

Multimedia Resources in Bioscience Education

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Introduction & Aim

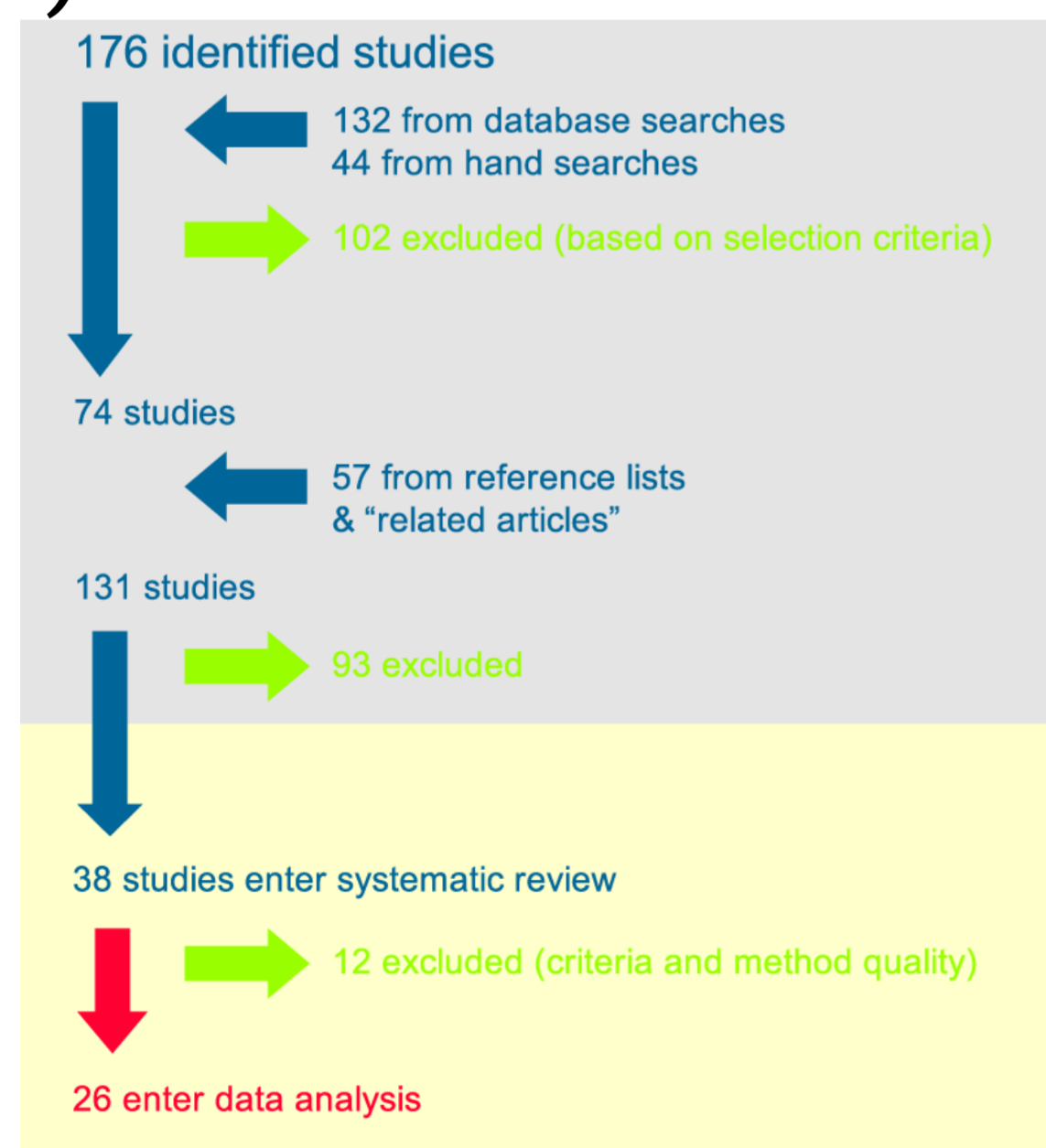
Computer-assisted-learning (CAL) has been used in education for many years, from early CAL Packages designed in Macromedia Authorware, to Flash animations and recently video and audio. But, are these resources effective educational aids? The aim of this project is to complete a systematic review asking “are multimedia resources effective in bioscience education?”

Methods

Iterative search strategy, robust search strategy, identification and exclusion of publications, contacts with experts and authors, data extraction, data analysis.

Results & Outputs

Currently awaiting missing data from authors. From the initial searches, 26 studies are suitable for data analysis (below).



Results & Outputs Cont...

- 5 studies have replaced lectures with multimedia resources
- 3 replaced practicals with eLearning
- 3 placed entire modules on-line using a VLE

Early Conclusions

One the whole, research studies identified were of very poor quality.

Of 176 studies identified, only a handful of resources are freely available on the web.

Human Cell Biology - BIO315F
University of Toronto at Mississauga
Prof Dan O'Day

Lecture Animations - Fall 2010

Sept. 13	Introduction to Human Cell Biology
Sept. 13	The Human Cell Membrane
Sept. 20	Junctional Adhesion Complexes: Skin, Guts, Heart & Sperm Desmosome Structure.wmv JACs Animation 2009.wmv
Sept. 20	Gap Junctions and Communication in the Heart and Glands Gap Junctions.wmv
Sept. 27	Cell Adhesion Molecules: Types & Functions Signal Transduction & Erectile Dysfunction Enzyme Receptor Guanylate Cyclase.wmv
Oct. 4	cAMP Signal Transduction: Sugar Mobilization & Diabetes cAMP to PKA Signaling 2008.wmv Facilitated Diffusion.wmv Sugar Wars Insulin vs Glucagon 2009.wmv
Oct. 4	Muscarinic Receptors: This Lecture Ends in Tears Dual Signalling Pathway.wmv
Oct. 25	Calcium & Calmodulin Signalling: Memory and Alzheimer's Disease
Oct. 25	Motoring Along on Microtubules Kinesin Movement.wmv
Nov. 1	Allergens and Myosins: Actin & Infection
Nov. 1	Leukocytes, WASPs and ROCK & Rho Movement of Leukocytes from Blood to Tissue 09.wmv

www.utm.utoronto.ca/~w3bio315/animations.htm

No studies have evaluated the use of video, podcast or new approaches such as Articulate Presenter.

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