

# Innovative Teaching Practices In Health Science Education

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Using Video- Based Technology As A Tool to Develop And Assess Student Skills

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# Objectives

- Review history leading to utilization of video- based technology
- Discuss forms of video- based technology used to generate meaningful engagement in the online forum
- Discuss various uses and benefits of using video-based technology
- Share student perceptions and feedback regarding utilization of video –based technology

# Background

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- Covid 19 generated a major global shift in early 2020.
- Many sectors of society had to find alternative ways to maintain a sense of normalcy.
- Education was one of those sectors where instructors and faculty members needed to be creative to deliver information and assess student learning.
- This unexpected dilemma prompted those in the field of education to find ways to maintain and enhance learning.



# Background

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- Universities, colleges, and other higher education institutions with hybrid models were better positioned to deal with this problem; online education was and continues to be a part of their curriculum (The Harvard Business Review, 2020)
- The use of videos and other virtual tools has proven positive benefits in classrooms worldwide; one of these tools is the GoReact Videos. (Hager, Fiechtl, and Gunn, 2020)



# Forms of Video-Based Technology

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Two main forms of video-based technology were employed by University of St. Augustine for Health Sciences Flex faculty during the COVID -19 to provide meaningful engagement for students. They continue to be utilized today.

## TECHNOLOGY 01

GoReact Video  
Technology

## TECHNOLOGY 02

Virtual Simulation



# GoReact Video

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- California State University 2021 reported that GoReact is an interactive platform for feedback, grading, and critiquing video assignments; this is a tool for performance-based skills online.
- Students upload, record, or stream videos with a webcam or smartphone into the forum; instructors and other students can give time-coded feedback on student videos.

According to the GoReact website:

“This platform can be helpful in any learning environment that requires an instructor to observe a students' presentation or performance.”



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# GoReact

GoReact provides eight creative ways that people/institutions are using their technology:

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- 01 Communication Courses
  - 02 Teacher Education Observations
  - 03 American Sign Language Teaching and Interpreting
  - 04 Clinical Training
  - 05 Visual Communication
  - 05 06 Performing Arts
  - 07 Sales Training
  - 08 Law Enforcement Training and Lawyer Education

# GoReact Video Examples

goreact PHT5615C001 - Neuromuscular III: Advanced Examination and Intervention (2022 20)

BACK



MG Melissa Green

1 of 2



All Comments



Autoplay Comments



Text Video Audio Upload YouTube Library End Note

Add a text comment...



1x



01:10

Show feedback graph

Characters: 0/500 Timeline: Start Typing...



# GoReact Utilization at USAHS

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Faculty for the University of St. Augustine for Health Sciences DPT program utilized this technology in a variety of asynchronous ways.

## Formative Feedback

Students received timely written & verbal feedback from the instructor on video submissions from a remote location

## Psychomotor Practice

Students demonstrated a specific technique & instructors provided video & written feedback at the precise moment correction was needed

## Professional Communication

Students engaged in activities in which they demonstrated professional communication with colleagues via recorded video

## Summative Assessment

Students submitted assignments in which psychomotor skills were assessed according to a graded criteria

# Additional Notes Concerning GoReact Utilization

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## Communication Enhancement

- Students practice communication via role-playing, developing communication skills to prepare them for the future in their respective professional careers.
- By watching and hearing themselves in the video, they can make the proper changes to improve their interaction with others.

## Student Self Reflection

- These are great resources for students to review their performance. Students can compare themselves to other students' performance, provide their constructive time-coded comments, and receive feedback from the instructor.
- The platform website specifies that GoReact Video allows multiple observers to provide feedback, increasing inter-rater reliability. Once the instructor makes the proper suggestions, students can use a particular video to guide themselves to the educator's expectations.

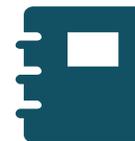




# GoReact Summary

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The GoReact platform supports its use for students and faculty members to facilitate easy recording and allow for remote observations, feedback, and self-reflection.

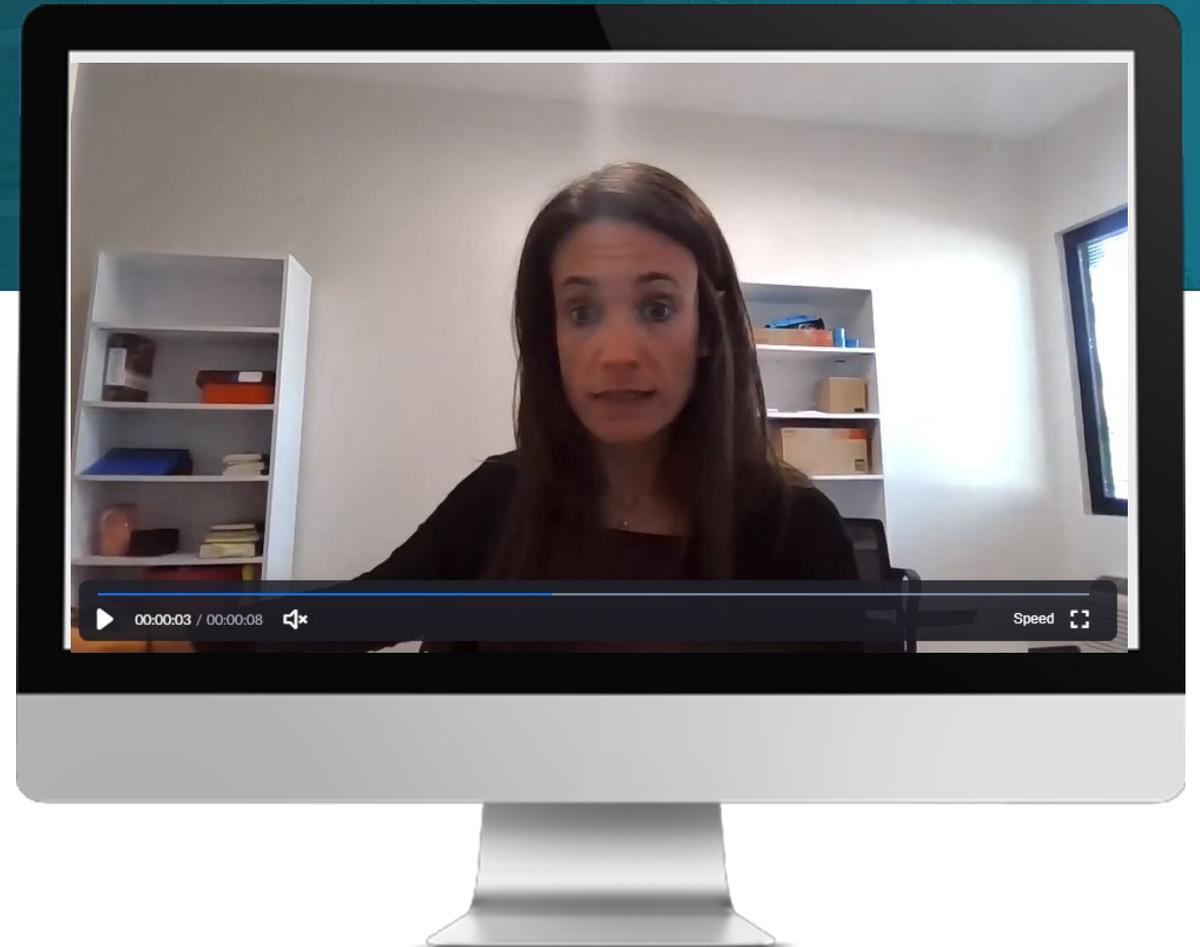


The University of Saint Augustine for Health Sciences has embedded assignments in different courses that require students to use the GoReact Videos Platform.

# Virtual Simulation

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- Virtual Simulation has been studied in nursing education literature and is explained as a computer-generated interaction with a clinical skill in a seemingly physical way (Tolarba, 2021).
- Virtual simulations have been found to have positive effects on learning outcomes in nursing students from a cognitive, skill, and affective domain (Tolarba, 2021).





# Virtual Simulation at USAHS

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- Students in the Flex DPT program engaged in synchronous virtual interactive sessions with patient actors and real patients to practice skills such as history taking, task analysis, examination and treatment.
- These encounters occurred via forums such as RingCentral when live face to face interactions were not supported.



## Student Perceptions of Video-Based Technology

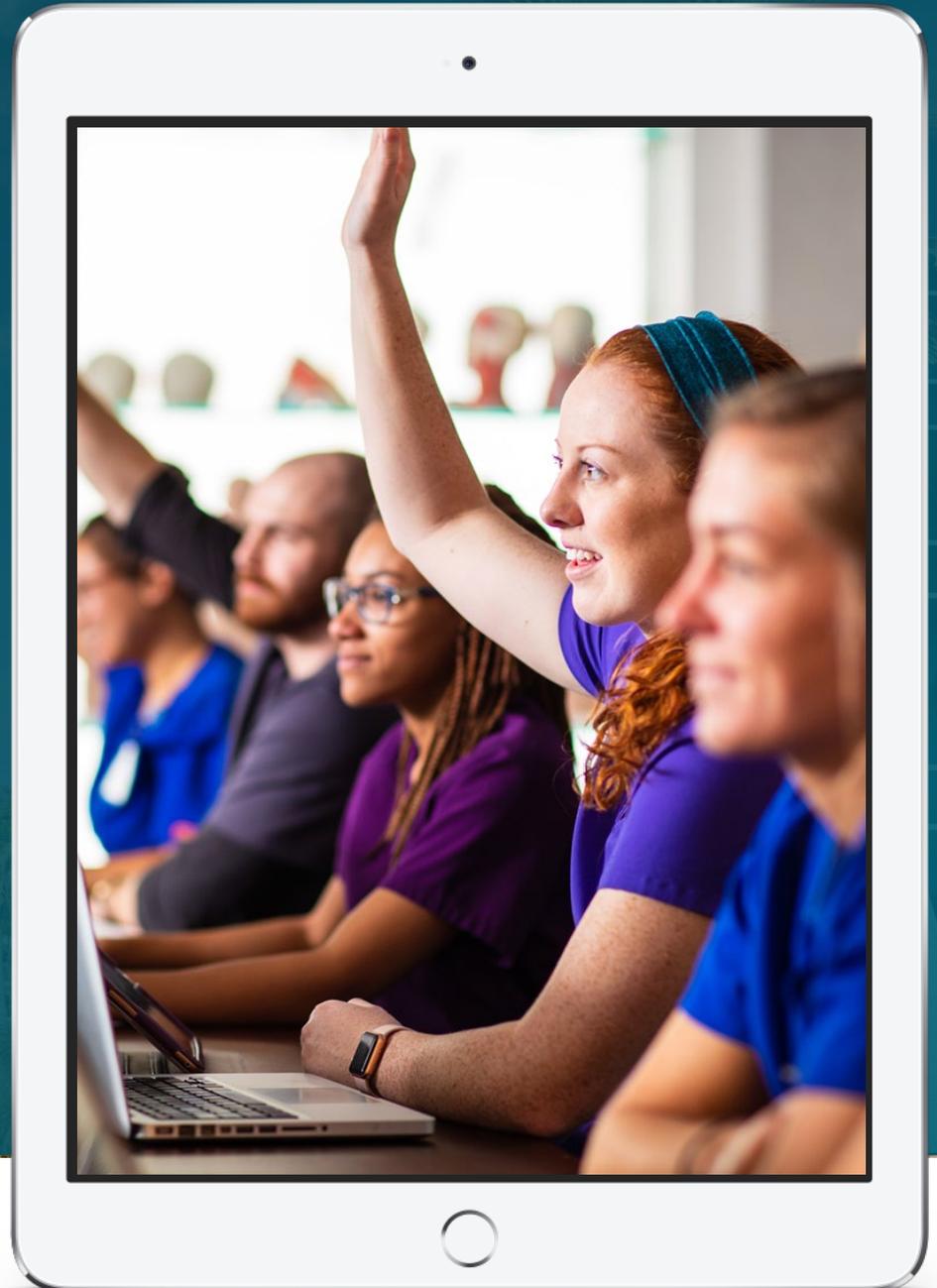
- Students can also develop a sense of control in their learning process when using this technology.
- They can practice different techniques and place themselves in different scenarios to prepare for the clinical experience. Video and live observations reveal the same results for teaching interns (GoReact 2021).
- Students may be more comfortable recording a video from the comfort of their home than being in front of the instructor or their peers who have their eyes on them.

# Student Surveys

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Two forms of surveys retrospectively reviewed for feedback concerning the utilization of video-based technology:

- End of Course Surveys
- USE questionnaire (Lund, 2001) adapted specifically for video-based technology



# End of Course Survey

## End of course surveys

- Routine anonymous assessments concerning course experiences
- Qualitative comments reviewed for comments specific to video-based technology
- Open ended questions on survey include:
  - For courses that do not have campus-based learning experiences, do not complete this question. Because of the COVID-19 pandemic crisis, USAHS transitioned all didactic (i.e., non-lab) instruction to a virtual format. Please provide feedback on your learning.



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# End of Course Survey

## End of course surveys

- Open ended questions on survey continued.....
  - What aspects of the online course format contributed most to your learning?
  - Please provide additional comments about the lab.
  - Please identify what you consider to be strengths of the course
  - Please identify area(s) where you think the course could be improved



# End of Course Survey Findings

## End of Course surveys:

- Limited explicit unsolicited comments specific to video-based technology (VBT) within last 2 years.
- Comments include:
  - *The instructors did an exceptional job as facilitating our lab learning in the virtual environment. I feel that their creativity was what made this class not only enjoyable but doable in a virtual setting.*
  - *The creative ways they engaged us in labs really made it feel as if we were not in a virtual setting.*
  - *I think the go react videos were also a great tool to have the professor watch us and comment as they watch. They were able to give feedback throughout our submission so it wasn't just a "good job" comment posted at the end.*



# Adapted USE Questionnaire

## USE Questionnaire adapted for Video-Based Technology

- Provided within course for anonymous student feedback specific to use of video-based technology
  - Combination of Likert Scale and open-ended questions.
- Sought to determine students' perceptions of the use and impact of video-based technology on :
  - the applicability to clinical practice
  - meaningful engagement with course content
  - communication improvement
  - perceived learning in the course



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# Adapted USE Questionnaire Findings

## Adapted USE Questionnaire (13 respondents):

- 100% of respondents agree or strongly agree VBT was useful to reinforce course material.
- 92.3% of respondents agree or strongly agree VBT was useful to enhance their learning.
- 92.3% of respondents agree or strongly agree VBT was applicable to future clinical practice.
- 100% of respondents agree or strongly agree VBT was useful to improve communication skills.

# Adapted USE Questionnaire Findings

## Adapted USE Questionnaire cont:

- 92.3% of respondents agree or strongly agree VBT was a helpful tool to improve engagement in the course.
- 92.3% of respondents agree or strongly agree that they would strongly recommend other classes to use VBT.
- 84.6% of respondents agree or strongly agree that VBT increases opportunities to engage in the course in a meaningful way.
- 100% of respondents agree or strongly agree they are satisfied with the utilization of VBT in their course.



# Adapted USE Questionnaire: Qualitative Comments

## How did the video-based technology enhance your learning?

- *Great way to look at performance*
- *Prepared me for practical exams.*
- *Allowed feedback from professor (especially for out of town flex students)*
- *Ability to critique oneself.*
- *By practicing under pressure*



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# Adapted USE Questionnaire: Qualitative Comments

## How did the video-based technology enhance your learning?

- *I get to workout my kinks before the practical*
- *It allowed me to review my performance during the video and see areas that I can improve on that I may not notice when I am performing the skill.*
- *I do want to add that I wish we had more required assignments from this because I think it is an under-utilized tool by students since it is not a requirement.*

# Adapted USE Questionnaire: Qualitative Comments

## How did the video-based technology enhance your learning?

- *Most helpful when preparing for practical exams with little to no in-class participation - feedback was the most helpful*
- *Helped with clarification of a manual technique learned in class in which the student was unable to meet with instructor in person*
- *Getting feedback from students/professors*



# Adapted USE Questionnaire: Qualitative Comments

**List the most positive aspects of video-based technology.**

- *Best for receiving feedback when practicing techniques at home.*
- *It allows our professors to give us feedback when we are distance learning since we are flex students.*
- *It allows me to connect with my professor at a distance.*
- *Communication / Professionalism.*

# Adapted USE Questionnaire: Qualitative Comments

**List the most positive aspects of video-based technology.**

- *Professor feedback*
- *Good practice for Flex students to have feedback before coming to campus*
- *Increased practice with feedback*

# Adapted USE Questionnaire: Qualitative Comments

**List the most negative aspects of video-based technology.**

- *Angles are always difficult but that can be understood with videos*
- *May not have correct camera or video angle.*
- *Need easier to use editing tools*
- *The professors sometimes don't provide feedback*
- *Sound quality*
- *N/A*



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## Conclusions

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- Video based technology may be a valuable tool to engage students in a hybrid program in meaningful way.
- Limitations: low survey response rate
- Future studies recommended to assess student perceptions of utilization of video-based technology with larger sample sizes and varying populations in higher education.

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