




How to use video in teaching

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Dental prosthetics


Video in Education - Applications




Background




- Graduated 2006, University of Helsinki, Finland
- Specialisation in Prosthodontics 2008-2012.
- PhD student
- Co-Founder at Futudent 2011



Academic example

- **Riga Stradins University, Latvia**
 - Riga Stradins University's Faculty of Dentistry is the first in the Baltics to introduce 18 special video cameras in preclinical dental training. The head mounted cameras allow filming and recording manipulations performed by dental students, which helps local and foreign students acquire required professional competency at a higher level of excellence.



Camera comparison



Intraoral cameras



DSLR



Ceiling or lamp mounted



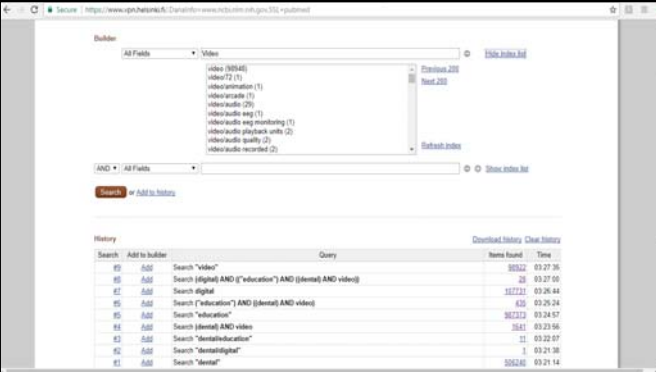
Microscope attached



Phones



Loupe mounted



Builder

All Fields

Video

- video (9946)
- video/72 (1)
- videoanimation (1)
- videotaxide (1)
- videoaudio (25)
- videoaudio seg (1)
- videoaudio seg monitoring (1)
- videoaudio playback units (2)
- videoaudio quality (2)
- videoaudio recorded (2)

AND • All Fields

Search or Add to history

Search	Add to builder	Query	Items found	Time
85	0:00	Search "video"	99322	03:27:35
86	0:00	Search (digital AND ("education") AND (dental) AND video)	26	03:27:50
87	0:00	Search digital	117721	03:28:44
88	0:00	Search ("education") AND (dental) AND video	630	03:29:24
89	0:00	Search "education"	362332	03:29:57
90	0:00	Search (dental) AND video	3543	03:30:56
91	0:00	Search "dental/education"	11	03:32:07
92	0:00	Search "dental/digital"	1	03:31:38
93	0:00	Search "dental"	306240	03:31:14

Result, PubMed

Search "dental"	506240
Search "video"	98922
Search "digital"	107731
Search "education"	987373
Search (dental) AND video	1641
Search ("education") AND ((dental) AND video)	435
Search (digital) AND (("education") AND ((dental) AND video))	28

Excluded words: "CAD/CAM", "Intraoral"


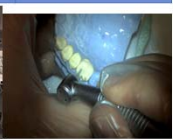
M&M	Aim	Conclusion
Iwaki M, et al. 2013		
Live broadcast lectures on complete denture prosthodontics at C Medical and Dental University: comparison of two years.		
2009 n=59 4th year students 2010 n=65 4th year students (Tokyo, Japan)	Live broadcast of complete denture prosthodontics utilised in lectures Prosthodontics.	live broadcast lecture would help students experience the real clinical situation and aid in teaching complete denture prosthodontics.
Omar H. 2013		
Structured student-generated videos for first-year students at a dental school in Malaysia		
n=44, first year students (Kuala Lumpur, Malaysia)	Students generated videos addressing various clinical scenarios to enhance team communication. Was divided into; 1) preparatory phase, 2) video production phase, 3) and video-watching.	1) enhanced their understanding of the role of dentists in provision of health care and the role of enhanced teamwork. 2) the activity improved their communication and project management skills. Student-generated video activity was a positive experience and enabled them to play the major role in driving their learning process.


M&M	Aim	Conclusion
Favaz A ¹ et al Mar 2015		
Video-based learning Versus Traditional Method for Preclinical Course of Complete Denture Fabrication.		
n=54 students, assessed in 2 groups over 2 semesters. Shahid Beheshti University of Medical Sciences (SBMU)	To determine the effect of using videos on the performance of dental students in preclinical course of complete denture fabrication. Prosthodontics.	Instructional videotapes can aid in teaching fabrication of complete denture and are as effective as the traditional teaching system
Shah DY, et al Dec 2015		
Videotaped Feedback Method to Enhance Learning in Preclinical Operative Dentistry : An Experimental Study.		
n=60 students, Control group 30 Experimental group 30 India	To investigate if a videotaped feedback method enhanced teaching and learning outcomes. Video demonstration of a Class II tooth preparation for amalgam.	Videotaped feedback using both ideal and non-ideal examples enhanced the student's performance.

M&M	Aim	Conclusion
Häyrinen and Valjakka, thesis, 2017		
Digital communication in oral health care and patient education – A study of oral hygiene students' views on dental camera and cloud service		
n=9 dental hygienist students Interview Metropolia University of Applied Sciences, Helsinki, Finland	purpose was to describe how dental hygienist students experienced the use of Futudent dental camera and MyDentalbook–cloud service as a method of patient education and health promotion. The aim of the study was to make the patient education easier and more effective using digital communication technology.	the results suggest that using videos and pictures in patient education would be useful and effective among dental hygienists already working in the field of practise but not during the studies due to students' lack of experience in treating patients.
Alahattani ND 2015		
Live Demonstrations versus procedural video: a comparison of two methods for teaching an orthodontic laboratory procedure.		
n=49 undergraduate students lab exercise and questionnaire	To measure the effectiveness of procedural video compared to live demonstration in transferring skills for fabricating orthodontic Adam's Clasp.	Procedural video was equally as effective as live demonstrations.


M&M	Aim	Conclusion
Rystedt H, et al. 2013		
Seeing through the dentist's eyes: video-based clinical demonstrations in preclinical dental training.		
Course 1: n=26 Course 2: n=31 Questionnaire, dental students University of Gothenburg, Sweden	Does video-based demonstrations increase the students' sense of the clinical relevance and bridge the gap between basic and clinical scientific knowledge. Endodontics.	The students expressed that the video-based seminars offered ample opportunity to integrate theoretical and clinical understanding 1) helped the students see the relevance of the course for clinical work. 2) bridged the gap between preclinical and clinical issues.
Three core elements of course design.		
Hans Rystedt et al. J Dent Educ 2013;77:1629-1638		

M&M	Aim	Conclusion
n=10 dental students recorded their procedure. University of Helsinki, Finland	To investigate whether the students generated videos enhances the learning and performance in fixed prosthodontics.	The use of video recordings helped students to learn more efficiently tooth preparations for fixed prosthetic restoration. Video-clips of their own preparation promoted self-assessment by allowing them to reflect the procedure in their own time.









M&M	Aim	Conclusion
n=36 responses of undergraduate students, Questionnaire Universe of Birmingham, 2013	To evaluate the use of a surgical loupe-mounted HD camera for clinical teaching (supervision): 1) Simulated clinical teaching environment 2) During supervision of patient treatment	Students report that the loupe camera is an excellent teaching aid for clinical supervision when treating patients.



THE USE OF A HIGH DEFINITION SURGICAL LOUPE-MOUNTED CAMERA FOR CLINICAL TEACHING
Rossiter B. L., Stewardson D. A. and Ferryer D. G.
Department of Restorative Dental Clinical, University of Birmingham, United Kingdom

Conclusion

- Procedural video was equally as effective as live demonstrations
- The use of video material in an excellent teaching aid for teaching and
 - helped students to learn more efficiently
 - bridge the gap between clinical and scientific knowledge
- Self generated videos promotes self-assessment by allowing them to reflect the procedure also in their own time
- Using videos and pictures in patient education would be useful and effective among dental hygienists

Further research is needed to evaluate the effectiveness of video communication in

- In skills lab, in treating patients
- Best practises in different fields eg. Prosthodontics, endo, surgery...
- Consultation (remote)
- Patient education

