**Student Findings**

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Table 1. Student characteristics associated with perceptions of game usability in a sample (n=300) of pre-licensure nurses from nine institutions across the United States

| Student characteristics | *P* value |
|---|---|
| Positive association between male gender and usability | <.0001 |
| Gaming during one's free time associated with usability | .0391 |
| Self-identifying as a gamer associated with usability | .0608 |
| Snapchat® use associated with usability | .1127 |
| Online gaming appeared to be associated with usability | .1686 |
| Other social media associated with usability | .2924 |
| Using Facebook, Instagram, Twitter not associated | .5000 |
| Console gaming not associated with usability | .7572 |
| No differences by age | .7889 |
| GPA not associated with usability | .9943 |

Table 2a. User Reaction Scale Part 1 in a sample (n=300) of pre-licensure nurses from nine institutions across the United States

| **Positive Emotions** | **Strongly Disagree** | **Disagree** | **Neither Agree nor Disagree** | **Agree** | **Strongly Agree** |
|---|---|---|---|---|---|
| Practicing this way was fun. | 3% | 2% | 9% | 40% | 45% |
| Wearing the headgear did not bother me. | 3% | 11% | 8% | 36% | 41% |
| I felt engaged in my own learning while practicing. | 2% | 5% | 15% | 40% | 39% |
| Using this technology motivated me to keep practicing. | 4% | 8% | 18% | 44% | 26% |
| I got the feedback I needed when I needed it. | 5% | 11% | 19% | 41% | 24% |
| At times during the hour, I felt totally absorbed in practicing. | 4% | 9% | 19% | 44% | 23% |
| I lost track of time while practicing. | 6% | 9% | 18% | 46% | 22% |
| There were elements of challenge within the game. | 3% | 3% | 15% | 58% | 21% |
| Will help me insert a urinary catheterization correctly. | 9% | 15% | 22% | 36% | 19% |
| I will be more likely to practice catheter insertion. | 13% | 13% | 32% | 29% | 14% |
| I found my way around the game easily. | 5% | 19% | 19% | 44% | 13% |
| It was easy to concentrate on aseptic technique. | 14% | 29% | 15% | 30% | 13% |
| I worked to improve my score and my practice time. | 8% | 14% | 44% | 21% | 12% |

Table 2b. User Reaction Scale Part 2 in a sample (n=300) of pre-licensure nurses from nine institutions across the United States

| **Negative Emotions** | **Strongly Disagree** | **Disagree** | **Neither Agree nor Disagree** | **Agree** | **Strongly Agree** |
|---|---|---|---|---|---|
| I did not find any challenge within this game. | 21% | 50% | 14% | 13% | 2% |
| Difficult to concentrate on maintaining aseptic technique. | 12% | 31% | 15% | 27% | 16% |
| Practicing this way is boring. | 52% | 37% | 8% | 2% | 1% |
| Practicing this way was not engaging. | 46% | 39% | 10% | 4% | 1% |
| I found practicing this way frustrating. | 15% | 24% | 21% | 29% | 10% |
| At no time was I absorbed in the game. | 30% | 42% | 18% | 6% | 4% |
| The headgear was uncomfortable. | 35% | 36% | 13% | 10% | 6% |
| I would rather practice on a task trainer. | 7% | 19% | 33% | 26% | 15% |
| I found myself wondering when I could stop playing. | 35% | 38% | 15% | 9% | 3% |
| I did not enjoy practicing this way. | 39% | 35% | 15% | 8% | 3% |
| It made me dizzy or nauseous. | 49% | 27% | 12% | 9% | 2% |

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Table 1: Participants Reporting Age Range

| Age Range | Participants (*n=36)* |
|---|---|
| 25-30 | 9 |
| 31-35 | 4 |
| 36-40 | 2 |
| 41-45 | 3 |
| 45-50 | 7 |
| 51-55 | 7 |
| 56-60 | 4 |

Table 2. Non-student characteristics associated with perceptions of game usability

| **Non-student characteristics (*n=36*)** | **P value** |
|---|---|
| Snapchat | .0030 |
| Graduation decade (1970s to 2010s) positively associated with usability | .0045 |
| Age was associated with usability<br>50% (n=18)-low usability<br>25% (n=9) medium usability<br>25% (n=9) high usability | .0362 |
| Self-identifying as a gamer associated with usability | .0874 |
| Twitter | .1125 |
| Use of social media associated with usability | .1684 |
| Console gaming associated with usability | .1748 |
| Instagram | .2213 |
| Gaming during one's free time associated with usability | .2914 |
| Facebook use **not** associated | .7770 |
| Online gaming **not** associated with usability | .9512 |
| **No** association between gender and usability | 1.00 |

Table 3: Questions correlating with positive perceptions (*n=46)*
*Scale: 1= Strongly Disagree, 2=Disagree, 3=Neither Agree nor disagree, 4=Agree, and 5= Strongly agree.*

| Positive questions | Percentage who Strongly Agree & Agree | Mean Score |
|---|---|---|
| Wearing the headgear did not bother me | 84.1 | 4.30 |
| There were elements of challenge within the game | 79.5 | 3.95 |
| Practicing this way was fun | 77.3 | 3.86 |
| I lost track of time while practicing | 68.2 | 3.64 |
| I felt engaged in my own learning while practicing | 65.9 | 3.66 |
| At times during the hour, I felt totally absorbed in practicing | 63.6 | 3.66 |
| I got the feedback I needed when I needed it | 61.3 | 3.70 |
| Using this technology motivated me to keep practicing | 47.8 | 3.34 |
| I worked to improve my score and my practice time | 45.5 | 3.00 |
| I found my way around the game easily | 43.2 | 2.89 |
| Will help me insert a urinary catheter correctly | 36.4 | 2.77 |
| I will be more likely to practice catheter insertion this way than on a task trainer | 31.8 | 2.82 |
| It was easy to concentrate on aseptic technique | 20.5 | 2.39 |

Table 4: Questions correlating with negative perceptions (*n=46)*
*Scale: 1= Strongly Disagree, 2=Disagree, 3=Neither Agree nor disagree, 4=Agree, and 5= Strongly agree.*

| **Negative questions** | Percentage who Disagree & Strongly Disagree | Mean |
|---|---|---|
| I did not find any challenge within this game | 84.1 | 1.82 |
| Practicing this way was not engaging | 84.1 | 1.8 |
| At no time was I absorbed in the game | 81.9 | 2.02 |
| Practicing this way is boring | 79.5 | 1.8 |
| The headgear was uncomfortable | 77.2 | 1.89 |
| Difficult to concentrate on maintaining aseptic technique | 65.9 | 1.8 |

| | | |
|---|---|---|
| It made me dizzy or nauseous | 65.9 | 2.2 |
| I did not enjoy practicing this way | 56.8 | 2.52 |
| I found practicing this way frustrating | 54.5 | 3.34 |
| I found myself wondering when I could stop playing | 47.7 | 2.68 |
| I would rather practice on a task trainer | 27.3 | 3.2 |