Introduction

Gaming is a multifaceted skill relying on motoric abilities (e.g., gamepad dexterity), general cognitive processes (e.g., working memory, attention), and background knowledge (e.g., camera control, wayfinding, leveling).

The amount of time a user has spent playing video games, and the variety of games they have played, will almost certainly impact on their ability to deal with the mechanics and systems that are employed by different types of games.

One difficulty in asking users report the frequency and variety of the games they play is that they tend to over- or underestimate their exposure.

This problem is mirrored in reading research, as participants tend to exaggerate the amount of time they spend reading novels.

Methods

Study 1
• 20 young adults (15 male, 5 female)
• Demo of remastered 3rd person action-adventure title
• Rated for enjoyment and difficulty (1 – 7 Likert scale)

Study 2
• 10 young adults (8 male, 2 female)
• First 3 hours of Batman: Arkham Knight
• Comprehension questions tapping details and inferences
• Rated for enjoyment (1 – 5 Likert scale)

Study 3
• 286 users from the PlayStation MVP panel (sexes unknown)
• Completed GRT alongside genre ranking
• Reliability estimates derived
• Factor Analyzed to identify game recognition ‘components’

Results

Study 1
• The GRT was strongly related to difficulty ratings: Those who scored higher on the GRT rated the game as less challenging than those who scored low (r = .61, p = .004). See Figure 2.
• Moderate positive relationships found between GRT scores and ratings of the cover system (r = .37, ns); climbing mechanic (r = .32, ns); and framerate (r = .35, ns)

Study 2
• Comprehension was positively correlated with game enjoyment ratings (r = .63, p<.05)
• Comprehension was positively correlated with GRT scores (r = .77, p<.001). See Figure 3.
• This correlation was strongest when the Action subscale was used (r = .91, p<.001)

Discussion

Study 1
• More experienced players were impressed by certain aspects of the game
• Difficulty x Experience relationship supported dev’s decision to include difficulty settings beyond ‘easy’, ‘normal’, and ‘hard’

Study 2
• Players who comprehended the narrative enjoyed the game more than those who did not
• More experienced players were better able to comprehend the narrative than were less-experienced players
• Sample size is small

Study 3
• The test appears to be reliable, and subscale items appear to be consistent
• High-spend gamers skew distribution toward higher scores
• Factors loosely tied to genres (e.g., Factor 2 = ‘Racing’; Factor 4 = ‘Fighting’)

The Game Recognition Test

Game titles are used in place of authors and magazine titles.

120 titles embedded amongst 120 foils (movies, TV shows, etc.)
20 Action titles, 20 RPGs, 20 Fighting, 20 Narrative, 20 Racing, 20 Shooters

The Author and Magazine Recognition Tests

Real authors (NYT best sellers) or magazines (Amazon) are embedded alongside fake names and titles. Check-mark next to those recognize as real.

Performance correlates with standardized measures of vocabulary (Pearson’s rs = .56 to .60); reading comprehension (rs = .48 to .54), and cultural knowledge (rs = .54 to .59)

The Game Recognition Test

Game Recognition Test

The GRT was strongly related to difficulty, enjoyment, and comprehension

The GRT was strongly related to enjoyment (r = .35, ns); climbing mechanic (r = .32, ns); the cover system (r = .37, ns); camera control, wayfinding, leveling.

Gaming Experience in Relation to Difficulty, Enjoyment, and Comprehension:

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