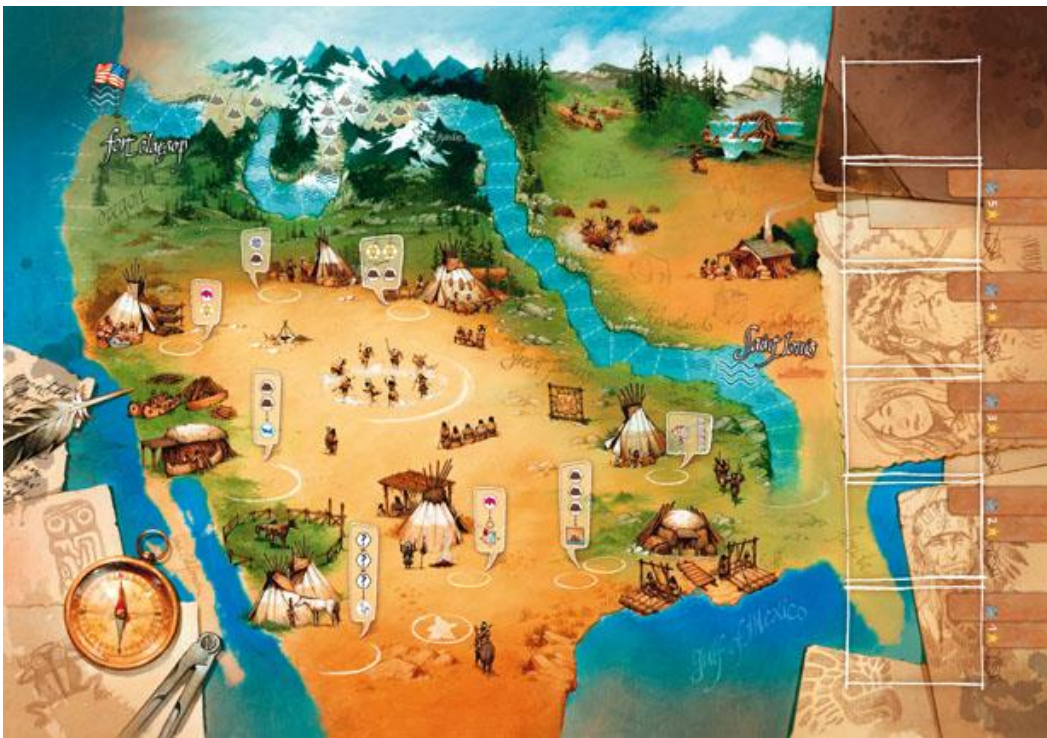


Figure 2- The game board of *Lewis and Clark*

Worker Placement- *Lords of Waterdeep* (2012)

Lords of Waterdeep is a German-style board game designed by Peter Lee and Rodney Thompson³⁴. It is one of the paragons of Worker Placement games. On one hand, the worker placement mechanic is relatively easier for designer to realize, to calculate the weight of each resource, and eventually helps to balance the game. The reason is that in general, when designing a worker placement game, if each spot on the board has the same weight, which means these spots are theoretically balanced, the game would be relatively easier to design as a balanced game, which means one player won't have an advantage over another player, and one action that a player can take won't be clearly beneficial than other actions. On the other hand, this mechanic helps to increase interaction among players and make the game more interactively fun to play.

The following is a picture shows the game *Lords of Waterdeep*³⁵.



Figure 3- The game *lords of Water deep*³³

³⁴ "Lords of Waterdeep." < <https://boardgamegeek.com/boardgame/110327/lords-waterdeep>>.

³⁵ "Lords of Waterdeep Gold and Double-Dealing Flow Freely in the City of Splendors."

<<http://dnd.wizards.com/products/tabletop-games/board-games/lords-waterdeep>>.

Variable Player Powers, Set Collection- Citadels (2000)

Citadels is a card game that involves the mechanics of Card Drafting, Set Collection, Variable Player Powers³⁶ and etc. Figure 4 shows the cover of *Citadels*.

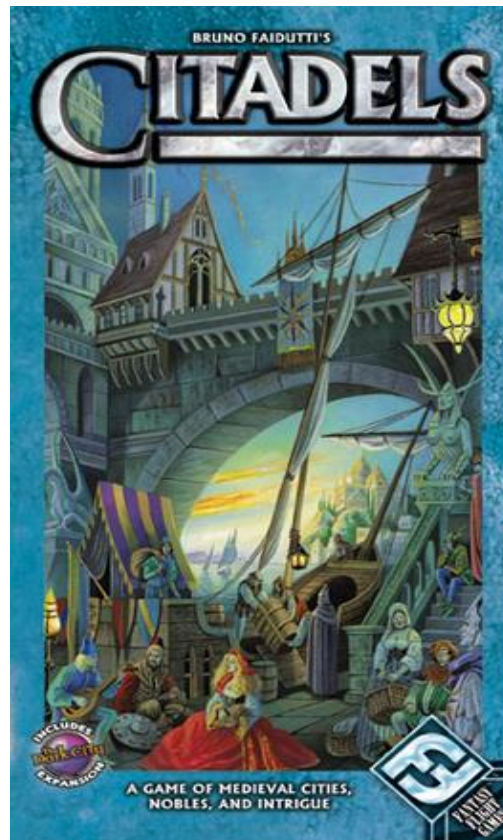


Figure 4-The cover of *Citadels*

Games that have Card Drafting allows players to pick cards from a limited subset to gain some short or long term advantage, or to assemble cards that are used to meet their goals³⁷.

The Set Collection mechanic encourages players to collect a set of items to meet objectives within the game³⁸.

³⁶ "Citadels." <<https://boardgamegeek.com/boardgame/478/citadels>>.

³⁷ "Card Drafting." <<https://boardgamegeek.com/boardgamemechanic/2041/card-drafting>>.

Variable Player Powers is a mechanic that grants different abilities and/or paths to victory to the players³⁹.

In *Journey to the West*, four protagonists have their own super powers or specialty, the mechanics of Variable Player Power was planned to be included in the game. However, using this mechanic requires more play test simulations. It was eventually removed and become a task in future studies.

The Five Elements theory is a general theory that is widely-known by Chinese people and was first proposed by Taoism. It is a culture component that the designer wanted to involve in the game. Since the five element-water earth, wood, fire and metal-each have their represented color. Collecting colors became a good way to count for final scores. As a result, a Set Collection mechanic is applied to the game.

Hand Management, Dice Rolling- Bruges (2013)

The board game *Bruges*, which is a hand management and Dice Rolling game, was made by Stefan Feld and published in 2013⁴⁰. This game demonstrates various ways of dice rolling and card usage to generate randomness and choices. The game was a great reference of dice rolling mechanics. In order to add a mechanism that was based off of luck, the dice rolling component was applied to the game.

Hand Management is a major mechanic that has been seen in many board games. It is defined as an action of managing the hand and playing the cards in certain sequences or groups in order to get the best reward under given circumstances. Cards often have multiple uses in

³⁸ "Set Collection." <<https://boardgamegeek.com/boardgamemechanic/2004/set-collection>>.

³⁹ "Variable Player Powers." <<https://boardgamegeek.com/boardgamemechanic/2015/variable-player-powers>>.

⁴⁰ "Bruges." <<https://boardgamegeek.com/boardgame/136888/bruges>>.

games that have this mechanic⁴¹. This mechanic was applied to the game because it gives multiples uses based on a limited numbers of cards, and this reduced the number of cards that need to be made. Besides, cards are good platforms to convey information. There are a great numbers of Chinese supernatural and devils in the story *Journey to the West*. Having decks in the game offers a feasible way for players to learn about numerous monsters and stories in Chinese culture. Figure 5 shows the game Bruges and the dices that are used in the game.



Figure 5- The game *Bruges* and the dice that are used in the game

⁴¹ "Hand Management." <<https://boardgamegeek.com/boardgamemechanic/2040/hand-management>>

To see the full list of the reference games refer to Appendix A.

Development of the game

Developing the game required frequent playtests and fast iterations. “Game is quickly prototyped, played, and refined again and again before it is finalized”⁴². Iterative design allows designers to quickly identify mechanic bugs and get feedback to revise the game. In the design process of *Journey to the West: the Board Game*, elements are added to or removed from the game based on the feedbacks from the playtests.

The picture below shows one play- test session during the design process:



Figure 6- A playtest session

⁴² Brathwaite, Brenda, and Ian Schreiber. *Challenges for Game Designers*. p19. 2009.

Journey to the West: the Board Game took a six-month mechanics' development and a three-month art design process. In the mechanic development phase, paper prototype was the major technique that I used. The art referred to some of the traditional Chinese art style and developed by hand.

Paper prototype

Paper-based prototyping bypasses the time and effort required to create a work. It only needs very simple tools such as paper and scissors⁴³. A4 paper and poster paper were used to create rough, hand-draw cards and board as prototypes.

After revising the game rules for many times, a rough draft of the board had been defined. Below is a picture of this final game's first board draft:

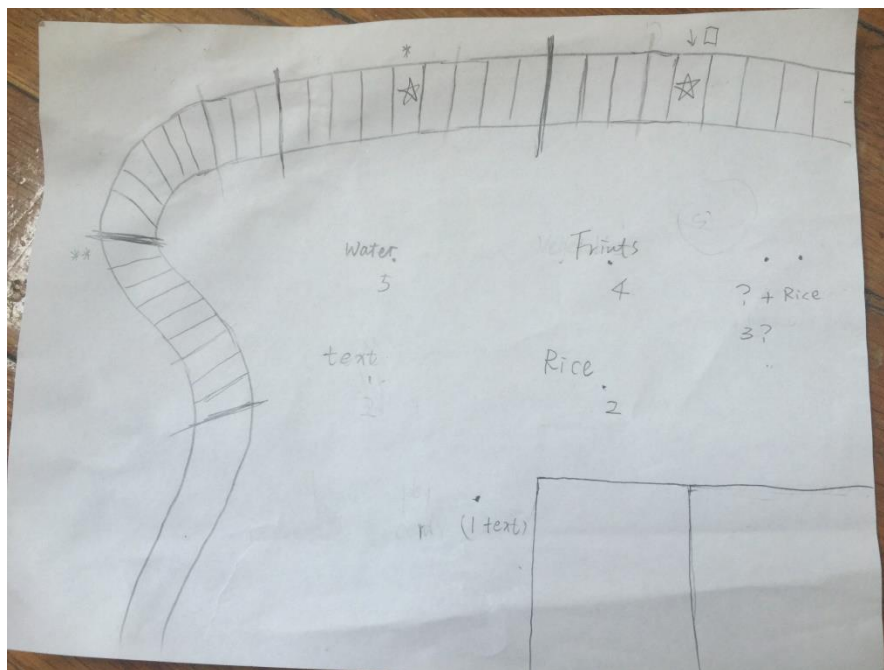


Figure 7- A rough game board draft

⁴³ "Five Paper Prototyping Tips." <https://articles.uie.com/prototyping_tips/>.

The picture below is the final hand-drawing board of the game before it was printed out:

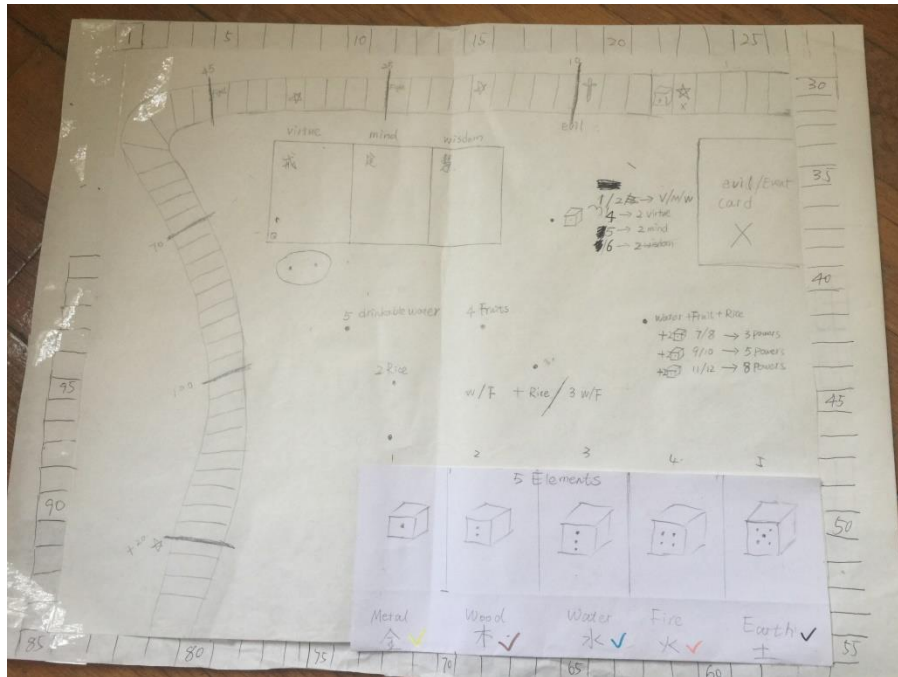


Figure 8- The final hand-drawing board

Art creation

Reference art

The art style referred to traditional Chinese painting styles, the common art styles of board games, and existing images of the characters in *Journey to the West*. The following pictures show different Chinese visual art styles.

An image example of the characters of *Journey to the West* in the animation *Havoc in Heaven*⁴⁴ is shown below:



Figure 9- Wukong fight the Third Lotus Prince⁴⁴

⁴⁴ Havoc in Heaven. Dir. Laiming Wan. 1964. Film.

Figure 10⁴⁵ is a drawing of a deity figure in Chinese folktales that applied Chinese line drawing technique.



Figure 10- The Earth Deity in Chinese folktales⁴⁵

⁴⁵Free design components download website-Qiantu
< <http://www.58pic.com/tupian/xiyoujibaimiao.html> >

Figure 11 shows a sample of a Chinese Shui Mo painting⁴⁶ (ink and wash painting).



Figure 11- Chinese Shui Mo painting⁴⁶

⁴⁶ Free background design components download website- Qianku <<http://588ku.com/>>.

Art design

For *Journey to the West: the Board game*, the software and the tools that were used to design the art is Adobe Photoshop, Adobe Illustrator and the drawing pad. The design of the art includes elements of both the front and the back sides of the card, as well as the game board and players' references board. In detail, these design involving designing the map board, the background of the front side of cards, the back side of cards, the symbol of various elements and the characters' image.

Some of the design components were came from several open source art websites ^{45 46} and were edited in Photoshop for later use.



Figure 12- The back ground image of the Monster cards

The background patterns of the cards vary from deck to deck. Figure 12 above shows an example that illustrates the background of the front side of the Monster deck.

In order to design the backgrounds of the front sides of the cards, several techniques were used in Photoshop, such as, distorting, changing colors, and changing the opacity of images.

The cards back were designed to achieve Chinese ink and wash painting style. An example of the card back shows below:



Figure 13- The back side design of the Evil deck

In the designing stage, it was evident that the font style and size, the border and the background's style, and the Shui Mo painting needed more imaging development. The goal in designing these images was to have each one blend with one another, creating a harmonious image. During this process, many drafts and changes were made to the images in order to have a complete and full image that would be compatible with the overall style and themes of the game.

There are many visual components that play important roles in the game. Although they only take small spaces on the card and seem as very detailed components, these still could not be ignored in the design process. An example is the design of the Spirit symbol and Power symbol, which can be seen in the picture below.



Figure 14- the Spirit and Power symbols' design

Chinese brush drawing style was applied in designing these two symbols and many other key symbols in the game. Photoshop is the main software used to develop these symbols.

Figure 15 below shows images that were created using Adobe Photoshop and the drawing pad. It demonstrates a line drawing image of a female (as seen in the left) and how it evolves after being colored (as seen in the right). This design was achieved by incorporating a style of Chinese line drawing in traditional ink and brush.



Figure 15- The Wansheng princess, character design

All the characters shown in the game were original hand-drawings inspired by some of the existing works of *Journey to the West*.

Various elements were designed and eventually put together on the card or the game boards. Figure 16, 17, and 18 show examples of the final designs of the card, the player's board and the game board respectively. The Style of Chinese seal, the Five Elements and the Chinese characters were applied in the design of these cards and boards.

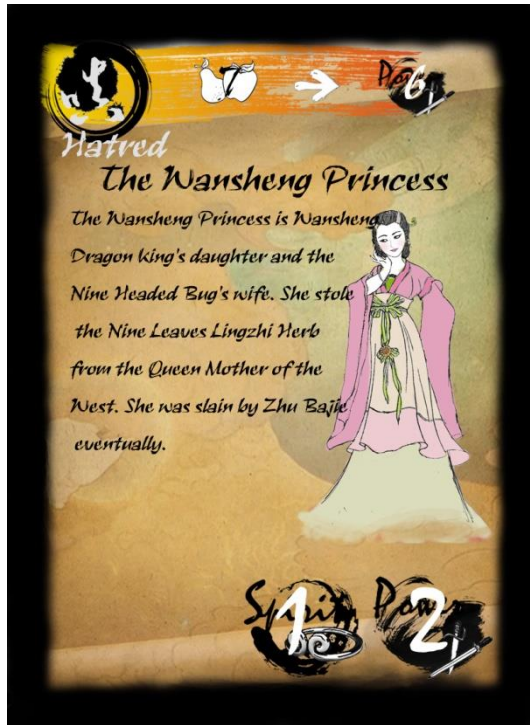


Figure 16- A complete Monster card



Figure 17- The player's board



Figure 18- The game board's final design

Revised game

After a 9-month development process, *Journey to the West: the Board Game* was finally printed and can be played as a complete game.

Target audience

- Non-Chinese people who are interested in but not familiar with Chinese culture
- People aged 12+

Duration

- 90+ minutes

Numbers of People to Play

- 2-4 players

Game elements

The elements of the game include one game board, four player's boards, four decks and many other pieces. The figure below shows a generally view of the game pieces.



Figure 19- Journey to the West: the Board Game

The game board

The game board is the place where plays get resources and more importantly, get the idea of the whole journey and what happening during the game play. It is a functional game board while could not clearly show the actual route of the journey from China to India. Some future work is needed to revise the board.

The Monster deck

This deck services two main functions.

- It is a medium that contains some of the Chinese culture aspects in two forms, verbally or visually. Contents on the cards tell the stories in the book and the images on the cards demonstrate different art styles, Chinese evils in folktales and Chinese costumes.
- Most importantly, the cards are for playing. The concise symbols on those cards show the ways of playing it.



Figure 20- The Monster deck

The Spirits deck

Similar with the Monster deck, the Spirit deck is used for playing while at the same time for disseminating some culture aspects. Some typical Chinese deities and gods were designed on the spirit cards and were sorted by their origin, which are either Taoism or Buddhism.

Other pieces

Dice, tiles and many more other pieces are used in the game. The full list of the game elements and the number of them are showing in Appendix B.

How to play

Journey to the West: the Board Game is a card-driven, worker placement and resource management game. Scores (Enlightenment points) can be earned during the journey and will be summed at the end of the game. There are two ways to win the game:

- The game ends when players reach the Western Paradise, which is located in India. Then the player with the highest Enlightenment points wins the game.
- The game ends at the time a player first earn 10 Enlightenment points. This player wins the game.

The game board will show the actual route of the journey in *Journey to the West*. There will be several places for players to place their token (bowl) on, which allows them to get resources, such as water, rice and fruits, get Threefold Training points (Virtue/ Mind/ Wisdom points) or get bonus cards. Players play or collect cards by paying their resources, powers or spirits in order to eventually earn Enlightenment points.

The complete rules are described in Appendix C.

Chinese culture components in the game

Experience

The game allows players to play roles in the story *Journey to the West*, to experience the characters' tribulations and fighting devils in order to obtain the goal of gaining enlightenment. This experience is actually related to a Taoism theory of helping people in need, fighting evils and eventually achieving immortality. The experience that players could achieve after playing the game would somehow help them gain the knowledge that is related to the ancient Chinese religious philosophy.

The stories

The game tried to simulate the process of the journey in the novel *Journey to the West*. It gives players a basic idea of what this book is about. The contents that are written on the cards tell mini stories of the book. Gaining some knowledge of the book would in turn mean gaining some knowledge of the Chinese literature culture.

The art style

The art was created to show some common Chinese painting styles and Chinese costumes. Players can receive this information directly by looking at the cards.

Other components

Some supernatural figures, for example, the Third Lotus Princess and Maytreya, are not just characters in the book; they are actually the deities or gods that ancient Chinese people

believed in. These characters are depicted in this game verbally and visually, aiming to immerse players in an environment that encompasses numerous mystery figures in Chinese folktales.

Printing and production

The complete game was printed by *The Game Crafter*, which is a company based in Madison, Wisconsin that produces tabletop game components and custom print-on-demand card and board games⁴⁷.

The cost of one copy of the game is 46.89 US dollars. The retail price should be 50 to 55 US dollars so that at least 10 dollars profit could be made per copy. For larger scale printing, more than one hundred copies, it cost 33.13 US dollars per copy. In the future, when the game is ready to be sold, the reasonable price of the game would be 45 US dollars. At least 10 dollars of profit per copy could be made. These are very rough statistics, and for future publishing, a more detailed and accurate business plan should be made.

For the full table of the printing price, please see Appendix D.

Production Type	Amount	Total price (US dollar)	Total price 100+games (US dollar)
Journey board	3	10	8
Player's boards	4	1.83	1.4
Monster card	75	10.53	6.89
Spirits card	30		
Devil card	8		
Reference card	4		
Power card	21		
Bonus card	35	3.99	2.44
Food supply	57	9.49	5
Punishment tiles	20		
Dice	4	0.96	0.96
Bowl tokens	4	0.6	0.6
S/E trackers	16	2.24	2.24
Journey tracker	1	0.15	0.15
Rule book	1	1.10	0.76
Box	1	6.00	4.69
		Total price 46.89	Total price 33.13

Figure 21- The printing prices

⁴⁷ Game Crafter. <<https://www.thegamecrafter.com/>>.

Evaluation and Survey

A test of the game was conducted for the purpose of obtaining playtest feedbacks, finding mechanic and game play bugs, and exploring whether the game achieves the original goal of disseminating and stimulating non-Chinese people's interest in Chinese culture. This study also helps to identify opportunities for design improvement.

The evaluation was conducted by comparing outcomes of experimental subjects who are given the board game versus those who are given an abbreviated version of the original story. The experiment is conducted anonymously.

Subjects

The subjects of the experiment are WPI non-Chinese students, professors and alumni who are not familiar with the novel *Journey to the West*.

Method

Subjects were assigned to two groups: one experimental group and one control group. The experimental group played *Journey to the West: the Board Game*, and the control group read the children's book (*Journey to the West* by Wu Cheng'en, Retold by Christine Suh, and Illustrated by Shirley Chiang). The subjects were required to take several questionnaires and tests, both before and after they played the game or read the book. The questionnaires and the tests were available online, while a paper version of these surveys was offered to people who were not able to use online survey due to certain circumstances. The website that was being used to generate surveys is Survey Monkey. Figure 22 demonstrates the evaluation process.

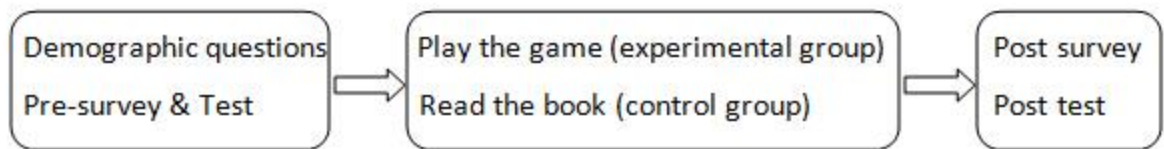


Figure 22- The process of the experiment

Research questions

The demographic information

The demographic survey was required for all subjects to take at the beginning of the experiment. The questions that were asked involved their ages, nationalities and more.

See the whole demographic questions in Appendix E

Questionnaire

A pre-survey and a post-survey were designed to collect people's opinions toward cultural learning aspects. The questions included how they think about the traditional ways of learning, how they think about the board game, and more. Feedback about the game was also asked in the post survey.

See the whole pre-survey and a post-survey in Appendix F.

Test

A pretest was conducted to show how much the subject knew about the novel and Chinese culture. The results of this test were used as comparison references for the post test. The post test

was taken after the game play or finish reading the book. This test showed how much the subject learned about Chinese culture after their experiment.

The whole test questions are in Appendix G.

Results

In total, 36 valid responses were collected from the study, including 17 responses from the experimental group and 19 responses from the control group. WPI non-Chinese students, professors and alumni participated in this experiment.

The demographic information

The subjects' ages ranged from 19 to 44 years old, and most of them aged from 20 to 26. These 36 people were from different countries. 18 of them were from the United States, 3 were from Tunisia, 3 were from Ukraine, 2 were from Brazil, and 1 person was from each of the following countries: Basque, Turkey, Albania, India, French, Mexican, Jamaica, Iran and Grenadian. There was also one person that was born in America with a Chinese background. 27 of them were WPI students, 1 was a professor, 1 was a student from another school, and 8 of them were WPI alumni. The subjects' area of studies included Interactive Media and Game Development, Chemical Engineering, Civil Engineering, Biotechnology, Materials Science and Engineering, Aerospace Engineering, Robotics Engineering, Data Science, and Electrical Engineering.

Pre-experimental result

For all 36 responses, 31 people had never heard about the book *Journey to the West* before, while the other 5 people had heard about it but were not very familiar with it. 33 people considered themselves to have interests in Chinese culture to varying degrees. The aspects that make them interested in Chinese culture are shown below. The other category includes interest in

the rich history of China, Chinese music, professional connections with Chinese business, Chinese language, and relationships with Chinese people, and one person lived in China before.

The Figure 23 shows why they are interested in knowing Chinese culture and the Figure 24 shows the ways that they have been exposed to Chinese culture.

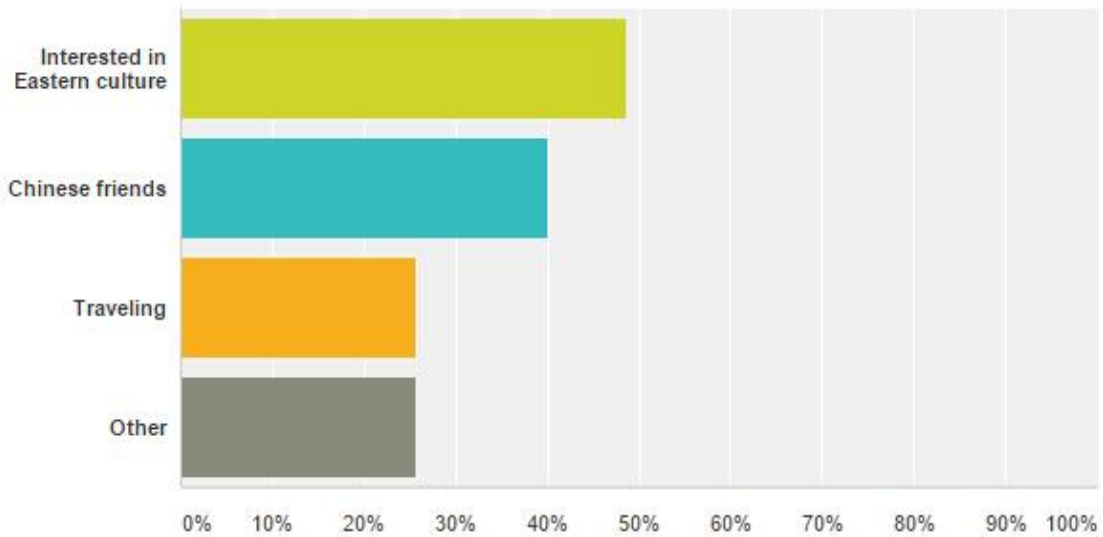


Figure 23- why the subjects are interested in knowing Chinese culture

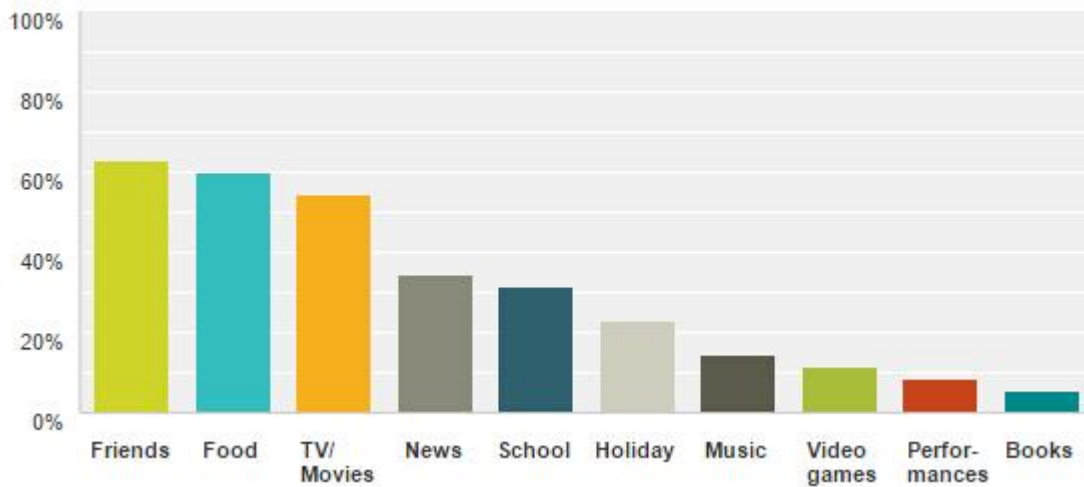


Figure 24- The ways that the subjects have been exposed to Chinese culture

For all 36 participants, only 4 people do not like playing board games.

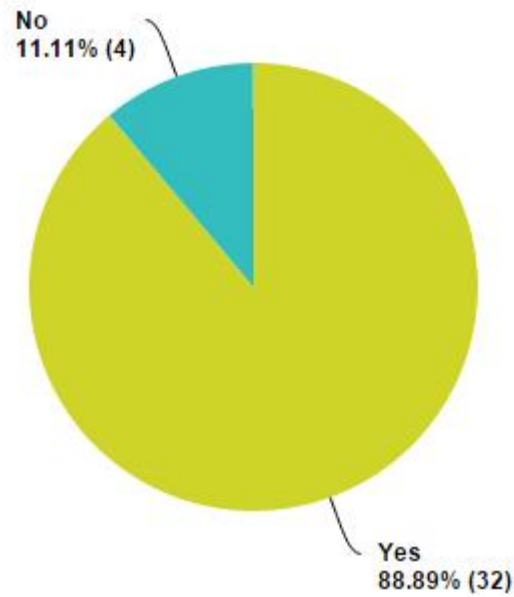


Figure 25- Do you like board games?

The types of the board games that are usually played by these responders are shown in Figure 26.

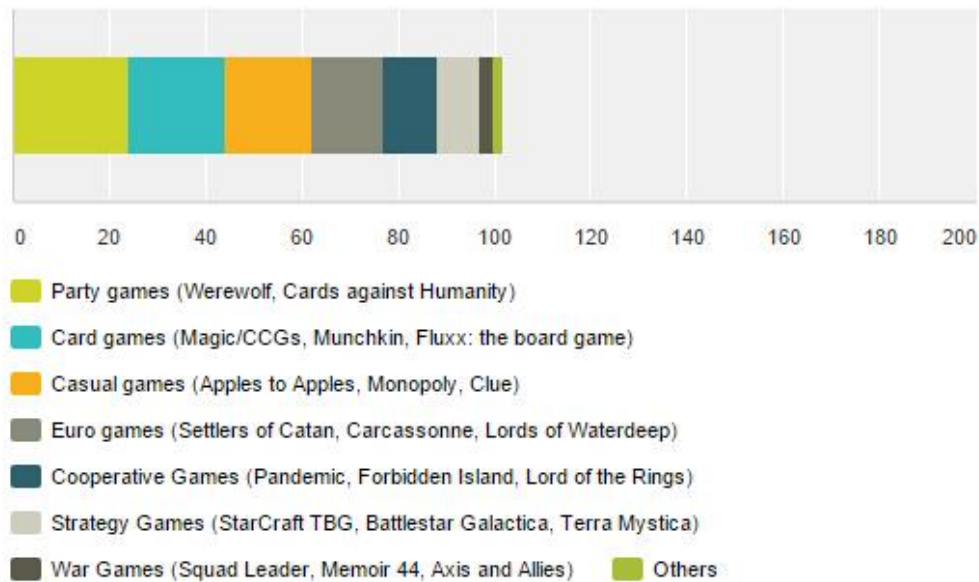


Figure 26- What types of board games do you like to play

The majority of the responders showed very positive attitudes toward the idea of learning Chinese cultural aspects through playing board games. Figure 27 shows the participants' response to the question, "Do you think learning about culture through playing board game is a good idea?" In this figure "1" means they think it is a bad idea and "5" means they strongly agree with the idea that learning through reading is a good idea.



Figure 27- Do you think learning about culture through playing board game is a good idea?

Post-experimental result

The subjects' opinions and feedback after they played the board game or read the book were collected. In Figure 29, the left table shows how people from the control group think about learning through reading, and the table on the right shows how the experimental group thinks about learning through playing board games. In general, people think learning by playing board games is a good idea.

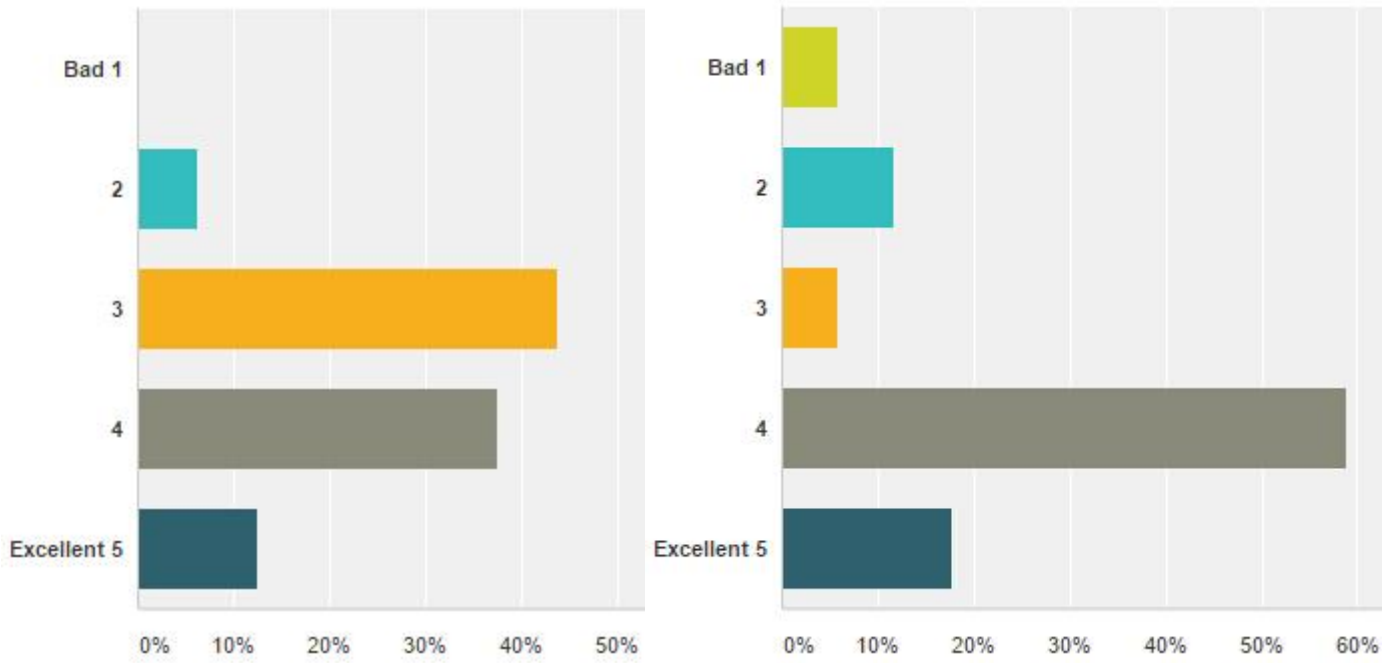


Figure 29-Do you think learning by reading (Left)/ playing board games (Right) is a good idea?

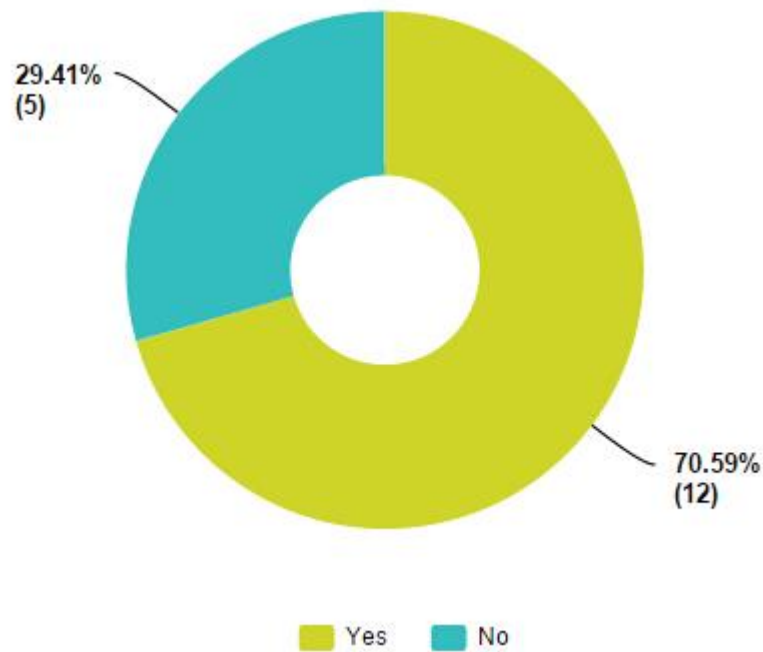


Figure 28- Do you consider yourself more interested in Chinese culture?

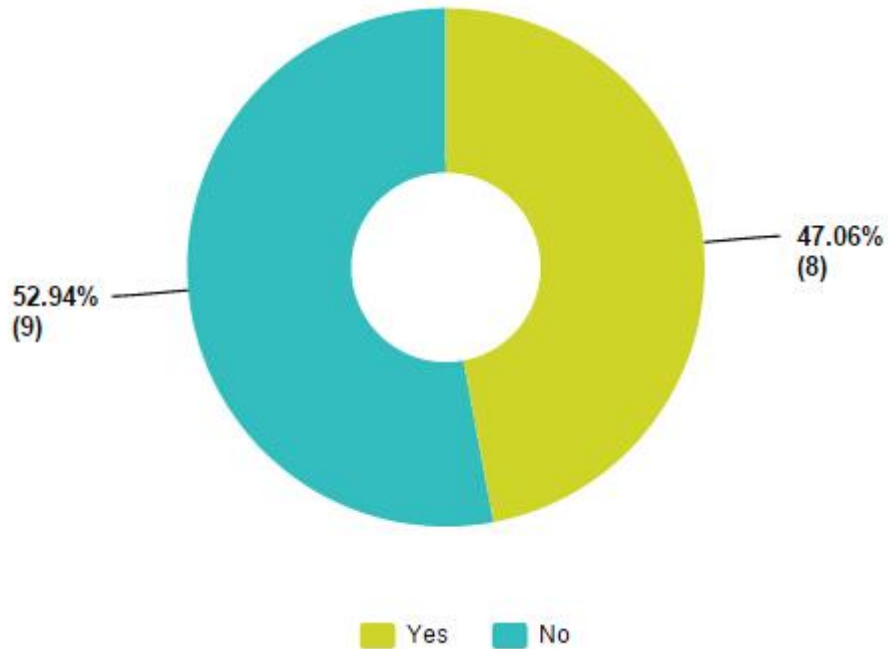


Figure 30- After the research, will you look up more relevant materials of different culture?

After the game section, more than 70% people are more interested in Chinese culture, and about 50% of them claimed that they would like to look up more relevant materials to find the information about aspects of Chinese and other different cultures. Figure 29 and Figure 30 above show these results.

Some positive feedback to the game play and the game art had been received. In general, all subjects think the art is very impressive and can show Chinese visual art styles. For all 17 people who played the game, 13 of them read some or all of the content on cards and found the stories interesting. While some people think the content on the cards are too long this prevents them from reading these stories.

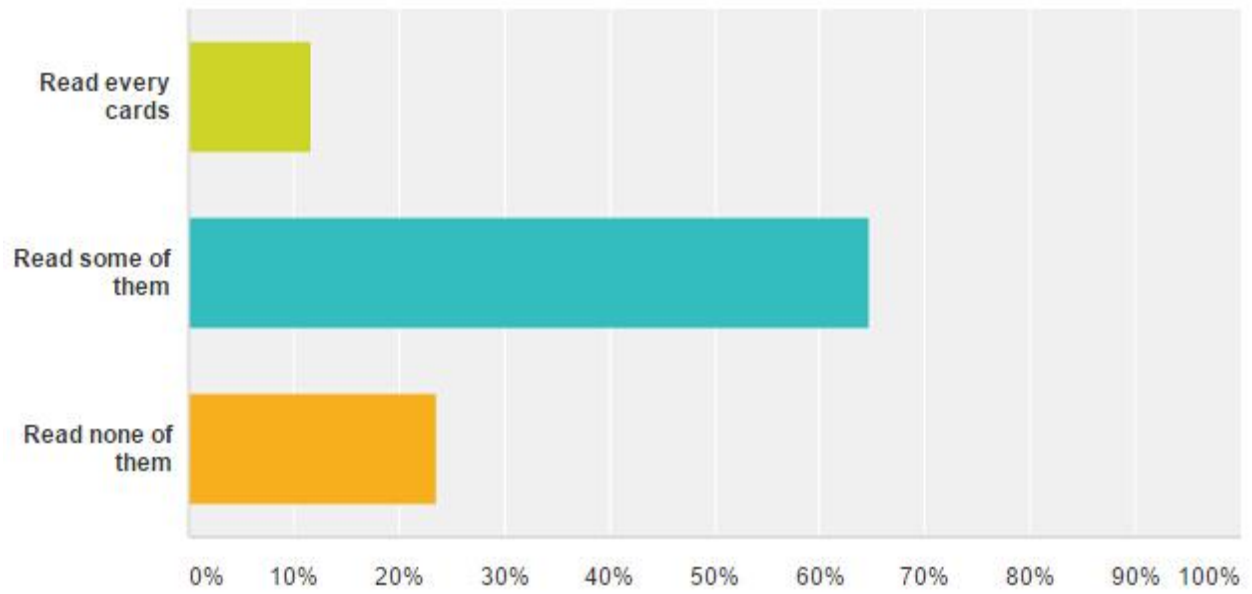


Figure 31- Did you read the contents on cards?

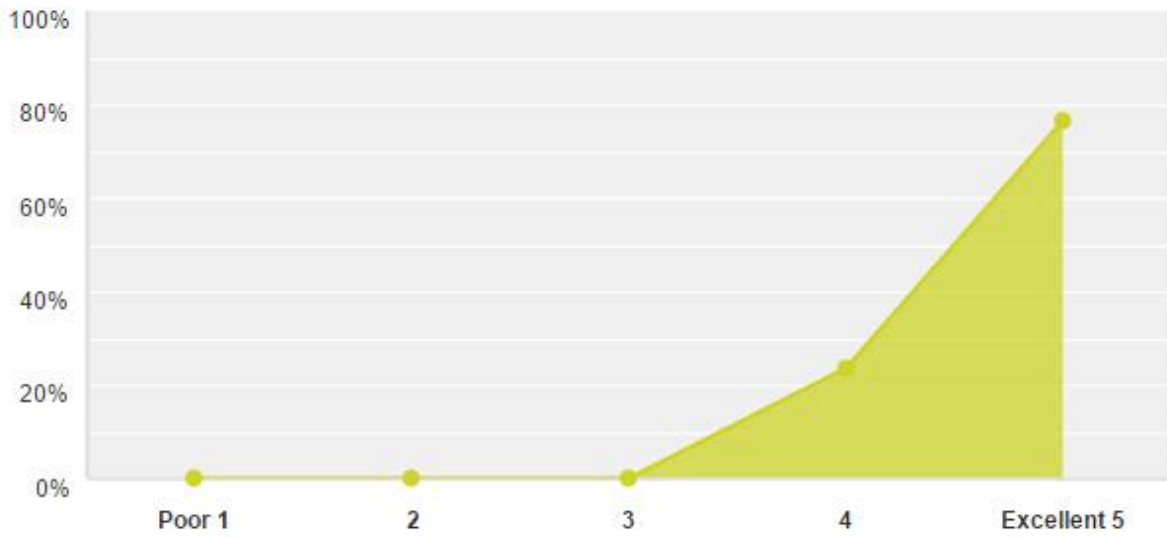


Figure 32- How do you like the art of this board game?

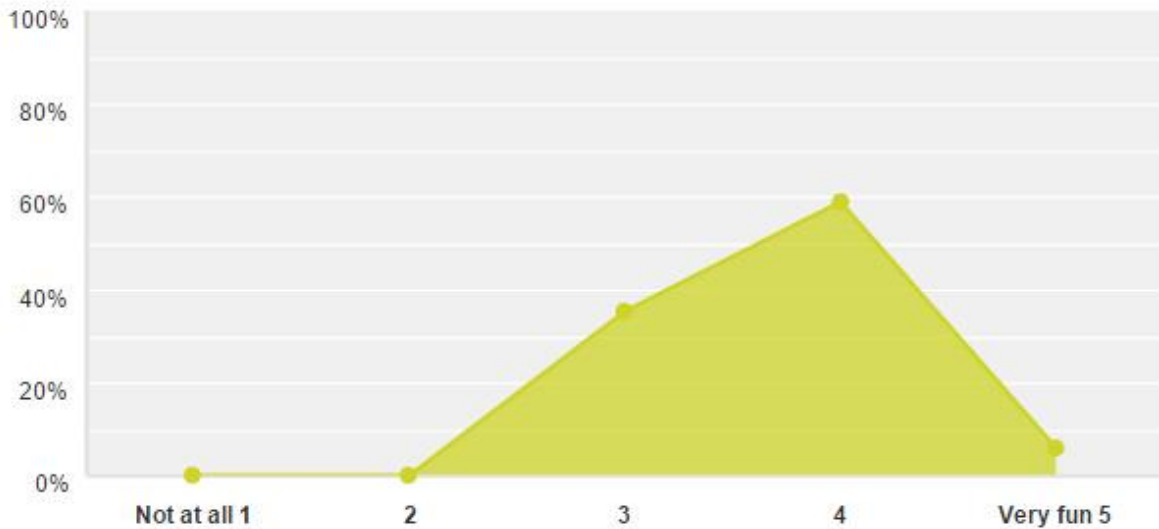


Figure 33- Do you think the game is fun to play?

Subjects in both the experimental and control groups did two tests, a pre and a post test.

Figure 34 shows how reading or playing the game help people gain understandings of some Chinese culture aspects.

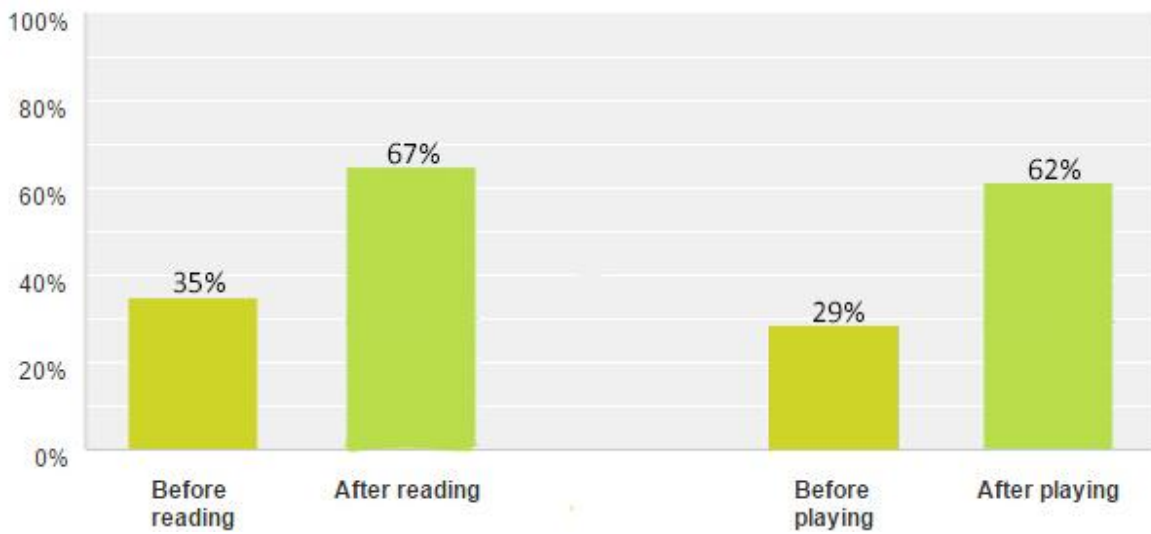


Figure 34- Tests' accuracy comparison

Reading the book and playing the game basically have similar effects. There is 33% increase of the accuracy of the test after the subjects played the game. Although this improvement is not significant, both the experimental and the control groups were getting familiar with the story. While people from the reading group are more clear about the characters and the overall story, the playing group received more information about the related cultural aspects.

To conclude, all the charts and data above show that the art is well-made and the game is functional. The majority of the subjects from both the experimental and control groups consider learning culture by playing board games is an effective way. The game achieved the goal of stimulating people's interest in this specific culture and helping them to gain understanding of some of the Chinese culture aspects.

Post Mortem

Events That Went Well

Based on the feedback of the playtest, the game is functional and somewhat fun to play. No evident unbalanced mechanic appeared during the playtests.

The numbers of the cards in decks are appropriate. Decks do not run out fast. The numbers of cards are adequate and can satisfy the game play.

The finished art is good and people have given very positive feedback to it. It reached the goals of showing Chinese style. All the boards, cards and mini tiles are in their right sizes; this means the game elements are clear enough to be seen by people but without being too big. The symbols are designed clearly, and are easy for players to understand what they represent in the game play.

The experiment that was conducted behind the project was successful. Besides the feedback from the game testers, many other opinions and suggestions from other players were collected during the evaluation process. This feedback will be helpful for improving the game in the future.

Future works

Due to the limitation of the time, not all important characters in the book are designed and shown on the cards. Some of the images were shown more than one time on cards. More characters should be designed in future iterations of the game.

The introductions and the mini stories on the cards should be more concise. The long contents on cards sometimes prevent players from reading them. In order to give people more

clear and direct information, the stories should not be too long and unnecessary parts should be cut down. A more efficient and concise way of telling stories should be applied to the game.

There is a small problem with the rule for getting spirit points. The spirit cards should be more tempting for players to get. The observation of the play test sections show that players seem to focus more on getting the powers rather than getting the spirits. Future improvement on this mechanic is needed.

The four main characters' powers should be specialized in the future. In the original novel, the four main protagonists each have their own skill sets. So in order to make the game show more about the book and help them have better understanding of the story, different personal skills should be included.

Most importantly, the design of the box and the rule book should be finished soon. The game should be available on the Game Crafter website soon.

Conclusion

Overall, the results of the experiment and the observations of play-tests show that the game is a functional game with a measurable degree of entertainment, and the art was very well-made and can show Chinese art styles. The capacity of this game to stimulate non-Chinese people interest in Chinese culture can also be reflected in the evaluation. Even though people have not learned significant amounts of culture aspects from playing, they become familiar with the stories and several related Chinese culture aspects. The depth of culture teaching in this game can go further in the future versions of the project.

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Appendix A: Inspirational board games references

- Tales of the Arabian Night (2009)
- Lords of Waterdeep (2012)
- Istanbul (2014)
- Citadels (2000)
- Troyes (2010)
- Lewis and Clark (2013)
- Bruges (2013)
- Navegador (2010)
- Journey: Wrath of Demons (2015)

Appendix B: The game elements

- The Journey board (1): The journey map
- The Player's board (4)
- The Monster cards (72)
- The Spirit cards (30)
- The Evil cards (8)
- The Bonus cards (35)
- The Power value cards
- The player's reference cards
- Food supplies tokens
- The Bad Luck markers
- Dice
- Bowl token (4)
- The Spirits/Enlightenment tracker (16)
- The Journey tracker (1)

Appendix C: The game rules

Winning condition:

There are two ways to end the game.

- The game ends when the Journey tracker reaches the Western Paradise, India. Then, the player with the highest Enlightenment points wins the game.
- The game ends at the time a player first earns 10 Enlightenment points. This player wins the game.

There are in total 5 ways to get Enlightenment points:

1. Playing and collecting 3, 5, 8 or 10 of the same color or type of Monster or Spirit card equals 1, 2, 4 or 6 Enlightenment points respectively.
2. Earning 1 Evil card equals 1 Enlightenment point.
3. Some Bonus cards offer ways to get Enlightenment points.
4. When players reach certain places on the journey, they need to compete with each other and count the Enlightenment points by comparing certain resources that each player has, including:
 - **Count Five Elements' points:** the ones who have the least Bad Luck markers on the Five Element Matrix get 1 Enlightenment point.
 - **Count Virtue/Mind/Wisdom points.** The player that has the most V/M/W points get 1 Enlightenment point, which type of these three points is compared is decided by a die roll.

Game setup:

1. Place the game board in the center of the table.
2. Place the resource (Water, Fruits and Rice) tokens on the table.
3. Each player chooses a character (Monkey King, Sanzang, Bajie or Wujing) to play. Each character is represented by different colors(yellow, red, green and blue). Each play get the token in their color
4. Each player places a Player's board in front of them
5. Each player draws 4 Monster cards. these cards can be played in two ways:
 - As Monster cards: the power value shown on the right-down corner of the card indicates how much power is needed to give away to defeat this monster.
 - As Formula cards: the formula on the top shows how to exchange the resources (Water, Fruits and Rice) for powers.
6. At each players' board, we use a token to indicate no Enlightenment points, and 1 each of Virtue/Mind/Wisdom points
7. Every player take 2 Bad Luck markers and place them cover two spots on the Five-Element Matrix. The spots that are covered cannot be used to be placed the Bonus cards on from then on. In later game play, ways of removing the Bad Luck marker are provided.
8. Place the Evil deck on the board. Place 1 Spirit card on each of the Spirit card spots on the board. Place 1 Bonus card face up on each of the Five Elements' spots on the board.
9. Get resources:

For a 2 player's game:

 - The first players: 2 fruits, 3 waters

- The second player: 1 rice, 2 fruits, 2 waters

For a 3 player's game:

- The first players: 2 fruits, 3 waters
- The second player: 1 rice, 2 fruits, 2 waters
- The third player: 1 rice, 3 fruits, 3 waters

For a 4 players' game:

- The first players: 2 fruits, 3 waters
- The second player: 1 rice, 2 fruits, 2 waters
- The third player: 1 rice, 3 fruits, 3 waters
- The fourth player: 2 rices, 3 fruits, 3 waters

Game Play:

1. All players start their journey in Chang'an, China (the up left spot of the journey). Each player rolls a die. The one who rolls the highest number goes first.

2. Turn based action:

At the beginning of every round, move the Journey Tracker one step forward on the journey route

3. General actions:

During a player's turn, he/she can do 2 general actions and choose the order of doing these two actions:

- 1) **Place workers action:** Place your bowl (the token in your character's color) on an unoccupied spot on the board, to get resources, Spirits cards or Bonus cards.

There will be three types of resources or cards you can get:

- **Living supplies:** Including Water, Fruits and Rice. Based on the numbers on the board, you get the corresponding amount of resources.
- **Spirit Cards:** You can get a Spirit card of your choice in one of the threefold training you want to have (Virtue/Mind/Wisdom). That way, the player can move the corresponding value on the Player's board 1 step ahead. Once you get a Spirit card, it goes into your hand and adds to the Monster cards. You cannot have more than 5 Monster and Spirit cards.
- **Bonus cards:** You can get a Bonus card based on the dice roll. The bonus card can help you with the game play in a certain degree. The board shows each of Five Elements (the Fire, Water, Wood, Metal and Earth) with its corresponding dice roll, In order to get a bonus card, you need:
 - Roll 2 dice, according to the number you rolled, you can potentially get a bonus card. For example, if you roll a "2" and a "4", the corresponding elements on board are Wood and Fire. If on your player's board's Five Elements matrix, the Wood spot or the Fire spot is available (no Bad Luck marker on it), you can get a bonus card and place it on your corresponding element's spot on your play's board. On your player's board, one spot can only has one card on it, if you want to have more bonus cards, you need to discard the one you already have.

- If your dice roll includes “6”, you can choose any card on the board, while you still need to have the corresponding elements’ spots available on your player’s board.
- **Getting living supplies(resources) or Virtue/Mind/Wisdom point based on luck:** There are 2 spots on the board that you can place your token on, based on the dice roll, you can get the corresponding **living supplies or Virtue/Mind/Wisdom points**
- 2) **Cards’ action:** Play/Draw/Exchange up to 3 cards, the maximum number of the cards (Monster& Spirits cards) you can hold is 5.
- **The Monster cards could be played in 2 ways:**
- **As a Monster card:** you can play a Monster card if you want to defeat the monster on it. The power icon on the bottom-right shows how much power you need to defeat the monster. After you defeat the monster, that card goes to your collection, and at the end of the game, we count the Enlightenment points depending on the color/type of Monster cards that you defeated.
 - **As a formula card:** The formula on the top of the Monster cards shows how to transfer from living supplies to powers. The powers that you have earned could be used in the game later. After you play the card as a formula card, it goes to the discard deck.
- **Play the Spirit cards:** After you play a Spirits card, the card goes to your collection, and at the end of the game, we count the enlightenment points

depending on the cards that you have played. Some Spirit card can help you to remove 1 Bad Luck marker when you play it.

4. **Special actions:** When it comes to certain places on the Journey route, some special actions are required:

1) **Reveal an Evil card:** When the Journey tracker steps on a place that has an Evil card symbol on it, an Evil card must be revealed and placed on the board.

According to the values on the Evil card, each player must give away resources or they will gain a Bad Luck marker.

2) **Resolving an Evil card:** When the Journey tracker steps on a place that has a Fight symbol on it, all players must work together to resolve the Evil card on the board. In order to survive from this evil place, certain amount of power must be given away. The number of the power that is needed is indicated by the power icon on the bottom-right corner of the card. Each player must secretly choose the number of the power that they want to give away and all players reveal the power at the same time. If the total number of the power is bigger than the number on the card, then the card is successfully resolved and the player who gives away the most powers earns the Evil card. If the total number of the power is smaller than the number on the card, then the player who gives away the least powers must take a Bad Luck marker and no one get the Evil card.

3) **Compare the Bad Luck markers:** When the Journey tracker step on a spot with a Back Luck symbol on it, players much compare the number of the Back Luck marker they have. The one who have the least bad Luck markers on the Five Element matrix earns 1 Enlightenment point immediately.

- 4) **Compare the Virtue/Wisdom/Mind points:** When the Journey tracker step on a spot with a Spirit symbol on it, Players must roll a die to define which one of these three points will be compared. Players then compare the number of the chosen type of points they have. The one who have the most of this type of points earn 1 Enlightenment point immediately.

Appendix D: The printing price table

Production Type	Type	Amount	Unit price (US dollar)	Total price (US dollar)	Total price 100+games (US dollar)
Quad-fold board	Journey board	3	6.67	10	8
Skinny mat	Player's boards	4	0.46	1.83	1.4
Poker deck	Monster card	75	0.09	10.53	6.89
	Spirits card	30	0.09		
	Devil card	8	0.09		
	Reference card	4	0.09		
Micro deck	Power card	21	0.07	3.99	2.44
	Bonus card	35	0.07		
Mini square tile	Food supply	57	0.12	9.49	5
	Punishment tiles	20	0.12		
Dice 6	Dice	4	0.24	0.96	0.96
Avatar	Bowl tokens	1*4(colors)	0.15	0.6	0.6
People	S/E trackers	4*4= 16	0.14	2.24	2.24
Avatar	Journey tracker	1	0.15	0.15	0.15
Jumbo booklet	Rule book	1	1.10	1.10	0.76
Box	Box	1	6.00	6.00	4.69
Total price=46.89				Total price= 33.13(100+)	

Appendix E: Demographic questions

Q. Age: What is your age?

Q. what nationality are you?

Q. What is the highest level of education you have completed?

- High school
- Undergrad
- Master's degree
- PhD

Q. What is your occupation?

- Professor
- Student
- Other

If you are a student, what is your area of study?

Appendix F: Surveys

Pre survey for both playing the experimental and control groups:

Q. Are you familiar with the Chinese story *Journey to the west*?

- Yes
- No

Q. Are you interested in knowing about Chinese culture?

- Yes
- No

If your answer above is “Yes”, what makes you interested in knowing about Chinese? (Check all that apply)

- Interested in Eastern culture
- Have Chinese relatives/friends that I want to communicate with
- Interested in traveling to China
- Other (please specify)

Q. In what ways are you usually exposed to Chinese culture? (Check all that apply)

- TV/ Movies
- News
- School
- Books
- Friends

- Food
 - Music
 - Performances
 - Holidays
 - I have never been exposed to Chinese culture
 - Others(please specify)
-

Q. Do you like board games?

- Yes
- No

If your answer is “Yes”, how often do you play board games?

- Several times a week
- Once a week
- Once a month
- Less than once a month

What kinds of board games do you usually play? (Check all that apply)

- Party games (Werewolf, Cards against Humanity)
- Casual games (Apples to Apples, Monopoly, Clue)
- Card games (Magic/CCGs, Munchkin, Fluxx: the board game)
- Euro games (Settlers of Catan, Carcassonne, Lords of Waterdeep)
- War Games (Squad Leader, Memoir 44, Axis and Allies)
- Cooperative Games (Pandemic, Forbidden Island, Lord of the Rings)

- Strategy Games (StarCraft TBG, Battlestar Galactica, Terra Mystica)
 - Others (please specify)
-

Q. Do you think learning about culture through playing board games is a good idea?

Very Bad 1 2 3 4 5 Very Good

Post survey for the experimental group:

Q. What do you think of learning cultural knowledge through playing games?

Very poor idea 1 2 3 4 5 Excellent idea

Q. Do you consider yourself more interested in knowing Chinese culture?

- Yes
- No

Q. Did you read the content on the cards?

- Read every cards
- Read some of them
- Read none of them

If you did read the contents, did you find the stories interesting?

- Yes
- No

Q. After research, will you look up relevant materials to find out more information about the aspects of different cultures?

- Yes
- No

Q. How do you like the art of the board game?

Poor art 1 2 3 4 5 Excellent art

Q. Do you think this game is fun to play?

Not at all 1 2 3 4 5 Very fun

If yes, can you specify some examples?

If no, can you tell what parts degrade playability?

Post survey for the control group:

Q. Do you think learning about culture through reading is a good idea?

Very Bad 1 2 3 4 5 Very Good

Q. How much are you willing to learn through reading?

None 1 2 3 4 5 Much

Q. How much do you think you can learn from reading?

None 1 2 3 4 5 Much

Q. Do you consider yourself more interested in knowing Chinese culture?

- Yes
- No

Q. After research, will you look up relevant materials to find out more information about the aspects of different cultures?

- Yes
- No

Appendix G: The test

Q1. Which of the following does **NOT** belong to the threefold training in Buddhism? (Check all that apply)

- Wisdom
- Virtue
- Concentration
- Effort
- Mind
- Not sure

Q2. Which of the following is not the main character in the story *Journey to the West*?

- Sun Wukong(Monkey King)
- Xuanzang
- Wu Cheng'en
- Zhu Bajie(Piggy)
- Sha Wujing(Sandy)
- Not sure

Q3. Which of the following are common philosophies that Chinese people value? (Check all that apply)

- Taoism
- Mitogaku
- Buddhism
- Jainism

- Not sure

Q4. Which of the following gods were worshiped by Chinese people in ancient times? (Check all that apply)

- Jade Emperor
- Guan Yin
- Confucius
- Buddha
- Not sure

Q5. In oriental culture, which of the following do people tend to value more?

- Individualism
- Collectivism
- Not sure

Q6. When do you think *Journey to the West* took place?

- Qin Dynasty
- Tang Dynasty
- Qing Dynasty
- Song Dynasty
- Not sure

Q7. Which one of the following is **NOT** an element that belongs to the five-element theory of Chinese philosophy? (Check all that apply)

- Wind

- Earth
- Wood
- Water
- Not sure

Q8. Which country is the destination of the story?

- India
- Thailand
- Pakistan
- Nepal
- Not sure