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Interprofessional Care of Elders: Utilizing the Virtual Learning Environment

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Practicing Interprofessional Care of Elders: Utilizing Videoconferencing and a Virtual Environment

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Acknowledgements

Objectives

1. Participants will discuss how video conferencing and a virtual environment can be utilized for interprofessional education.

2. Participants will review avatar creation, interviewing of a "virtual" patient, and options for student conferences.

3. Participants will review IPP competency domains.

Background

"Serious Gaming" Terms - (Virtual reality, virtual world, avatars, 3DVW, Second Life®, Virtual Learning Environments (VLE) and Digital Clinical Experience - DCE ("*Tina*")

- *"A computer-generated simulation of the real or imagined environment or world." (Gaddis, 1998)*

- *"Serious games are applications that use computer game-derived technologies and design strategies to achieve educational aims. (Lynch-Sauer et al., 2011)*

Background – Nsg. Education

- "Avatars and virtual worlds have the potential to make active learning at a distance possible, especially when students have time constraints that make sitting in traditional classrooms unrealistic". (Miller, Jensen 2014)

- Three overarching themes emerged: "(a) critical reasoning skills, (b) student-centered learning, and (c) instructional design considerations". (De Gagne et al., 2013)

- "An overwhelming majority (94%) of students liked the idea of using technology to enhance health care education, and 88% believed that nursing education should make better use of video games and related new media technology". (Lynch-Sauer et al., 2011)

Background – NP and IP education

NP Education and Virtual Environments

- PNP students in Second Life® primary care clinic (Cook, 2012)

Interprofessional Education

- SBIRT IPE training (Flemming et al., 2009)

Methods - Preparation

Completion of an online learning module. The module included the following topics:

1. Care of frail elders requires team approach
2. Interprofessional practice versus multi-disciplinary approach
3. Info on all disciplines

NP students received content and practice re: meeting facilitation.

Methods – The Virtual Clinic

- Enter the Virtual Clinic at

https://www.uvm.edu/medicine/simlab/?Page=virtualclinic.html&SM=ipemenu.html

Use the password: **UVMDIVE**

Enter your information

Choose an avatar

Methods – The Virtual Clinic
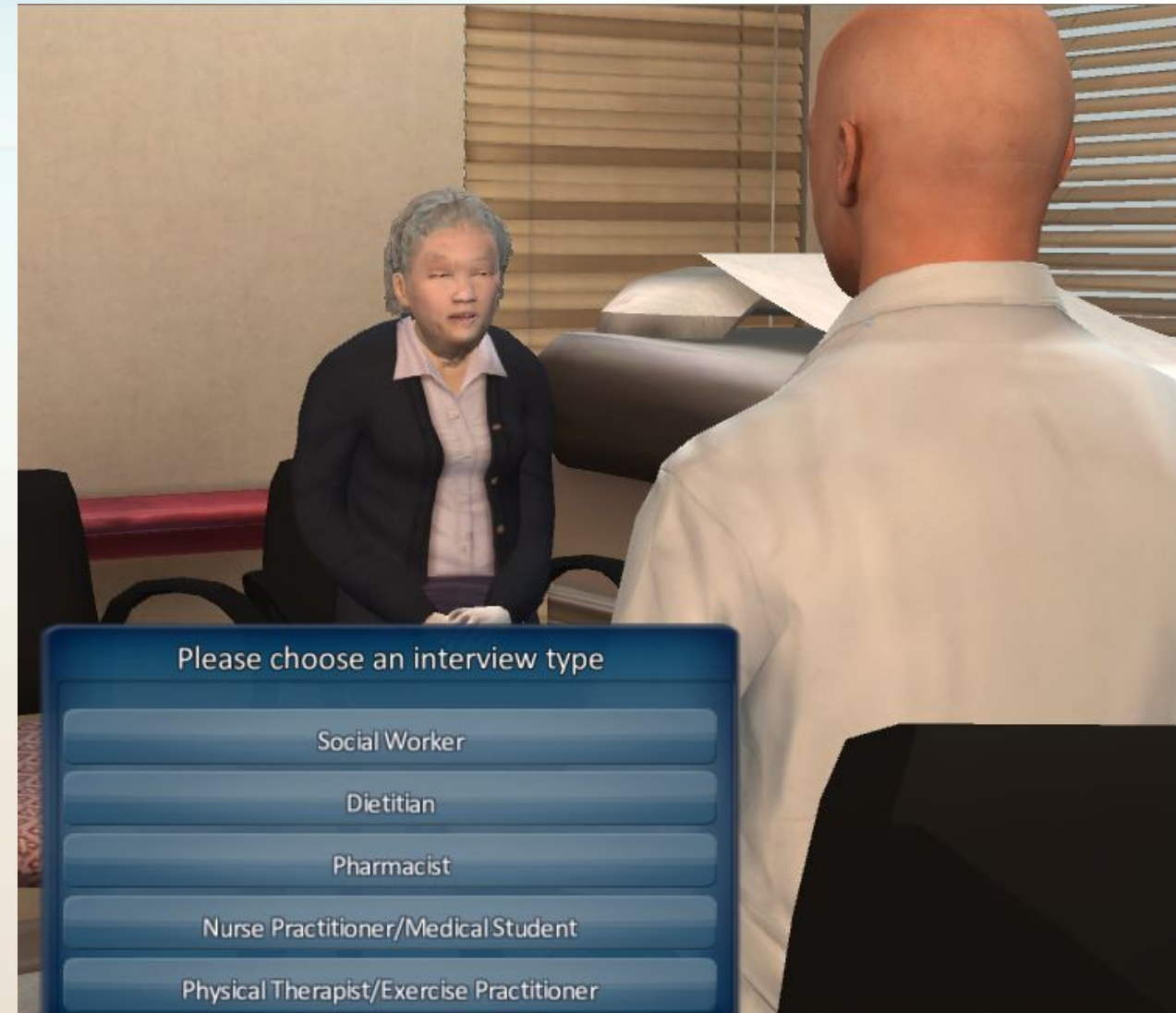
Choose the type of interview:
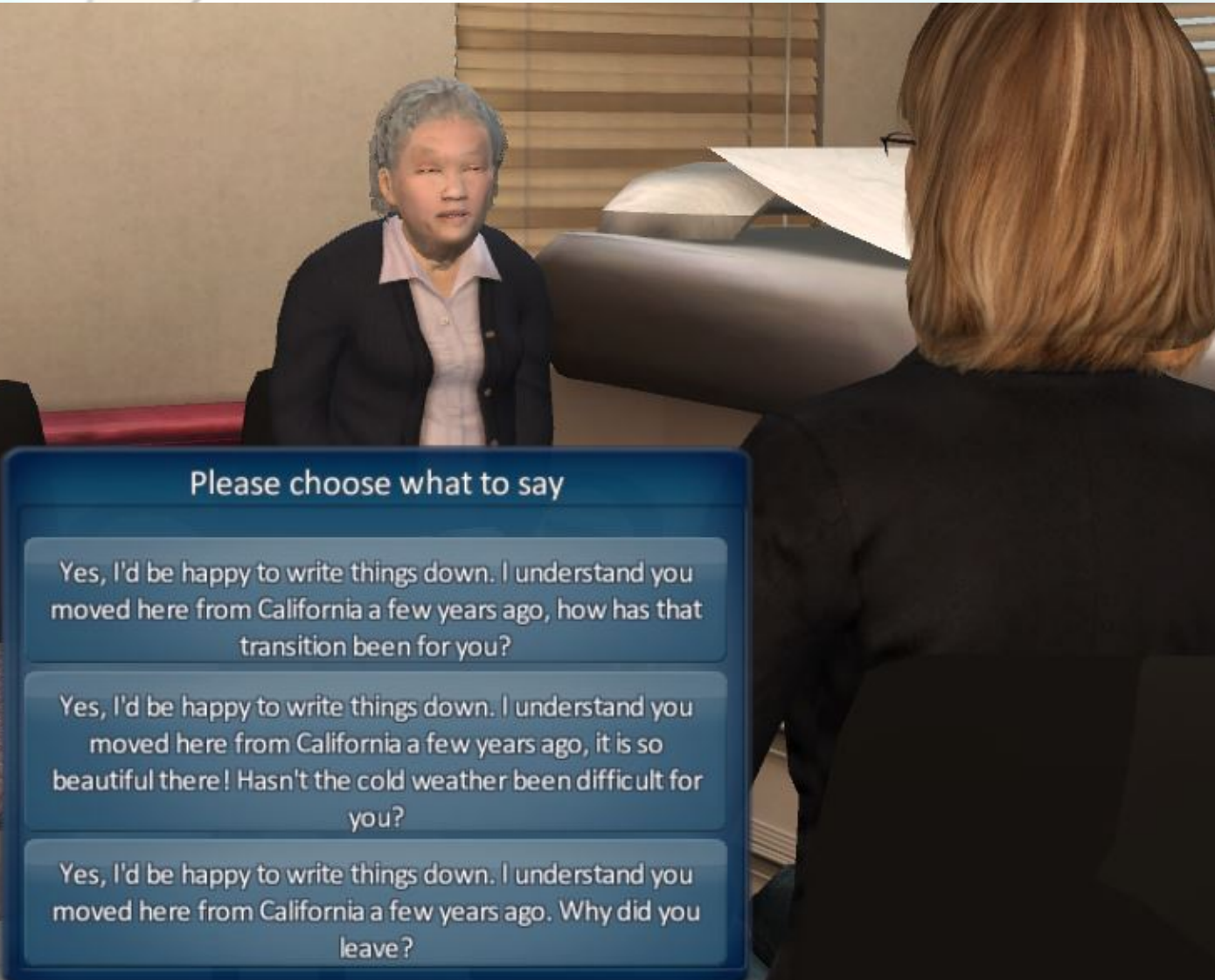
Social Worker

Dietitian

Pharmacist

NP/MD

Physical Therapist/

Exercise Practitioner

Please choose what to say

Yes, I'd be happy to write things down. I understand you moved here from California a few years ago, how has that transition been for you?

Yes, I'd be happy to write things down. I understand you moved here from California a few years ago, it is so beautiful there! Hasn't the cold weather been difficult for you?

Yes, I'd be happy to write things down. I understand you moved here from California a few years ago. Why did you leave?

During the interview of Mrs. Kim, student must choose the questions that are:

- Culturally appropriate
- Open ended
- Jargon free
- Consistent with principles of Motivational Interviewing

Incorrect choices get instant feedback.

Methods – Information Gathering

Students must:

- Listen to an interview at the pace of an elder

- Review the last primary care visit note, labs, and a recent Emergency Room note

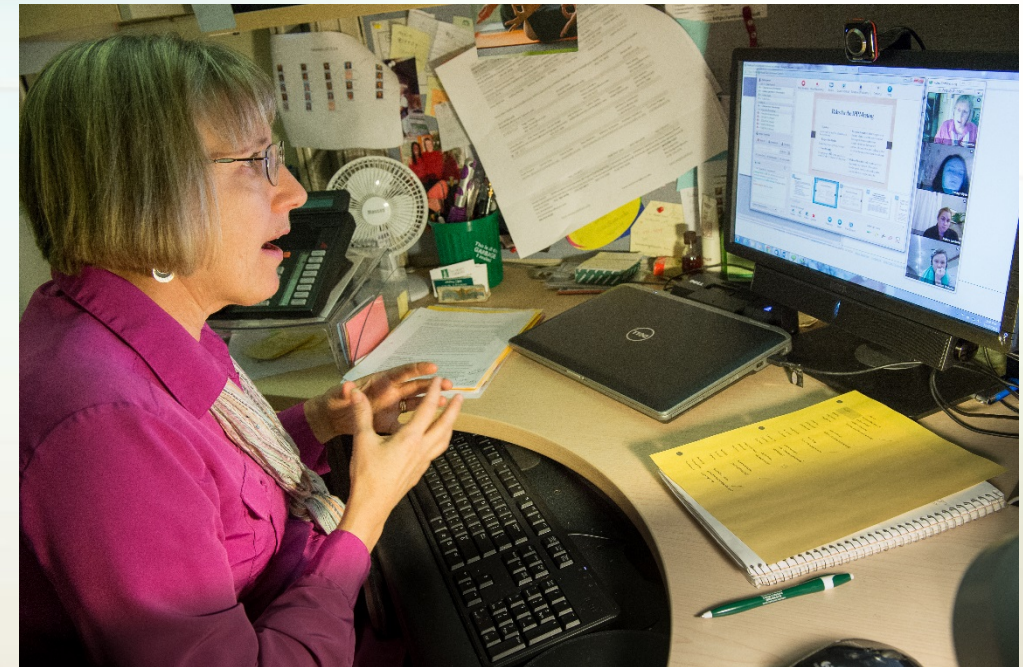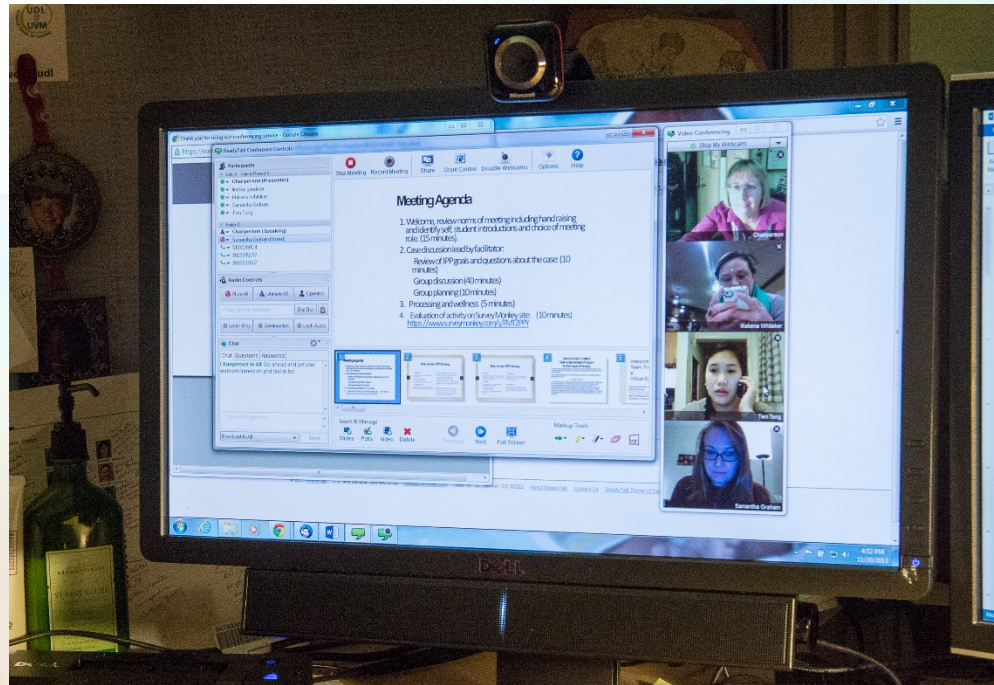- Physical exam not included in this visit

Methods – IPP Virtual Case Conferencing

- Students from the same discipline or different disciplines can meet in the Virtual conference room to discuss the case and plan care.

- Avatars are polite! They:
  - Speak one at a time
  - Raise hands
  - Nod or shake head "no"

Methods – IPP Case Conferencing
Video Conferencing via ReadyTalk®

Interprofessional conferences (90 minutes in length) were conducted for students to collaboratively developed a plan of care for a frail elder. Twelve conferences in the 2013 and 8 in 2014 after interviewing the patient in the Virtual Clinic

Evaluation Methods

Online survey completed post video conference

- Demographic information

- 5 open-ended questions

- 14 questions scored on a Likert scale and related to IP Competency Domain Framework

  Values/Ethics

  Roles/Responsibilities

  Inter-professional communication

  Teams/teamwork

These competencies provided a structure for the evaluation questions, and a review by faculty in each discipline also provided content validity.   Reliability of the survey instrument was not tested or established.

Evaluation Findings Video Conferencing

Eighty-three students (n=83) completed the survey.

Participants were predominantly female (77%)

White/Caucasian (83%).

Age:

   Mean   - 29 yrs.

   Range   - 22-56yrs.

Student Disciplines:

Nurse Practitioner 16%

Physical Therapy 14%
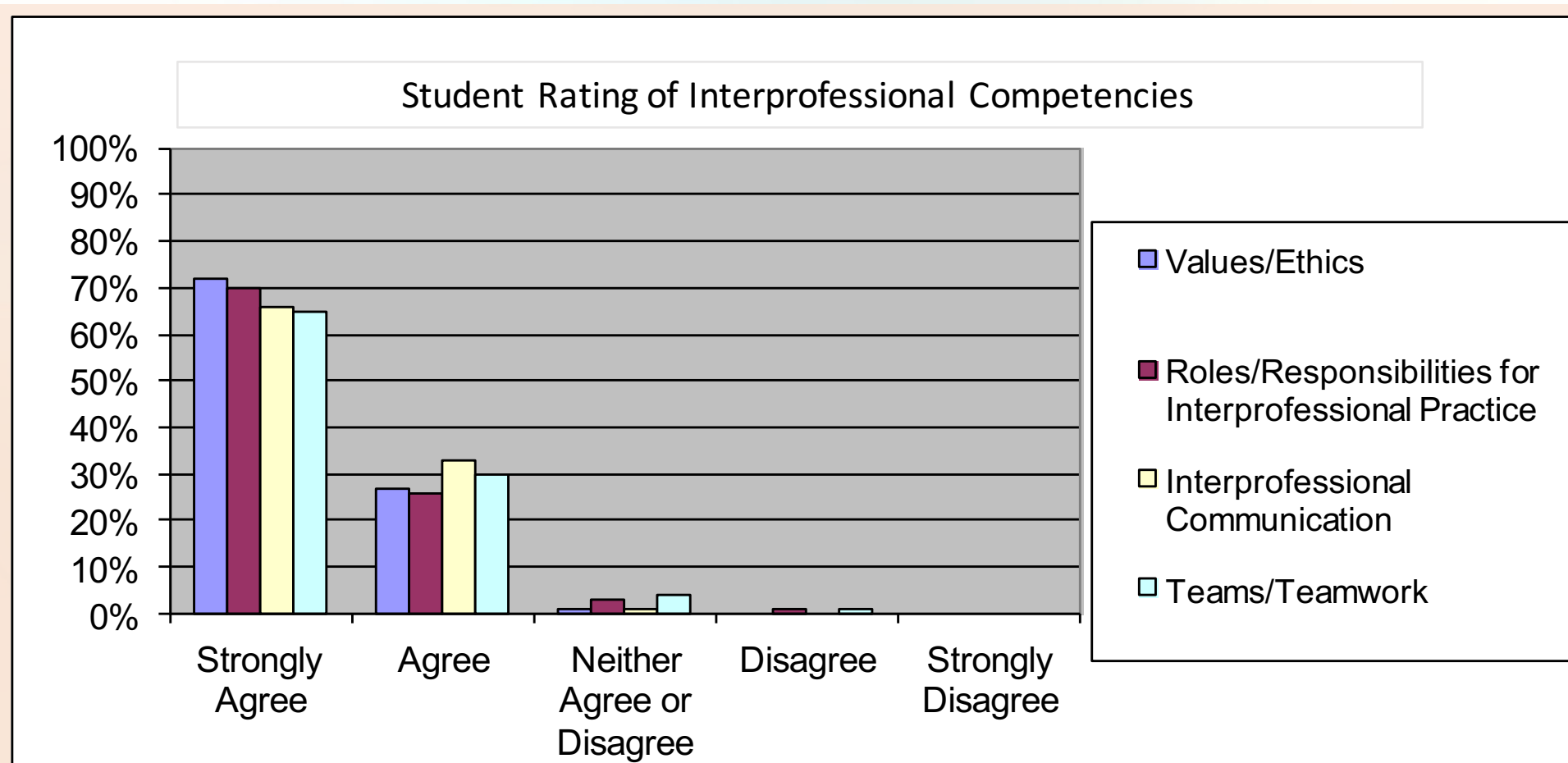
Pharmacy 20%

Social Work 16%

Nutrition 15%

Exercise Science 2%

Medicine 15%

Communication Sciences 2%

Evaluation Findings – Video Conferencing

Evaluation Findings Virtual Clinic

Participating students (n = 75)

Gender: 76% female, 24% male

Age:

      Mean   - 26 yrs.

      Range - 21-61 yrs.

Ethnicity:

   White 90%

   Asian 10%

Income: 10% low

Student Disciplines:

Nurse Practitioner 11% (8)

Physical Therapy 11% (8)

Pharmacy 14% (10)

Social Work 14% (10)

Nutrition 11% (8)

Exercise Science 12% (9)

Medicine 10% (7)

Communication Sciences 16% (11)

Evaluation Findings- Virtual Clinic

- Data from 14 Likert scale questions were aggregated in four IP competency areas
  - Participants rated the value of this activity positively across all four domains (mean rating of 57% Strongly Agree , 39% Agree, 5% Neutral)
  - There were some differences noted by healthcare discipline.

Evaluation Findings Virtual Clinic

Students' Rating in Interprofessional Competency Domains
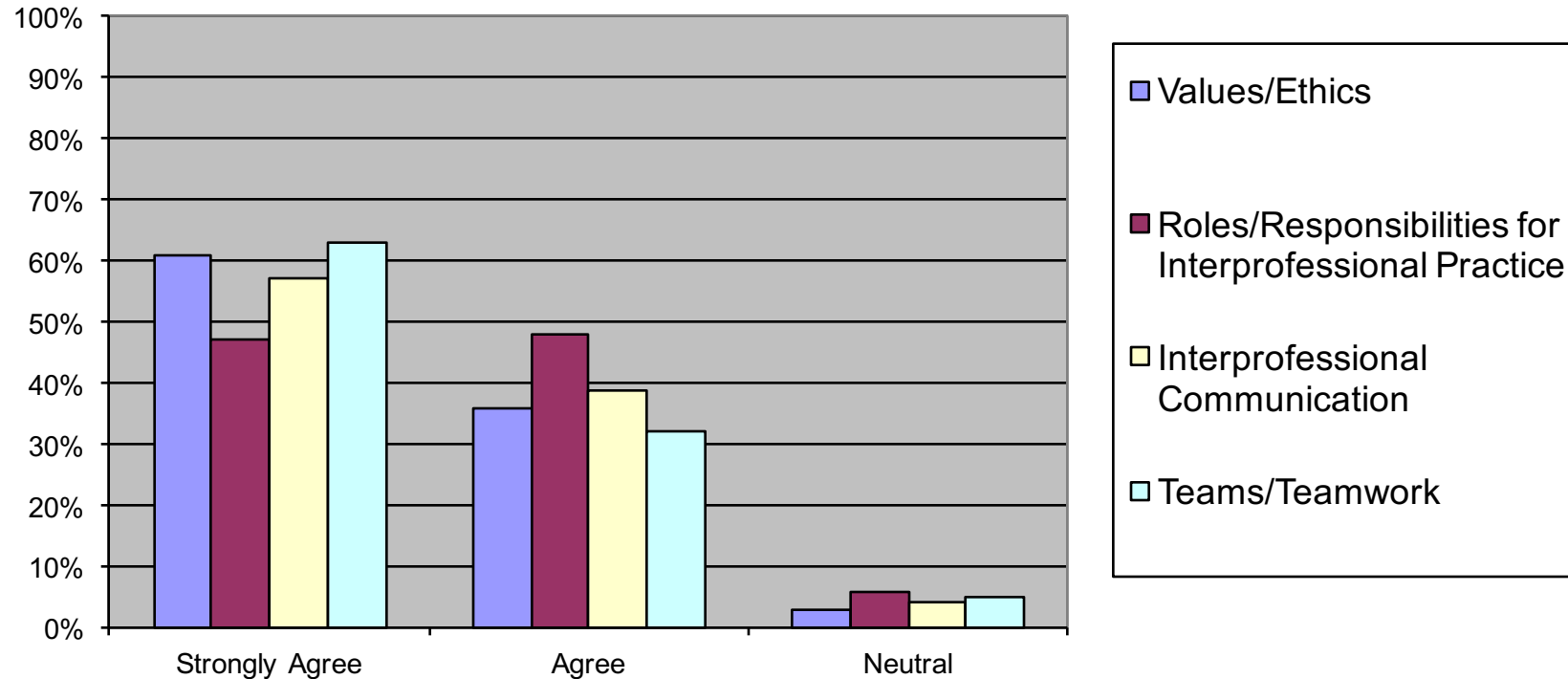
The distribution of responses was significantly associated with IC Domain (p=0.002 from Chi-Square test for association). In particular, the Role/Responsibility domain had a lower percentage of "Strongly agree" and higher percentage of "Agree" responses than other domains.

Results – Virtual Clinic

By discipline:

- The distribution of responses was also significantly associated with discipline (p<0.001 from Chi-Square test for association).

- In particular, the SLP, RD, and PT groups had a lower percentage of "Strongly agree" and higher percentage of "Agree" responses than the other groups.

- Also, the SLP and SW groups had a higher percentage of "Neutral" responses than the other groups.

Evaluation Findings – Virtual Clinic

Was the Virtual Clinic interview(s) a valuable experience? Why or why not?

Valued working with other disciplines (55%)

"Yes. I thought it was very interesting and relevant to have all the care providers there to discuss different aspects of her care. It was helpful to get a better understanding of the medical perspective of her care while also making sure that Mrs. Kim was being respected and valued".

Negative comments about the Virtual Clinic (16%)

"No, I did not like that you could only ask certain questions, there was more I wanted to ask her."

Evaluation Findings – Virtual Clinic

Please comment on what worked well for you in the Virtual Clinic.

Video conferencing (28%)

"I liked that I could use my own computer and phone from home and that I could revisit the clinic online anytime I wanted to".
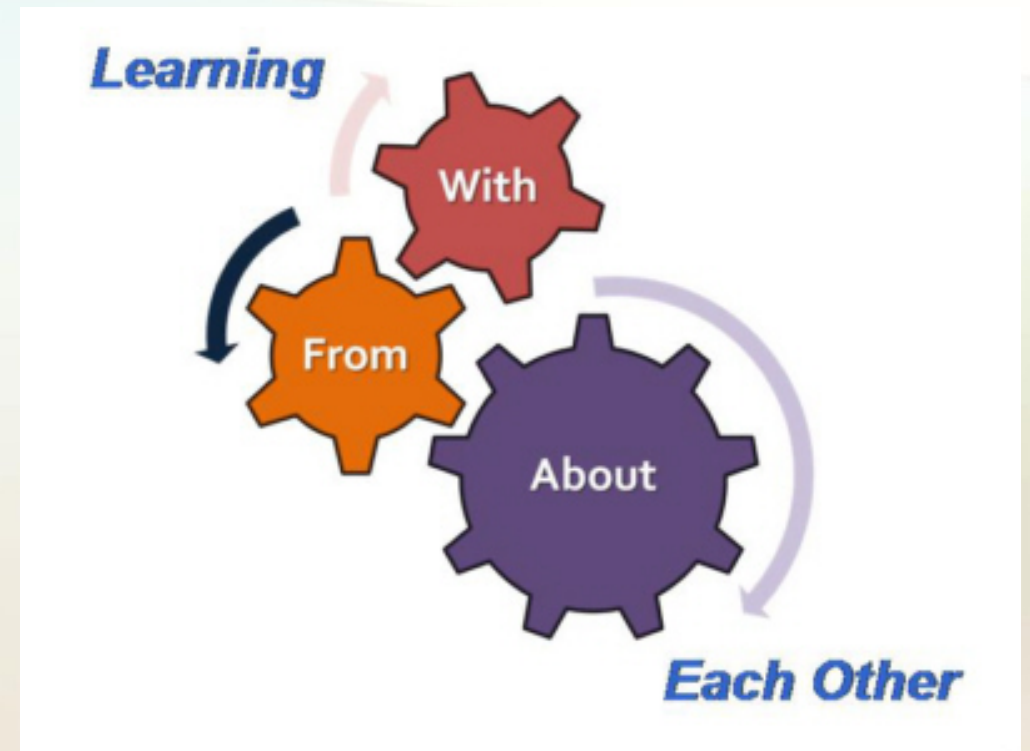
Discussion (28%)

"Able to facilitate discussion among many participants in a constructive way".

"Everybody was allowed to speak their mind and good ideas were shared".

Discussion/Conclusions

- Limitations
- A virtual clinic and video conferencing can be used to offset the logistical difficulties of scheduling students from 8 professions in one place.
- "Serious gaming" is an acceptable learning platform for most students.
- Students highly value IPE opportunities and are curious about their role in IPP
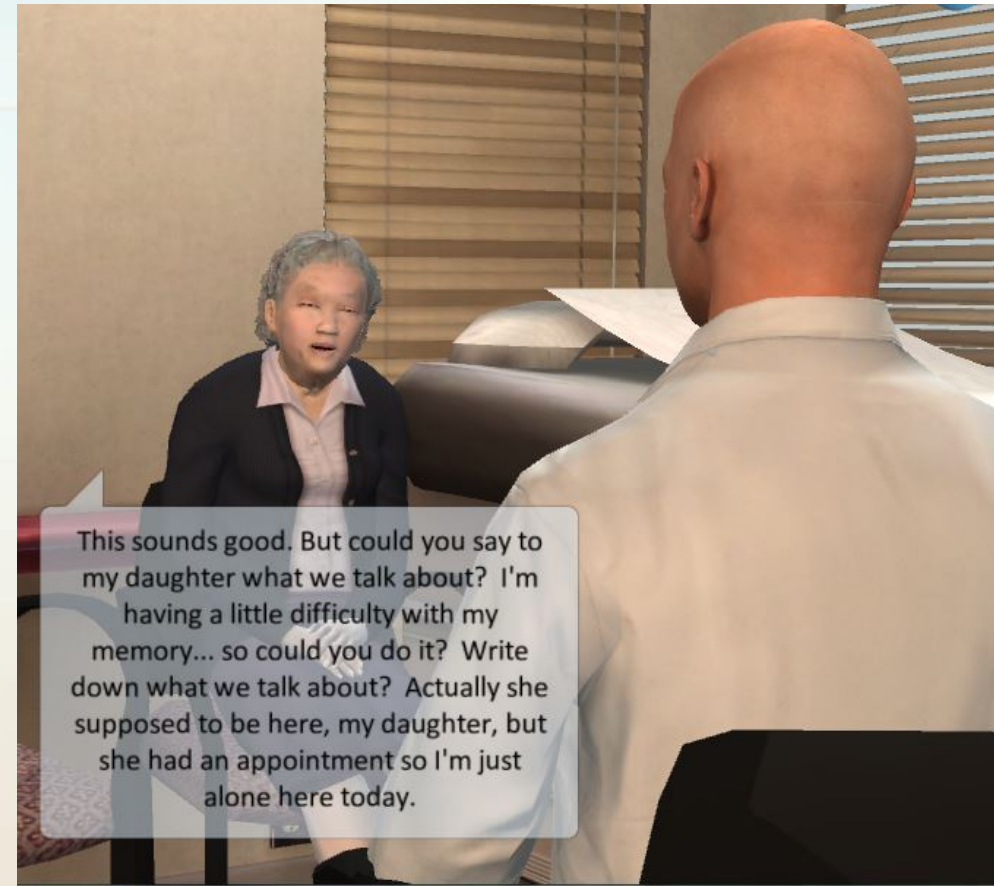
Discussion/Conclusions

- Opportunities to meet other students in-person are also highly valued by students.

- Opportunities to observe real IP team in action must be cultivated.

- Meeting facilitation must be taught and practiced.

- Participation by the entire class instead of individually was rated lower.

Discussion/Conclusion

Creation of a virtual patient requires:

1. Resources (grant funding)
2. IP Faculty collaboration and support of effort
3. Technical expertise
4. Cultural expert consultation and actors with appropriate accents

Discussion/Conclusion

Creation of a virtual patient has advantages:

1. IP Faculty collaboration

2. Tailored interview questions to reinforce Motivational Interviewing, cultural competency, and specific interview skills

3. Ability to adjust based on evaluations

Future Research

- Further research involving IP educational pedagogy and the use of distance technologies is needed.

  - Compare uses of virtual clinic with larger, more diverse student groups

  - Identify Motivational Interviewing skills which need the most reinforcing

  - Follow up with participating students regarding perceptions of interprofessional practice application in their clinical education.

Future Research

- Compare uses of virtual clinic with other learning strategies (e.g., standardized patient) and evaluate their cost-effectiveness

- Faculty acceptance or resistance on the use of virtual clinic

Questions ??

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