College Students' Intrinsic and Extrinsic Motivations for Online Game Playing

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Abstract - This purpose of this study was to explore college students' motivations for playing online games based on intrinsic and extrinsic motivation orientations. A total of 20 college students with heavy online game playing experiences in Taiwan were selected to receive a semi-structured interview. A content analysis was used to analyze the interview transcripts. The results found that intrinsic and extrinsic motivations played different roles in college students' online game playing. The students tended to contact online games first time for extrinsic motivations but keep on playing online games for intrinsic motivations. In addition, students' preferences on types of online games seemed to be related with their motivation orientations. Therefore, this study suggests that online game designers and curriculum developers should notice the different roles of intrinsic and extrinsic motivations and put them into the design for learning. Also, the individualizations of game-based learning should consider the relationships between students' preferences of game types and their motivation orientations. Further research should emphasized on examining the impacts of intrinsic and extrinsic motivations on students' online game-based learning as well as investigating the role of students' game preferences played in their learning via online game playing.

Keywords: intrinsic motivation, extrinsic motivation, online game, motivation orientation

1 Introduction

Prior studies have already identified the motivations for play in online games. For example, Yee [1] surveyed 3000 MMORPG players and categorized the motivations into three major components including achievement (e.g. advancement, mechanics and competition), social (e.g. socializing, relationship and teamwork) and immersion (e.g. discovery, role-playing, customization and escapism). Chiou and Wan [2] interviewed ten adolescents’ motivations for online game addictions and concluded with five dimensions: for psychological needs, as everyday focus, interplay of real self and virtual self, as compensatory or extensive satisfaction, and for self-reflections. Most of the related research [3-9] correlated the motivations with addicted or heavy players’ experiences, psychological needs, personalities, attitudes and values. Little research has discussed the motivations for online game playing with connections of the motivations for learning from a relatively more positive perspective to carefully draw out the potential motivations that could be merged into students’ online learning.

As motivation is a multidimensional and multilevel construct [10], a wide variety of definitions are discussed and used in educational psychology research. According to Deci and Ryan’s [11], to be motivated means to be moved to do something and motivation can be distinguished into intrinsic motivation, extrinsic motivation and amotivation [12]. Their construct argues that intrinsically motivated learning can be defined as the drive to learn. This drive is based on the satisfaction and pleasure of the activity of learning itself. Vallerand and Bissonnette [13] further divided intrinsic motivation into three types of purposes: intrinsic motivation to understand something new; intrinsic motivation to accomplish something; and intrinsic motivation to experience stimulation. Therefore, intrinsically motivated learning is often involved with learning for interests, curiosity, fantasy, stimulation and achievement. On the contrary, extrinsically motivated learning refers to learning for some external rewards [11] such as for money, fame, positive feedbacks and even social interactions. Amotivation concerns a state of lacking any intention to act or learning.

Since intrinsic motivations are highly engaged with the drive to learn actively and continually, identifying the roles of the intrinsic and the extrinsic motivations played in online game playing may be contributed to the literature in support of using online games to help students learn. Therefore, this study examined students’ motivations and experiences for playing online games based on Deci and Ryan’s [11] framework of intrinsic and extrinsic motivations by conducting in-depth interviews of college students with heavy online gaming experiences.

2 Methods

2.1 Subjects

A total of 20 college students in Taiwan were subjects
used for in-depth interviews in this study. The sample was selected from a pool of 97 college students receiving a questionnaire about their online gaming experience. In order to select experienced online game players, the criteria used for the selection was playing online games more than 10 hours per week. Finally, the subjects were consisted of 16 males and 4 females. The average age of the subjects was 21.1 and their experience of online game playing was 5.3 years in average. Their weekly time spent in playing online games ranged from 12 hours per week to 39.5 hours per week, with an average of 23.6 hours per week.

2.2 Interview

A semi-structured interview was used in this study. The framework of the interview was based on the following stems of questions: (1) Under what circumstances do you begin to play online games? When, where and why? (2) Why do you keep on playing online games? (3) What types of online games do you prefer to play and why? Each of the subjects was interviewed individually by a well-trained interviewer. The time for the interviews ranged from 28 minutes to 44 minutes with an average of 32 minutes. The interviews were recorded and transcribed for data analysis along with the interviewer’s notes. A content analysis was used to analyze the interview transcripts.

3 Results

The context analysis of the interview transcripts was based on Deci and Ryan’s [11] construct of intrinsic and extrinsic motivations in which the intrinsic motivations involve with interests, curiosity, fantasy, stimulation, achievement and psychological needs while the extrinsic motivations deal with external rewards, feedbacks and social interactions. Themes were then developed in order to identify the roles of intrinsic and extrinsic motivations for playing online games based on the three interview questions and summarized below.

3.1 Motivations for the first contact of online games

The results of students’ motivations for their first time playing the online games are summarized in Table 1.

According to the subjects’ responses to the first set of interview questions, five motivations have been identified and categorized into intrinsic and extrinsic motivations: curiosity & interest and psychological need belong to the intrinsic motivations; social interaction, work requirement and bore are included in extrinsic motivations. The data showed that, for the first contact of online games, only 4 subjects played for an intrinsic motivation, while 16 subjects played for an extrinsic motivation in which a half of the subjects (10/20) played for social interactions like invitations from friends. That is, most of the subjects played online games for extrinsic motivations in the first time and the major reason was due to social interactions.

3.2 Motivations for the continual contact of online games

The results of students’ motivations for continuing playing the online games are summarized in Table 2. According to the transcripts for subjects’ responses of the second interview question, six motivations were finally identified and categorized by intrinsic and extrinsic motivations: Curiosity & interest, competition & achievement, fantasy & imagination and stimulation belonged to the intrinsic motivation; social interactions and boring were grouped into the extrinsic motivation. Table 2 revealed that, regarding the reasons of continuing playing online games, 12 subjects kept playing for intrinsic motivations while only 8 subjects kept for extrinsic motivations. In addition, curiosity & interest (7/20) became the most major reason for students’ continual play replacing the social interaction (6/20) reason. In brief, the majority of the subjects kept on playing online games for intrinsic motivations and several extrinsically motivated students had transferred their motivations from extrinsic orientations to intrinsic orientations.

3.3 Preferences of types of online games

The results of how students’ play motivations interact with their preferences of types of online games are demonstrated in Table 3. Transcripts of students’ responses to the third interview questions provided insights of students’ preferences of types of online games. The most popular game was Role Playing Games (RPG, N=10) followed by Real Time Strategies (RTS, N=6) and First Person Shot (FPS, N=4) games. It is clear, in Table 3, that students with curiosity,
Table 2: Motivations for continuing playing of online games (NI: number of intrinsic motivations, NE: number of extrinsic motivations)

<table>
<thead>
<tr>
<th>Motivation</th>
<th>NI</th>
<th>NE</th>
<th>Subject #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curiosity &amp; interest</td>
<td>7</td>
<td>1, 9, 13, 14, 16, 18, 20</td>
<td></td>
</tr>
<tr>
<td>Competition &amp; achievement</td>
<td>3</td>
<td>2, 17, 19</td>
<td></td>
</tr>
<tr>
<td>Fantasy &amp; imagination</td>
<td>1</td>
<td>4,</td>
<td></td>
</tr>
<tr>
<td>Stimulation</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Social interactions</td>
<td>6</td>
<td>3, 6, 7, 8, 10, 11</td>
<td></td>
</tr>
<tr>
<td>Bore</td>
<td>2</td>
<td>12, 15</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

competition and social motivations most preferred RPG, RTS and FPS online games respectively. This means that students who preferred playing RPG games enjoyed experiencing new feelings by playing different roles in online games; students who preferred playing RTS games liked to complete tasks and gain achievements by competing with others in online games; and students who preferred playing FPS games enjoyed the social interactions with others in online games.

4 Discussion

Based on the above results, intrinsic and extrinsic motivations played different roles in college students’ online game playing. First of all, college students tended to be motivated extrinsically to play online games for the first contact, especially for reasons of peer social interactions. However, the intrinsic motivations seemed to be the main drives to keep the students on continuing playing the games, in which their curiosities and achievements became the main factors for the involvements. This finding suggested that extrinsic motivation such as social interaction could benefit students’ first try to learn via online games. This suggests that game designers should integrate extrinsic elements like collaborative learning groups or virtual learning community into game design for attracting students to play and learn. Moreover, if the game designers or curriculum developers want to keep students playing for learning, then it would be important to consider how to integrate intrinsic elements such as curiosity, interest, competition, achievement and fantasy into the game designs. Learning tasks involving role playing, adventure explorations, task completions with challenges and team work competitions may be potential to achieve this goal. However, the transfer between motivations for playing and for learning is still needed in further research. More studies are needed for examining students’ motivations and attentions paid to learn or to play while playing online games with instructional purposes.

Table 3. Game preferences and motivations of continuously playing

<table>
<thead>
<tr>
<th>Preferences</th>
<th>N</th>
<th>Motivation (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Role Playing Game</td>
<td>10</td>
<td>Curiosity (6), Social (2), Fantasy (1), Bore (1)</td>
</tr>
<tr>
<td>2. Real Time Strategies</td>
<td>6</td>
<td>Competition (3), Curiosity (1), Social (1), Bore (1)</td>
</tr>
<tr>
<td>3. First Person Shot</td>
<td>4</td>
<td>Social (3), Simulation (1)</td>
</tr>
</tbody>
</table>

Secondly, this study found that different types of online games seemed to satisfy students with different motivations. For example, RPG games satisfied students motivated by curiosities and interests; RTS games favored students who enjoyed competitions and achievements; and FPS games attacked students who were motivated by social interactions. This provides feedbacks for game designers to develop online games with learning purposes for individualizing the learning context in order to satisfy individual needs based on their motivation orientations. Future research are suggested to design different types of online games for the same learning purpose and examine the impacts of types of online games on students with different motivation orientations.

5 Conclusion

Intrinsic and extrinsic motivations played different roles in college students’ online game playing. Game-based learning designers should consider how to integrate learning elements associated with these two categories of motivations to improve students’ learning via online game playing. In addition, different types of online games seemed to satisfy students with different motivation orientations. Future research should examine the impacts of the interactions between game types and students’ motivation orientations on students’ learning.

6 References


