Incorporating GIFs into Presentations for Teaching How to Use a Slit Lamp

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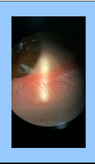
Introduction

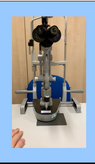
- Short animated videos, colloquially known as GIFs, are extensively used on social media.
- GIFs use little disc space and are easily made.
- Video has been shown to improve learning outcomes and satisfaction [(1)].
- There is limited evidence on GIFs for medical education and none for ophthalmology.
- Our aims were:

1. **To determine if GIFs were superior to pictures for teaching medical students how to use a slit lamp.**
2. **To determine if GIFs were more enjoyable and engaging compared to pictures.**



Left - Obama mic drop GIF (static on poster). Right – pictures of slit lamp and eye. These were made into GIFs to show moving actions.

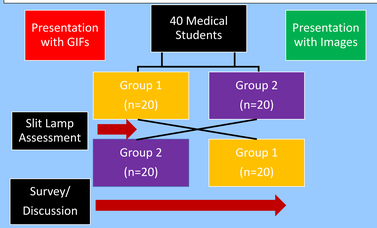






Methods

- Two PowerPoint presentations were created on how to use a slit lamp.
- **One presentation** used **pictures** to show how to use a slit lamp. The **second presentation** was **identical** except that the **pictures** were **replaced** with **GIFs**.
- Fourth year medical **students** who had never used a slit lamp before **watched either the picture or GIF presentation** and were **assessed on 13 parameters** of how to use a slit lamp (Quantitative Results).
- The groups **crossed over and watched the other presentation** after which they were **surveyed** on their experiences, followed by a **group discussion** (Qualitative Results).



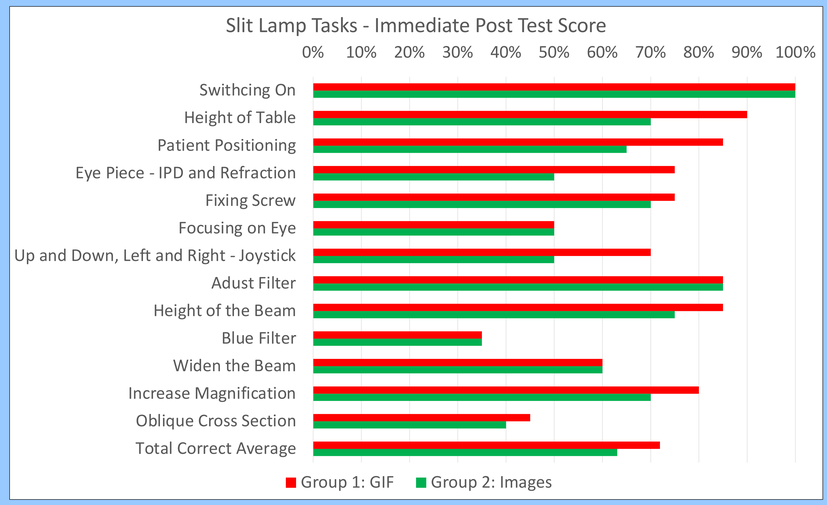
Left – flowchart of study showing crossover of students and assessments.
Right – still of the presentation with images. The GIF presentation replaced the static images with moving GIFs.



Quantitative Results

- **40 medical students** participated - 20 watched the GIF presentation and 20 watched the picture presentation. There were 16 male and 24 female students with an average age of 20.88 SD+/- 0.76.
- **GIFs** were **superior** to images in **9/13** of the parameters and were equal in 4/13.
- Overall **percentage correct** was **72% for GIFs** vs **63% for images**
- The **largest differences** were **adjusting the height of the table** 90% vs 70% (p=0.06), **positioning the patient** 85% vs 65% (p=0.08), **adjusting the eyepiece and refraction** 75% v 50% (p=0.05) and **adjusting the slit lamp up, down, left and right with the joystick** 70% vs 50% (p=0.10).

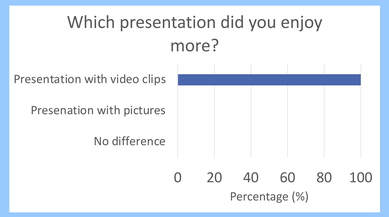
Below – graph showing Immediate post test score on 13 assessed parameters of 'How to Use a Slit Lamp'. Red shows Group 1 watching the GIF presentation, Green shows Group 2 watching the picture presentation.

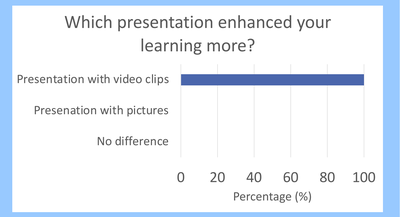


References

Woolfitt, Z. (2015). The effective use of video in higher education. Lectoraat Teaching, Learning and Technology. Inholland University of Applied Sciences. Rotterdam. Retrieved from: www.inholland.nl/media/10230/the-effective-use-of-video-in-higher-education-woolfitt-october- 2015.pdf

Qualitative Results





"When giving directions it may not always be clear what the instructions mean. When we see it being carried out it becomes apparent what we ought to do."

"More interactive and visual when you can see it actually being done. Also in the picture one, not always obvious where the arrows were pointing."

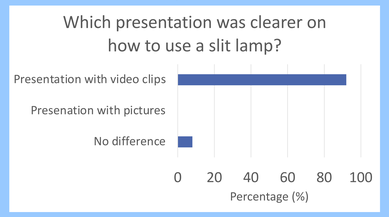
"It's very helpful to see the moving parts."

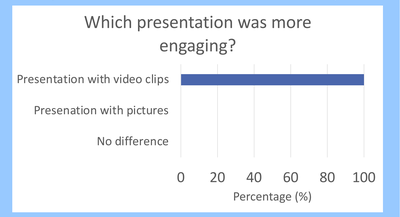
"Being able to understand how the equipment functions through real life coverage makes it less abstract."

"I can remember the video actions more that pictures. For example, unlocking the slit lamp or moving it up and down, I now know where and how the levers are and work."

"The repeating videos helped to reinforce what was being said and you got to see the slit lamp move in action."

"Videos can explain things better than verbally, felt as if I was watching someone use the slit lamp in front of me."





Conclusions

- Incorporating, **GIFs**, for teaching 'How to Use a Slit Lamp', via presentation showed **better recall** than using pictures.
- **GIFs are better than pictures in short term recall and learning**.
- **Students unanimously** found presentations with **GIFs** to be **more engaging, enjoyable and better for learning** compared to the presentation with pictures.