

Medical doctors' offline-computer-assessed digital education: a systematic review by the Digital Health Education collaboration

Online Supplementary Document 2

Table 1: Excluded studies and reason for exclusion:

NO	Study	Reason for exclusion
1	Akar 2014	The participants were not doctor
2	Albert 2007	The intervention was CD-ROM followed by e-mail messages
3	Aly 2012	The intervention was Internet-based
4	Ambrosio 2014	The study was not computer-based
5	Ameen 2005	The study participants were nurses
6	Backstein 2004	The intervention taught psychomotor skill
7	Backstein 2005	The intervention taught psychomotor skill
8	Bayne 1997	The study participants were nurses
9	Beckley 2000	Participants were both midwives and doctors. Results of intervention cannot be separated
10	Beidas 2012	Data could not be extracted (mixed group: doctor and therapists)
11	Benharash 2012	Data could not be extracted (mixed group: doctor and undergraduate students), simulator-based intervention
12	Benjamin 2008	The intervention was web based and participants were mixed group of health professionals
13	Bhatia 2015	Protocol (ongoing study)
14	Bhatti 2011	The intervention was web-based and percipients were medical students
15	Blair 2012	The intervention was Internet-based
16	Boh, 1990	The study participants were pharmacists.
17	Boncyk 2016	Data could not be extracted, mixed group of participant
18	Box 2011	The study evaluate psychomotor skills on simulator. Participants were mixed group:doctor and medical students
19	Brandt 2006	The study participants were medical students and the outcome was a psychomotor skill
20	Bredesen 2016	The study participants were nurses
21	Broughton 2011	The study was not RCT and the participants were nurses and recreation officers
22	Brown 2014	The intervention was Mixed, the offline computer-based effect cannot be separately evaluated

23	Browne 2004	The study was not RCT
24	Buchanan 2014	The participants were not doctor occupational therapists
25	Butzlaff 2004	The intervention was web-based
26	Campos 2011	The intervention assessed psychomotor skill
27	Chan 2013	The study was not RCT and the participants were nurses
28	Chen 1998	The participants were dental auxiliaries
29	Chiu 2009	The study participants were nurses
30	Clement 2011	The study participants were Student nurses
31	Collins 2015	Data could not be extracted, mixed group of physicians: plastic or orthopedic surgeons, and allied health professionals; physiotherapists, occupational therapists
32	Cox 2011	The participants were nurses
33	Danley 2004	Data could not be extracted, mixed group, dentists and students
34	Datta 2012	The study was not RCT
35	Davis 2008	The study participants were medical students
36	de Beurs 2015	Mixed group results for doctors cannot be extracted separately
37	de Beurs 2016	Data could not be extracted, mixed group of (nurses, psychologists, psychiatrists, & physicians)
38	Devitt 1998	Data could not be extracted, mixed group of health professionals
39	Dimeff 2011	Data could not be extracted, mixed group of health professionals
40	Dols 1995	The study participants were Nurses
41	Donyai 2015	The study participants were pharmacists.
42	Downs 2006	Data could not be extracted, mixed group of health professionals
43	Dozor 2011	The intervention was Mixed, the offline computer-based effect cannot be separately evaluated
44	Drevenhorn 2015	The study participants were nurses
45	Ebadi 2015	The study participants were nurse .
46	Edrich 2014	The intervention was web-based
47	Ekama Ilesanmi 2016	The study participants were Nurses
48	El Saadawi 2010	The intervention was Internet-based
49	Elmore 2013	The study was not RCT
50	Erkonen 1994	A long term follow up of an included study (Dallasandro)
51	Erler 2012	Mixed intervention, the offline computer-based effect cannot be separately evaluated
52	Fernandez 2013	Data for doctors could not be extracted, mixed group of health professionals
53	Fisher 2014	The study participants were nurses.
54	Friedman 1999	Participants were not randomised.

55	Gandsas 2004	The two groups interventions require a local area network
56	Gasko 2012	The study participants were student registered nurse anaesthetists
57	Gauger 2010	The intervention taught psychomotor skill
58	Gelb 2001	The study participants were medical students
59	Geller 2014	The intervention was web-based
60	Giglioli 2012	The intervention taught psychomotor skill only
61	Girgis 2009	Intervention was workshop and remote digital learning by video conference (online)
62	Glick 2012	The study participants were medical students and ED personnel intervention aims to improve psychomotor skills.
63	Gold 2004	The intervention was web-based
64	Guerra-Wallace 2010	The intervention was simulator- based
65	Hadley 2010	The intervention was web-based
66	Hamilton 2001	The intervention was simulation -based
67	Handmaker 1999	Data could not be extracted, mixed group of health professionals
68	Hansen 2015	The study not RCT
69	Harrington 2002	The study participants were nurses
70	Harrington 2003	The study participants were nurses
71	Harrington 2004	The study participants were nurses
72	Harvey 2013	The intervention was aiming at improving psychomotor skills
73	Hashimoto 2013	The intervention was virtual reality-based, and the outcome was improvement in psychomotor skills
74	Hemmati 2013	The intervention was Internet-based
75	Holmboe 2004	The intervention did not contain eLearning
76	Holmes 2012	The intervention was high- fidelity simulator-based aiming at improving psychomotor skill
77	Horn 1992	Data could not be extracted, mixed group of residents, interns and medical students
78	Hsu 2014	The study participants were nurses
79	Hymowitz 2004	The intervention was web-based
80	Hymowitz 2007	The intervention was web-based
81	Jain 2010	The intervention was web-based
82	Javadi 2015	The study participants were pharmacists.
83	Karam 2015	The intervention taught psychomotor skill
84	Khouli 2009	The study based on teaching psychomotor skills and debriefing based on performance on simulator
85	Koropchak 2006	It is a protocol (phase two study, no results)
86	Krogh 2014	The study participants were medical students

87	Kulier 2009	The intervention was Internet-based
88	Kulier 2010	The intervention was Internet-based
89	Kulier 2012	The intervention was Internet-based
90	Lange 1997	The study participants were nurses
91	Latif 2009	The intervention was simulation-based and the participants were mixed group of health professionals
92	Latzke-Davis 2011	The unit of randomizations was the practice and the study participants were physicians and nurses or medical assistants
93	Law 2003	The study was not RCT
94	Lawson 1991	The study participants were pharmacists
95	Le 2010	The intervention was web-based
96	Lee 2004	quasi-experimental, crossover design
97	Lee 2007	Data could not be extracted, mix group of health professionals
98	Lee 2016	Qualitative study, not randomised trial.
99	Leopold 2005	Study was based on teaching psychomotor skills only
100	Lieberman 2002	Data could not be extracted, mixed group of residents and medical students
101	Lin 2016	The study participants were nurses.
102	Liu 2014	The study participants were nurses
103	Loewen 2003	The study participants were mixed group of health professionals and the intervention was videoconference delivery of an education programme
104	Loveday 2010	Complex intervention including virtual reality
105	Mahmud 2013	The intervention was web-based
106	Maloney 2011	The study participants were not physicians and the intervention was web-based
107	Maloney 2012	The participants were not doctor and the intervention was web-based
108	Martinez-Escobar 2011	The intervention was based on teaching psychomotor skill only
109	Maunder 2010	Data could not be extracted, mixed group of health professionals
110	McLain 2012	The participants were student registered nurse anesthetist and the study design was a randomized controlled crossover trial
111	Monteiro 2016	Not digital learning
112	Moran 1991	The participants were not doctor
113	Munshi 2016	The intervention taught psychomotor skill
114	Neelankavil 2012	The intervention was simulation-based
115	Nishiyama 2009	The participants were not doctor
116	Padalino 2007	The study participants were nurses
117	Patel 2012	The intervention was Internet-based
118	Patel 2016	The intervention taught psychomotor skill

119	Perkins 2010	Data could not be extracted: mixed group of health professionals
120	Peyre 2011	The intervention was based on teaching psychomotor skill only
121	Pollak 2016	The intervention was Internet-based
122	Pusic 2007	The study participants were medical students
123	Rogers 2000	The study participants were medical students
124	Roh 2013	The study participants were nurses
125	Rosen 2002	The study participants were nurses
126	Rosenberger 2009	Data could not be extracted mixed group health practitioners. A study design, no results in this paper
127	Sanddal 2004	The participants were not doctor
128	Schell 2004	The study was not RCT
129	Schermer 2011	The study participants were nurses
130	Schneider 2006	The study participants were nurses
131	Schwid 2001	The intervention was simulator based
132	Scott 2000	The intervention was based on teaching psychomotor skill only
133	Sedlack 2004	The intervention was based on teaching psychomotor skill only
134	Shariff 2012	The intervention was Internet-based
135	Shephard 2009	The study was not RCT
136	Sholomskas 2006	Data could not be extracted, mixed group of health professionals
137	Singh 2014	The study participants were medical students
138	Skinner 2009	This is a descriptive non-comparative study.
139	Smeekens 2011	The study participants were nurses
140	Sohmer 2013	The intervention was based teaching psychomotor skill only
141	Sohmer 2014	The intervention was based on teaching psychomotor skill only
142	Solomon 2004	The participants were medical students
143	Sperl-Hillen 2010	The intervention was Internet-based
144	Sperl-Hillen 2013	The intervention was Internet-based
145	Stout 2012	Data could not be extracted, mixed group of health professionals
146	Towbin 2007	The intervention was simulator- based
147	Ukabiala 2015	The full text of the abstract published under Lee et al and subsequently excluded from the review.
148	Van Es 2015	The intervention was online
149	VanderWielen 2015	Psychomoter skills learning
150	Vestal 2017	Not digital learning
151	Vollmar 2010	The intervention was Internet-based
152	Wang 2011	The intervention was simulator- based
153	Weaver 2016	Data could not be extracted (mixed group: doctor and nurses)

154	Wegener 2013	The intervention was based on teaching psychomotor skill only
155	Weiner 2011	The study participants were nurses
156	Weingardt 2006	The study participants were counsellors
157	Wetmore 2016	The outcome is improved performance which is not investigated by this review as per protocol.
158	Wilfong 2011	The study participants were nurses and the intervention was based on teaching psychomotor skills on simulator
159	Woodworth 2014	The intervention was based on teaching psychomotor skills on simulator
160	Yao 2016	Data could not be extracted (mixed group: doctor and nurses),The intervention was Internet-based
161	Zhao 2010	The intervention was simulator- based
162	Zhao 2011	The intervention was simulator- based
163	Zhao 2011a	The intervention was simulator-based
164	Bharati 2012	Abstact
165	Juyal 2013	Abstact
166	Khan 2015	Abstact
167	Lichtman 2014	Abstact
168	Muhammad 2010	Abstact

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