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Understanding players' achievement values from MMORPGs: an exploratory study

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Abstract

Purpose – Achievement is considered to be an important value for students. The purpose of this paper is to explore what achievement values were derived from playing massively multiplayer online role-playing games (MMORPGs), especially for high-engaged MMORPGs players.

Design/methodology/approach – The research employed two approaches to collect data: focus group and a web survey of online game players were conducted. Moreover, an addiction-engagement scale was used to ensure all participants were genuinely highly engaged MMORPGs players in data collection process. There are 12 highly engaged players were recruited as focus group members in Phase 1. The online survey yielded 315 responses, of which 267 were considered valid, and 177 of those were considered to be genuine highly engaged players in Phase 2. In the study, exploratory factor analysis was performed to reveal underlying structure of achievement values.

Findings – The result focussing on popular MMORPGs reveal that highly engaged players derived six achievement values from playing MMORPGs, including fantasy satisfaction, adventure, victory, socialization ability, self-actualization, and advancement of wealth and status.

Originality/value – In view of the prevalence of MMORPGs, it is imperative to draw attention to understand students' achievement values derived from playing MMORPGs. By doing that, educators know how to bridge students' achievement values to their academic performance.

Keywords Fantasy, Achievement values, Adventure, Focus group method, Online games

Paper type Research paper

1. Introduction

In the context of today's rapid development of digital entertainment, online games are a type of entertainment and internet-based information technology (Hsu and Lu, 2004). Studying the motivations of those who play online games is an increasingly popular topic in the internet age. Among the motivations for playing online games, the values of achievement is an important one, as values can guide people's lives and strongly influence their behavior and decision making in enduring and significant ways

(Norman *et al.*, 2008). In other words, it is a psychological state that strongly influences people's actions. In light of this power over people's actions, this study focusses on understanding players' achievement values in online game environments.

Massively multiplayer online role-playing games (MMORPGs) are highly interpersonal online activities that serve as venues for online social interaction in which players meet people and form relationships (Caplan *et al.*, 2009; Ng and Wiemer-Hastings, 2005). MMORPGs are currently the most popular type of online games in Taiwan (Wan and Chiou, 2006b). According to the Taiwan Network Information Center (2010), 50.3 percent of internet users have played online games, with over 7.33 million players in Taiwan.

Numerous studies have proposed that the attainment of achievements is the dominant motivation for playing MMORPGs (Chang and Zhang, 2008; Fang *et al.*, 2009; Wan and Chiou, 2006a; Whang and Chang, 2004; Williams *et al.*, 2008; Yee, 2006), since players can use their in-game avatars to play various roles in online virtual environments, experiencing personal achievement (Ng and Wiemer-Hastings, 2005; Smahel *et al.*, 2008). Wan and Chiou (2006a) illustrated that the need for achievement is one of the psychological needs of players. In essence, the need for achievement is not only a motivation (Wan and Chiou, 2006a), but also a basic human value (Schwartz, 1992), which serves as a guiding principle in people's life (Schwartz and Rube, 2005).

Oviada's (2003) study provided evidence that the value of achievement is important to people; it can even be considered to be a core value (Lens *et al.*, 2005). Indeed, a strong achievement value encourages people to keep moving forward (Cottle, 1969). Obtaining achievements through online games is a dominant motivation for playing MMORPGs (Chang and Zhang, 2008; Fang *et al.*, 2009; Wan and Chiou, 2006a; Whang and Chang, 2004; Williams *et al.*, 2008; Yee, 2006). However, most studies on achievement value are carried out in the learning environment. For example, Fries and Schmid (2007) proposed that if students place a high degree of importance on achievement, then they will take advantage of opportunities presented to them in the classroom, and this will influence their learning in school. The nature of the achievement values that move players to become highly engaged in MMORPGs still remains unknown.

The purpose of this study is to explore players' achievement values derived from immersive MMORPG environments. In the study, highly engaged MMORPG players are those who spend a great deal of time playing MMORPGs without suffering serious deleterious effects or exhibiting pathological computing behavior (Charlton and Danforth, 2007). Based on the results of this study, game designers and venders can gain insight into how to relate achievement values from MMORPGs to players' academic performance. In order to address this issue, we used focus groups to generate ideas, as focus groups are able to provide a rich understanding of players' experiences. Then, a web-based questionnaire was administered using an online survey. Finally, exploratory factor analysis (EFA) was performed to reveal underlying the structure of achievement values.

2. Review of the literature

2.1 Motivations for playing MMORPGs

With the rapid growth of the online game market, massively multiplayer online games have become a rapidly growing internet activity, and the number of online game subscriptions currently exceed 47 million (Caplan *et al.*, 2009). MMORPGs have become the most popular type of online game (Caplan *et al.*, 2009; Ng and Wiemer-Hastings, 2005).

The first MMORPGs began in Korea in 1995, and the number of games and players have increased significantly (Kim *et al.*, 2008).

MMORPGs are different from traditional online games in that they involve highly interpersonal online activities in which players meet various kinds of people and form relationships, making MMORPGs venues for online social interaction (Caplan *et al.*, 2009; Ng and Wiemer-Hastings, 2005). Yee (2006) claims that competition is the primary motivation for players of online games. However, it cannot be sufficient for MMORPG players to challenge themselves by competing against other players, since their purpose is to win.

Yee (2006) used principle components analysis to categorize the motivations for playing online games, particularly MMORPGs. Ten subcomponents were grouped into three main categories: achievement, social, and immersion categories. Among these categories, the desire for achievement was one of the crucial factors in the study of the motivation for playing MMORPGs. As shown in the study, categories of achievement include advancement, mechanics, and competition. However, Yee (2006) did not delve too deeply into the notion of achievement values.

2.2 The importance of achievement in online games
Psychologists have proposed that humans have two basic types of needs that must be satisfied: physiological and psychological (Oulasvirta and Blom, 2007). The need for achievement is a psychological need (Wan and Chiou, 2006a). Personal achievement not only provides online game players with a sense of intrinsic pleasure and success, but also fulfills their psychological needs, increasing their motivation to play. Acting on this motivation satisfies psychological needs and increases personal satisfaction (Wan and Chiou, 2006b). Online game players often find the game environment to be more pleasant and satisfying than the real world because they can use their in-game avatars to play various roles in online virtual environments, experiencing personal achievement (Ng and Wiemer-Hastings, 2005; Smahel *et al.*, 2008).

Beyond the theory on basic needs, achievement goal theory has been expanded to account for people's social responsibilities, attitudes toward cooperation, and intergroup relations (Liem *et al.*, 2008). Achievement goals are cognitive representations of individuals' personal aims, and these goals can guide and direct achievement behavior (Linnenbrink and Pintrich, 2000), as well as predict peer relationships and achievement outcomes (Liem *et al.*, 2008). Users with high performance goals are concerned with demonstrating their competence relative to others, and are more capable than their peers of influencing peer relationships (Liem *et al.*, 2008). Cole and Griffiths (2007) found that in such highly social and interactive environments as in online games, it is possible to forge strong friendships and emotional relationships. Perceived cohesion develops when people in a group believe that their goals and objectives can be achieved through group action (Hsu and Lu, 2007).

2.3 Expectance-value in achievement
The expectancy-value theory is one of the most important tools in understanding the nature of achievement motivation and is a powerful predictor of people's choices of achievement tasks (Wigfield and Eccles, 1992, 2000). In essence, expectancy-value theory is a cognitive-motivational theory (Wigfield, 1994), comprised of expectancy, instrumentality, and value (Karau and Williams, 1993; Mitchell, 1974). People's expectations of success and the value they place on the task itself are considered to be

the determinants of motivated action within expectancy-value theory (Eccles and Wigfield, 2002; Feather, 1992; Wigfield, 1994). Also, the expectancy of success relates to an individual's belief in their ability to complete a given task successfully, and is often the most important predictor of achievement (Cole *et al.*, 2008).

The expectancy-value theory has been applied to understanding the relationships between adolescents' academic experience, their task-specific expectancy, and their achievement behavior (Eccles *et al.*, 1983). The expectancy-value theory can also predict students' activity according to the value they placed on it (Wigfield and Eccles, 1992). Prior studies have shown that individuals' achievement-related beliefs are directly linked to their task-specific expectancy and subjective task value, which in turn determine their achievement-related behavior, such as behavioral engagement (Wigfield and Eccles, 1992).

2.4 Achievement value
Values have been a central concept in the social sciences since their inception, and have played an important role in sociology, psychology, and anthropology (Durkheim, 1851; Weber, 1992). Values build on people's physical and psychological needs, and are based on the priorities of personal interests, perceptions, and preferences (Rokeach, 1973). Fries and Schmid (2007) point out that values are not only cognitively represented beliefs about desirability, but also guide people's lives and strongly influence their behavior and decision making in enduring and significant ways (Norman *et al.*, 2008). Furthermore, studies have proposed that value-orientation influences students' learning in school and is related to their achievements, which in turn predicting students' academic performance (Cole *et al.*, 2008; Spinath *et al.*, 2006).

In contrast to other values, achievement values are relatively more personally focussed in the scheme of the universal value structure (Schwartz, 2012). The value of achievement is one of the basic values that is recognized across societies (Schwartz, 1992). Schwartz described achievement values as personal successes through the demonstration of competence according to accepted social standards. Individuals may have different value priorities or hierarchies, and form a continuum of related motivations.

Since achievement values emphasize pursuit of one's own interests and relative success and dominance over others, achievement values can motivate individuals to invest in group tasks and legitimize self-enhancing behavior as long as it contributes to group welfare. The characteristics of achievement are primarily related to occupational roles, and there is a relationship between achievement values and intrinsically satisfying occupations (Lueptow, 1968).

A review on the motivation, achievement, expectancy-value, and achievement value studies that explain the motivations and behaviors of online game players (Chang and Zhang, 2008; Choi and Kim, 2004; Griffiths, 2000; Wan and Chiou, 2006a; Yee, 2006) shows that achievement values play an important role in people's motivation for playing online games. This is because achievement value is relevant in predicting people's behaviors in online game environments.

However, very little research has been conducted on how the value of achievement motivates players in MMORPG environments. The most relevant one is from Yee (2006) who found that advancement is a component of achievement motivation for MMORPG players. Furthermore, prior studies show that achievement values vary between genders, and men view achievement as more important than do women

(Lueptow, 1984; Schwartz and Rube, 2005). Thus, the literature leaves knowledge gaps in the areas of overlap between achievement value and MMORPGs that can be addressed by further research.

3. Methods
This research focussed on World of Warcraft (WoW) MMORPGs. WoW is the representative of MMORPGs style games (Liu and Peng, 2009; Smahel *et al.*, 2008), with 11.5 million players subscription (Barnett and Coulson, 2010). The data presented in this paper were gathered from high-engaged WoW players in Taiwan.

This study used two phases for data collection, including focus groups and survey method. The study began by recruiting high-engaged WoW players as focus group members to determine affinities in Phase 1. In order to conduct detailed analysis, we employed survey questionnaires to integrate affinities into constructs in Phase 2.

3.1 Data collection
3.1.1 Focus group phase (Phase 1). We used focus group method as a ground for generating players' achievement value concepts from MMORPGs. focus group method has been broadly used by social scientists, that collects data through group interaction in order to explore a specific set of issues (Coenen *et al.*, 2012). It allows group members who are close to the phenomenon of interest to describe and articulate their experiences (Acocella, 2012).

The first step, all participants volunteered to participate in the focus group members recruiting process, and an addiction-engagement scale was used to ensure all participants were genuinely highly engaged with WoW (Charlton and Danforth, 2007). The addiction-engagement scale included 13 questions dealing with high-engagement and 16 questions dealing with aspects of addiction. Participants rated their agreement with each item on a five-point Likert-type agree/disagree response scale, ranging from "disagree strongly" (1) to "agree strongly" (5). In comparing the scores of addiction with those of game trivia, we determined that if the average trivia score was higher than the addiction scores, he/she was likely to be a true high-engaged WoW player. Only high-engagement players were included as the focus group members.

After the focus group members recruiting process, there are 12 highly engaged players were recruited as focus group members. Since focus group samples are usually small and purposively selected (Khan *et al.*, 1991), with the sample sizes of six to ten participants are as "moderate sized" (Hydén and Bülow, 2003; Morgan, 1988). Therefore, the sample sizes of 12 in the study are adequate for focus groups. The study's focus group members include ten males and two females. Male constituted the vast majority (83.3 percent), which is consistent with most research that MMORPGs are primarily a male preserve (Charlton and Danforth, 2007; Griffiths *et al.*, 2003; Kim *et al.*, 2008; Ng and Wiemer-Hastings, 2005). The details are shown in Table I.

The second step, two questions were asked of the focus group members: What achievement values you obtain when you play WoW? How achievement values cause you spending so much time on WoW? Then, each focus group member was given 25 note cards and wrote down one thought or sentence per card, producing as many cards as they could. After making these cards, they were asked to tape these cards along a wall, at which point the facilitator read each card and the participants clarified their meaning and discussed possible groupings. Ultimately, all collected data were organized into groupings which were referred to as affinities.

No.	School location	Gender	Grade in school	Playing experience/year
P1	North Taiwan	Male	Junior	Over 3 years
P2	North Taiwan	Male	Sophomore	1-2 years
P3	Central Taiwan	Male	Freshman	Over 1 year
P4	Central Taiwan	Male	Freshman	1-2 years
P5	South Taiwan	Female	Junior	over 3 years
P6	South Taiwan	Male	Senior	over 3 years
P7	North Taiwan	Male	Junior	2-3 years
P8	North Taiwan	Male	Junior	over 3 years
P9	Central Taiwan	Male	Junior	2-3 years
P10	South Taiwan	Male	Sophomore	2-3 years
P11	South Taiwan	Female	Freshman	1 year
P12	South Taiwan	Male	Sophomore	1-2 years

Table I.
Demographic of
the focus group
members

3.1.2 Survey phase (Phase 2). An invitation for participation in research was posted on
WoW discussion boards of PTT (telnet://ptt.cc). A web-based questionnaire was
collected anonymously through www.my3q.com/survey/332/passenger10/89702.phtml
three weeks. Hsu and Lu (2004) indicted that on-online surveys have been widely used
in recent years, and they are cheaper to conduct, elicit faster responses, and are
geographically unrestricted. All participants in the study were voluntarily involved,
and no incentive was offered for participation.

Next, we checked whether the participants were genuinely highly engaged by
comparing their average scores regarding addiction, with high-engagement items.
In order to check whether these responses were valid, three items concerning
addiction-engagement were repeated once in the questionnaire. The absolute value of
the difference between these three pairs checked items would be summed up as an
index. If this index exceeded four, the questionnaire would be judged invalid.

The online survey yielded 315 responses, of which 267 were considered valid, and
177 of those were considered to be genuine highly engaged players. In total, 81 percent
of highly engaged WoW players were male, 19 percent were female, 46 percent were
senior college students, and 61 percent were between 19 and 22 years old. Table II
summarizes the profiles of the highly engaged WoW players. The online survey
consisted of an analysis of previous studies which revealed that males constituted over
80 percent of those playing MMORPGs, and thus were the more dominant force with
regard to gender distribution.

3.2 Measurement development
This questionnaire, originally designed for the achievement values scale, was modified
with reference to the affinities, found in Phase 1. One survey question represented one
achievement value or affinity. The questionnaire was divided into four major areas:
demographic profile of participants, usage condition, achievement value agreement
items on a five-point Likert-type scale, the five-point Likert-type addiction-engagement
agreement scales (as in Phase 1) to ensure that all participants were highly engaged
WoW players.

Prior to compiling the questionnaire, a pre-test and a pilot test were undertaken to
validate the instrument. The pre-test involved 12 respondents who were selected
experts in the community of MMORPGs. These selected respondents were asked to

Measure	Items	Frequency	%
Gender			
	Male	143	80.8
	Female	30	16.9
	Missing value	4	2.3
Age			
	19-20 years old	65	36.7
	21-22 years old	43	24.3
	over 23 years old	67	37.9
	Missing value	2	1.1
Location of school			
	North Taiwan	49	27.7
	Central Taiwan	56	31.6
	South Taiwan	69	39.0
	East Taiwan	2	1.1
	Missing value	1	0.6
Grade of colleges			
	Freshman	35	19.8
	Sophomore	37	20.9
	Junior	23	13.0
	Senior	81	45.8
	Missing value	1	0.6
Frequency			
	At least once every day	67	37.9
	Once a day	50	28.2
	2 or 3 days once	49	27.7
	About once a week	10	5.6
	Missing value	1	0.6
Hour spending every time			
	Less than 3 hour	122	68.9
	3-6 hour	29	16.4
	Over 6 hour	20	11.3
	Missing value	6	3.4

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Table II.
Profile of highly engaged players

comment on the length of the instrument and wording of the scales. Then, a pilot test that involved 36 respondents, self-selected from the population of MMORPGs community, was conducted.

4. Results
There were 32 affinities of achievement values determined and named from previous focus group phase, as shown in Table III. Based on the application of EFA, three rules were determinant: the eigenvalue greater than one as the criterion to determine the number of factors, the screen test was used to confirm the rule of previous eigenvalue rule, factor loadings greater than 0.4 was used to decide whether an item could be considered part of a factor (Churchill, 1979). There were 32 affinities loaded with seven factors, including advancement of wealth and status; victory; socialization ability; self-actualization; fantasy satisfaction; adventure; and self-regulation achievement values.

Affinity	Illustrated some examples
1. Make friends (MF)	I have made many friends through the games I have played. My friends and I play online games together, help one another, and discuss how to improve our skills. Playing games helps me to learn so much, about people from so many diverse backgrounds
2. Sense of belonging (SoB)	"Okay, so I am not the greatest student in the world. However, in online games, I have the skills to battle monsters and distinguish myself as a CHAMPION. Maybe, my name is not at the top of the Dean's list, but in WoW, my name is always at the top of the ranking. Yeah!"
3. Accomplish quest (AQ)	Through hard work and dedication, I accomplish the challenges I encounter when going on difficult quests
4. Manipulate craftsmanship (MC)	Every character has its own methods and skills to fight monsters. If you use the skills you have been given, you could become very valuable within the game. For example, healers need to be skilled in their crafts to increase everyone's blood level, but if they ever made a mistake, the whole team could be destroyed. In addition, many of the skills can help you to avoid danger, even if they do not contribute to your strength in battle
5. Guess and attack (GaA)	Learn how to read your opponents intentions and anticipate their next move, in order to make an effective counterattack
6. Self-regulation (S-R)	Even though I play online games every day, I must develop the discipline never to neglect my academic responsibilities
7. Make money (MM)	In online games, if I am able to obtain some virtual objects of particular rarity, I can exchange them for cash in the real world
8. Satisfy fantasy (SF)	In real life, many players do not have a lot of money to spend. In WoW, however, anyone can become a millionaire and buy anything their little hearts desire
9. Adventure (Adv)	WoW players can challenge themselves with all kinds of adventures. They raise in-game levels, more monsters they encounter, and more surprises. Level high enough and even dragons appear!
10. Story (Sto)	I enjoy reading many different stories, and it excites me every time I receive a new mission or get the chance to attack something new
11. Visual representation (VR)	Virtual objects in online games are splendid to behold. Following their movement, dazzling afterimages appear; and even when they are not moving, they are like candy for the eyes. When characters level up, golden flashes coupled with dramatic sound effects give players a great sense of achievement
12. Multi-manipulated combination (M-MC)	WoW provides many kinds of operational techniques, such as game control entirely by mouse or a combination of mouse and keyboard. Players can even invent their own quest combinations to share with others
13. Skills (Ski)	Players can collect materials (such as herbs, minerals, animals, etc.) to create their own objects, such as customized weapons. They can prepare delicious nutritious meals to share with others. They can even go on quests to fish for mythical beasts of the deep
14. Euphoria (Eup)	Online game players can enjoy the thrill and deep satisfaction of hacking, slashing, beating, and butchering Mainlanders
15. Heroinware (He)	When I defeat an expert, especially in one-on-ten test of skills, I feel a sense of great personal achievement
16. Hit Boss (HB)	It is particularly thrilling to overpower a boss or a chief

Table III.
Affinity names
and quotes

Affinity	Illustrated some examples
17. Collaboration (Col)	Players may join a guild or collaborate with others to plan a raid. WoW places great emphasis on collaboration, and to win a battle, players must have the skills to work together as a team. If a player did not exercise adequate caution, he might jeopardize himself, or the entire team. By establishing a good rapport with his team members, players can exceed the sum of their individual powers
18. Guild leader (GL)	Players create their own guild, and as the president, enjoy the pleasure of bossing around other people. Becoming an effective team leader is challenging, requiring experience, and excellent communication skills
19. Join a guild (JaG)	By joining a guild, players earn the right to wear a unique coat of arms, and the honor of joining guild specific raids
20. Raid (Rai)	The unique raids are a feature of WoW (not found in other games) that greatly enhances its lasting appeal with players. Participating in raids requires teamwork and keeping your wits. The elation you feel when leading a group to success in a raid cannot be described with words
21. Shown in rank (SiR)	When the war on the battlefield is over, the war contribution list is announced. I never fail to feel delighted to see my name on the list
22. Title (Tit)	The achievement system in WoW, grants players "titles" in recognition of their achievements
23. Prestige (Pre)	When a player achieves a certain degree of prestige, the others acknowledge and admire his accomplishments
24. Go around the world (GatW)	When the maps are spread out and reviewed, players can see the evidence of their progress, and experience a sense of achievement
25. Level up (LU)	Surpassing others to attain the highest level is the greatest achievement
26. Honor (Hon)	Attaining the top position in a guild, gaining a higher rank, defeating enemies, and rising to higher levels all give me a sense of honor
27. Treasure (Tre)	Players can enjoy the benefits of the looting and pillaging rare treasures
28. Mount (Mou)	"Mount" is a WoW feature and is a symbol of social status, as well as allowing players travel with increased speed
29. Reward (Rew)	Players are rewarded when they succeed in their quests, slay monsters, join raids, and participate in various activities. These rewards include rare and exotic mounts, virtual objects, and other treasures
30. Get rare equipment (GRE)	All WoW objects are personal possessions. When I receive an object that others do not have, I feel a great sense of achievement because it took me so much time and effort to obtain
31. Talent (Tal)	WoW "talents" improve a player's power and ability. The talents enhance players' performances and developed by themselves
32. Job characteristic (JC)	Different characters have different skills. For example, Druids have the ability to transform into various creatures. Rouges have invisibility skills. Magicians can cause morbid injuries, or help to increase one's blood. Warlocks can revive people from death in the battles, and call their teammates from far way to come and help

Table III.

Table IV presents the EFA results. It is shown that all items were loaded above 0.4 on their predicted factor(Churchill, 1979). The results indicated that Cronbach's α coefficients ranged from 0.714 to 0.899, and that all values were above the suggested 0.7 level for scale robustness and reliability (Nunnally and Bernstein, 1994). All

Factor Achievement value	Factor loading[a]	Cronbach's α	Eigenvalue	Variance explained
Advancement of wealth and status		0.899	11.75	36.7%
Hit Boss	0.7247			
Collaboration	0.6404			
Raid	0.5801			
Title	0.6220			
Treasure	0.6517			
Mount	0.6068			
Reward	0.6553			
Get rare equipment	0.7535			
Victory		0.792	1.88	42.6%
Sense of belonging	0.4927			
Guess and attack	0.6406			
Euphoria	0.6568			
Heroinware	0.7876			
Guild leader	0.4165			
Shown in WoW rank	0.5683			
Socialization ability		0.781	1.68	47.9%
Make friends	0.6388			
Accomplish quest	0.4962			
Manipulate craftsmanship	0.6739			
Multi-manipulated combination	0.6160			
Join a guild	0.4404			
Self-actualization		0.772	1.53	52.6%
Prestige	0.5221			
Go around the world	0.7034			
Level up	0.5982			
Honor	0.6196			
Fantasy Satisfaction		0.714	1.32	56.8%
Make money	0.5828			
Satisfy fantasy	0.6895			
Talent	0.6315			
Job characteristic	0.4665			
Adventure		0.761	1.20	60.5%
Adventure	0.5140			
Story	0.7989			
Visual representations	0.6245			
Skills	0.4326			
Self-regulation		–	1.04	63.7%
Self-regulation	0.7458			

Notes: [a]Reported scores represent the highest loadings of indicators on individual factors. A cut-off of 0.4 is used to determine whether a variable is significantly related to a factor (Churchill, 1979). Other factor loadings were less than 0.4

Table IV.
Assessment of dimensionality of constructs

constructs satisfied the internal consistency. When the seven factors were initially considered as uni-dimensional; however, a one-factor structure emerged with one item dropping out. Therefore, six factors remained from the 31-item inventory set as shown in Table V.

Factors	Meanings	Affinities
Advancement of wealth and status	Players can acquire rare equipment, increase in-game possessions, can accumulate treasure and status, and can even "Hit a Boss" by collaborating to gain a reward	Hit a Boss: it is particularly thrilling to overpower a boss or a chief Collaboration: players may join a guild or collaborate with others to plan a raid. WOW places great emphasis on collaboration, and to win a battle, players must have the skills to work together as a team. If a player were to fail to exercise adequate caution, he might jeopardize himself, or the entire team. By establishing a good rapport with their team members, players can exceed the sum of their individual powers Raid: the unique raids are a feature of WOW (not found in other games) that greatly enhance its lasting appeal with players. Participating in raids requires teamwork and keeping one's wits. The elation felt when leading a group to success in a raid cannot be described with words Title: the achievement system in WOW grants players "titles" in recognition of their achievements Treasure: players can enjoy the benefits of looting and pillaging rare treasures Mount: "Mount" is a WOW feature that is a symbol of social status, and allows players to travel with increased speed Reward: players are rewarded when they succeed in their quests, slay monsters, join raids, and participate in various activities. These rewards include rare and exotic mounts, virtual objects, and other treasures Acquisition of rare equipment: all WOW objects are personal possessions. When I receive an object that others do not have, I feel a great sense of achievement because it took me so much time and effort to obtain
Victory	Players' achievement values lead them not only to compete with others, but give them the euphoria of success in the midst of hostilities, make them more aggressive, and motivate them to have their name in the "hero listing"	Sense of belonging: "Okay, so I am not the greatest student in the world. But in online games, I have the skills to battle monsters and distinguish myself as a CHAMPION. Maybe my name is not at the top of the Dean's list, but in WOW, my name is always at the top of the ranking. Yeah!" Guess and attack: learn how to read your opponents' intentions and to anticipate their next move, in order to make an effective counterattack Euphoria: online game players can enjoy the thrill and deep satisfaction of hacking, slashing, beating, and butchering Mainlanders

Table V.
Factors revealed
by factor analysis
grouped from
affinity

Table V.

Factors	Meanings	Affinities
		Heroinware: when I defeat an expert, especially in a one-on-ten test of skills, I feel a sense of great personal achievement
		Guild leader: players create their own guilds, and as president, enjoy the pleasure of bossing other people around. Becoming an effective team leader is challenging, and requires experience and excellent communication skills
		Shown in WoW rank: when the war on the battlefield is over, the war contribution list is announced. I never fail to feel delighted to see my name on the list
Socialization ability	Making friends in the game and interacting with other players. To join a community such as a guild and to collaborate with other players while accomplishing a quest	Make friends: i have made many friends through the games I have played. My friends and I play online games together, help one another, and discuss how to further improve our skills. Playing games helps me to learn so much about people from so many diverse backgrounds
		Accomplish quest: through hard work and dedication, I accomplish the challenges I encounter when going on difficult quests
		Manipulate craftsmanship: every character has its own methods and skills to fight monsters. If you use the skills you have been given, you can become very valuable within the game. For example, healers need to be skilled in their crafts to increase everyone's blood (energy) level, but if they ever made a mistake, the whole team could be destroyed. In addition, many of the skills can help players to avoid danger, even if they do not contribute to the character's strength in battle
		Multi-manipulated combination: WOW provides many kinds of operational techniques, such as game control entirely by mouse or a combination of mouse and keyboard. Players can even invent their own quest combinations to share with others
		Join a guild: by joining a guild, players earn the right to wear a unique coat of arms, and the honor of joining guild-specific raids
Self-actualization	Players feel a sense of grandiosity from gaining prestige and honor, especially when they can go around the world in-game	Prestige: when a player achieves a certain degree of prestige, others acknowledge and admire his accomplishments
		Go around the world: when the maps are spread out and reviewed, players can see evidence of their progress, and experience a sense of achievement
		Level up: surpassing others to attain the highest level is the greatest achievement
		Honor: attaining the top position in a guild, gaining a higher rank, defeating enemies, and rising to higher levels all give me a sense of honor

(*continued*)

Factors	Meanings	Affinities
Fantasy satisfaction	Players are excited to have certain talents and skills within the framework of role-playing games, and in-game rare equipment can make money in the real world	Make money: in online games, if I am able to obtain some virtual objects of particular rarity, I can exchange them for cold hard cash in the real world Satisfy fantasy: in real life, many players do not have a lot of money to spend. In WOW, however, anyone can become a millionaire and buy anything their little hearts desire Talent: WOW "talents" improve a player's power and ability. The talents that enhance players' performance the most are developed by the players themselves Job characteristic: different characters have different skills. For example, Druids have the ability to transform into various creatures. Rouges have invisibility skills. Magicians can cause morbid injuries, or help to increase one's blood (energy). Warlocks can revive people from death in the battles, and call their teammates from far way to come and help
Adventure	Players feel excitement associated with taking risks in highly detailed 3D renderings of virtual environments, in the framework of an in-game background story, using skills in adventures in games	Adventure: WOW players can challenge themselves with all kinds of adventures. The higher they rise through the levels, the more monsters they encounter, and the more surprises they discover. Rise high enough, and even dragons appear! Story: I enjoy reading many different stories, and it excites me every time I receive a new mission or get the chance to attack something new Visual representations: Virtual objects in online games are splendid to behold. Following their movement, dazzling afterimages appear; and even when they are not moving, they are like candy for the eyes. When characters level up, golden flashes coupled with dramatic sound effects give players a great sense of achievement Skills: players can collect materials (such as herbs, minerals, animals, etc.) to create their own objects, such as customized weapons. They can prepare delicious nutritious meals to share with others. They can even go on quests to fish for mythical beasts of the deep

Table V.

Table VI presents the means and standard deviations of the constructs. On average, players responded positively to have achievement values when they play MMORPGs (the average are all exceeded three out of six).

5. Discussion

5.1 Summary of the findings

The identification of these six achievement values enables us to recognize that MMORPGs possess a certain gaming modality that attracts players, and helps them to address their psychological needs and expectations in the virtual world. Thus, more attention should be paid to this issue. However, both fantasy satisfaction and adventure achievement values have not been discussed in online games.

5.1.1 Satisfaction of fantasy achievement value. To date, a great deal of evidence supports the belief that the fantasy content is the most prominent reflection of players' psychological needs (Klinger and McNelly, 1969). MMORPGs provide an opportunity to experiment with various online personas in an immersive fantasy world. In this study, the fantasy satisfaction achievement value construct included four affinities: job characteristic, talent, make money, and satisfying fantasy (as shown in Table V).

One's fantasy is an immersive and engaging atmosphere (Klinger, 1966). Playing MMORPGs, players can choose any character and acquire resources to create their own empire depending on their skills and talent at role-playing to satisfy players' fantasy. By job character chosen, players can create stronger, more intelligent depictions of themselves. In MMORPGs, we know players can assume roles that they are unable to act out in their daily lives, and in so doing, satisfy their personal fantasies. Followings are players described their experiences:

> WoW talents improve players' power and ability. The talents can enhance players' performances most, and they are developed by players themselves.

> If you take up the role of a healer in the game, you can heal yourself and other players. The appreciation you receive would make you feel happy.

> In real life, many players do not have a lot of money to spend. In WoW, however, anyone can become a millionaire.

In MMORPGs, players can sell their virtual equipment and treasure in the real world to make money, and they also can convert the treasures and virtual money to real, usable money. These all satisfy players' fantasy achievement values from the virtual environment. As some participants described their experience, saying:

> […] the more money earned through beating monsters, the higher the fantasy achievements I got.

Constructs	Mean	SD
Advancement of wealth and status	3.9	0.78
Victory	3.6	0.74
Socialization ability	3.7	0.69
Self-actualization	3.4	0.81
Fantasy satisfaction	3.4	0.82
Adventure	3.6	0.77

Table VI.
Descriptive statistics

[…] the rare items obtained in the game can be exchanged for real money.

Many players sell items or account numbers. The amount of transaction in 8,591 (Treasure Trading Networks) could be greater than ten thousand dollars.

As Hussain and Griffiths (2009) mentioned, gamers view the online world as a pleasant and satisfying environment. This feeling of achievement with regard to fantasy satisfaction is important for online gamers. Consequently, these findings show that MMORPGs are much more than merely an aggressive and violent game; it satisfies a number of human fantasies in a virtual environment.

5.1.2 e-Adventure. To date, game-based approach to the development of e-adventure in educational game design is gaining in relevance (Moreno-Ger *et al.*, 2008), however, the achievement value of adventure from MMORPGs has not been discussed. In our study, we found players' adventure achievement value included four affinities: adventure, story, visual representations, and skills (as shown in Table V). Storylines are a powerful tool that occupy consumers' time (Yeh, 2010). In-game stories provide different experiences and tasks for players to accomplish; for example, MMORPGs create the opportunity for players to obtain a number of in-game tools, resources, and skills to use in improvised stories, based on the players' level within the game. Players can have adventures alone or by cooperating with other players through background stories. Players enjoy the simulated storytelling, fully experiencing the visual and audio experience in cinematic surround sound. These make players obtain adventure achievement value from MMORPGs. As participants described their experience:

I enjoy reading different stories, and it excites my interest when I receive a new mission or get the chance to attack something new.

We can challenge ourselves with all kinds of adventures. The higher we get through the levels, the more monsters we encounter, and the more surprises we discover. And even dragons appear!

Virtual objects in online games are splendid to behold. Following their movement, dazzling afterimages appear; and even when they are not moving, they are like candy for the eyes. When characters level up, golden flashes coupled with dramatic sound effects give players a great sense of achievement.

The findings are consistent with Klimmt *et al.* (2009), which found that online game players' enjoyment is derived partly from the stories underlying games; excitement, enjoyment, and surprise are aroused by the undertaking of adventures in MMORPG background stories. Therefore, enhancing the enjoyable experience of in-game adventures is essential in-game design. Also, designers can combine game adventures with supportive materials to motivate players' participation in self-learning in games.

5.2 Achievement goal vs socialization ability

The achievement motivation has been concerned with the direction of competence-related behavior (Elliot, 1997). Some studies view socialization ability as a motivation to play online games (Chang and Zhang, 2008; Chen *et al.*, 2012; Pan and Fu, 2013; Yee, 2006). However, we believe socialization ability not only as a motivation to play online games, but also as an achievement value.

In fact, achievement goal theory were developed to explain achievement motivation and behavior. For example, the theory can explain students' purpose pursuing an achievement task as well as the standards they construct to evaluate their competence

or success on the task (Pintrich, 2000). On the other hand, the goal theory can explain the reasons "why" an individual is motivated, addressing what individuals want, as well as the reasons why people do something (Ford, 1992).

As shown in Table V, the achievement value of socialization ability construct included five affinities: make friends, accomplish quest, manipulate craftsmanship, multi-manipulated combination, and join a guild. Barnett and Coulson's (2010) study explored the online guilds are organized and maintained in a similar fashion to real world organizations. Players are doing more than simply making friends and, consequently, they view this ability as a source of achievement. Players emphasize the active demonstration of successful performance in concrete interaction within the virtual social system. As one player saying:

> By joining a guild, players have the right to wear a unique coat of arms, and the honor of joining guild specific raids.

From achievement goals perspective, MMORPGs provide an opportunity for players to manipulate craftsmanship, and to show their ingenuity in creating a multi-manipulated combination to share with other players. Players show their multi-manipulated combinations to other guild players in order to make friends; this is an important aspect of achievement value in MMORPGs. Through sharing experiences and common topics among players, players can become good friends. Under such highly social and interactive environments, it is possible to forge strong friendships and emotional relationships. The following are some quotes from players described their experience, saying:

> I have made many friends through the games. When I am online, there are always many online friends greeting with me.

> When I achieve a certain degree of prestige, the others acknowledge and admire my accomplishments.

> My friends and I play online games together, help one another, and discuss how to further improve our skills.

In sum, MMORPGs have a strong multi-faceted appeal to players: either to make friends and form supportive social networks, or a feeling of accomplishment through the achievement of goals. Since achievement goals are cognitive representations of individual aims, and these goals can guide and direct achievement behavior (Linnenbrink and Pintrich, 2000), as well as predict peer relationships and achievement outcomes (Liem *et al.*, 2008).

5.3 Theoretical perspectives on victory achievement value
Previous research has shown that expectancy-value theory is one of the most important achievements in the field of motivation, greatly furthering our understanding of how motivation influences a person's choice of achievement task, their persistence, and their performance (Wigfield and Eccles, 2000). Theoretically, people engage in certain behaviors based on the outcomes they expect and the values they ascribe to these outcomes (Borders *et al.*, 2004; Fan, 2011). In fact, an individual's choice and persistence can predict how well they perform in a given activity, as well as what they value in it Wigfield and Eccles (1992) . In a similar vein, Wigfield (1994) concluded that expectancies and values have an influence on achievement-related behavior, such as choice and performance. Therefore, in this study the expectancy-value theory is suitable for use as a vehicle to explain a player's victory achievement value. As previously discussed, the expectancy-value theory is related to a person's expectation of success and details how this expectation affects subsequent choices and performance.

In this study, the victory achievement value construct includes six affinities: guess and attack, guild leader, sense of belonging, euphoria, heroinwar, and WoW rank (Table V). In MMORPGs, players guess opponents' intentions and anticipate their next action to formulate an effective counterattack. Players fight against their opponents to achieve success, which, especially, if the opponent is an "expert gamer", induces in players a great sense of personal achievement. As some participants have remarked:

I feel a sense of achievement when my opponent's blood can't be refilled.

When I defeat an expert, especially in a one-on-ten test of skills, I feel a sense of great personal achievement.

When the war on the virtual battlefield is over, the names of the MMORPGs players are displayed in the WoW rankings, providing players with feedback for their performance, rewarding them for their efforts, and encouraging them to continue playing. Based on the expectancy-value theory, a player's expectancy of success and the value they place on succeeding will determine their motivation to engage in achievement behavior. Thus, a player's expectation that their name will be shown in the WoW rankings becomes the basis of their future behavioral choices.

MMORPGs players can create their own guild and acquire a sense of belonging by becoming a guild leader, while also enjoying the pleasure of being surrounded by other players. Guild leaders struggle together with other gamers to win the game, the atmosphere of victory enchanting them and evoking a feeling of euphoria. As Charlton and Danforth (2007) have mentioned, euphoria is an indicator of motivation for MMORPGs players. More importantly, euphoria is an intrinsic value, which means that according to expectancy-value theory the enjoyment one gains from the task has a subjective task value that can be used to explain a player's achievement-related behavior. Participants have described their experience variously as follows:

We can create our own guild, and, as the president, enjoy the pleasure of bossing around other people.

Becoming an effective team leader is challenging, requiring experience and excellent communication skills.

The findings also confirm what Yee (2006) claimed that competition is not enough for players, the players play to win. Below are some typical quotes from players of online games:

Okay, I am not an excellent student in school. However, in online games, I have the best skills to battle monsters. So, I can distinguish myself as a CHAMPION.

Maybe, my name is not at the top of the Dean's list, but in WoW, my name is always at the top of the ranking. Yeah!

Expectancy-value is a cognitive-motivational theory that relates the strength of a person's motivation to strive for a certain goal to the expectations to attain the desired goal (Vansteenkiste et al., 2005), and emphasizes the importance of outcome expectancies for behavioral decisions. Therefore, the satisfaction of a player's victory achievement value can be explained by their task-specific expectancy, motivational beliefs relating to success, and task values.

6. Conclusion
The goal of this study was to understand the nature of the achievement values that move MMORPG players to become highly engaged in their games. The results suggest that achievement values are about the attainment of self-enhancement, and involve

self-centered satisfaction. In this study, we found that these achievement values motivated players to seek personal success. These players also tend to strengthen their social positions and authority over others in MMORPGs. The six achievement values, which include advancement of wealth and status, victory, socialization ability, self-actualization, fantasy satisfaction, and adventure drive players to successfully meet social standards in MMORPGs. Additionally, they affirm players' sense of competence in the virtual world.

As previously discussed, MMORPGs provide a magic wand that can make players' dreams come true. Importantly, MMORPGs provide gamers with a fantasy environment in which they can be represented by an ideal form of the way in which they wish to be in the real world. Malone (1981) posited that fantasy is one of the basic reasons for which users play computer games. The findings of our study also indicate that fantasy satisfaction is one of players' achievement values when playing MMORPGs. Even though fantasy contexts have been used in video games and computer games that promote children's self-management (Shegog *et al.*, 2001), enhance students' interest and learning (Cordova and Lepper, 1996; Malone and Lepper, 1987; Parker and Lepper, 1992; Ricci *et al.*, 1996), and in health-related behavior change (Baranowski *et al.*, 2003, 2008), few studies have focussed on users' achievement values.

In sum, MMORPGs not only provide players with an intrinsic feeling of pleasure and success, they also fulfill the psychological need for personal achievement, that is, the need to obtain social superiority and esteem. The findings of this study imply that game vendors or designers can make use of the achievement values identified herein to better design desirable activities to engage players in an online setting. Thus, it is necessary to effectuate improvements to make games more attractive to players; for instance, the character of role-playing can be incorporated into the game to make players feel interested in the game. The findings of this study carry implications not only for the game environment; they can also be useful in the design of courses in the classroom. The understanding of players' achievement values in the current study provides useful insights for educators to create innovative course designs, which can help students to make greater progress than they would by traditional methods. It is hoped that building students' long-term success values can affect their performance not only in games, but also in real life scenarios. Future research can continue to study the way in which more effective teaching and learning environments can be created based on students' achievement values. Also, it is encouraged to study the relationships between the various components of achievement values.

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