

Appendix 3

Definition of study variables

Teaching method

- B Blended Learning
 - E E-learning
-

Citations

- CC1 Article is part of the main connected component of the studied articles graph
 - CC0 Article is not part of the main connected component of the studied articles graph
 - Ci0 No citations were found for this article at the time of this study
 - Ci1 Up to 10 citation were found for this article at the time of this study
 - Ci2 More than 10 citations were found for this article at the time of this study
 - Rf0 Article has less than 2 references in common with other articles in this study
 - Rf1 Article has 2 to 10 references in common with other articles in this study
 - Rf2 Article has more than 10 references in common with other articles in this study
-

Platform support

- A Audio Response System
 - B Blog
 - C CD/DVD ROM
 - E Ebook
 - We Website
 - M Email
 - Po Podcast
 - Pt Portfolio
 - T Video Conference
 - Wi Wiki
-

Media features

- An Animation
- Au Audio
- D Diagram
- I Image

Description of platform features

| Ref | Year | Subject | Teach. Method | Platform support | Media features | Interactive features | Accessibility features | Instructional design principles | Citations |
|------|------|----------------------------|---------------|------------------|----------------|----------------------|------------------------|---------------------------------|-------------|
| [1] | 2011 | evidence based medicine | B | B A | n/a | n/a | n/a | n/a | Rf0 Ci1 CC1 |
| [2] | 2012 | reproductive medicine | E | We E | T I D An | Q I F P | I F | Pr Se Me | Rf2 Ci1 CC1 |
| [3] | 2013 | general | B | We | T I D | S V Q I F | n/a | Cn Se Mo Me | Rf1 Ci1 CC0 |
| [4] | 2012 | general | B | We | T | Cb S | F | n/a | Rf1 Ci1 CC1 |
| [5] | 2009 | anatomy | B | A | T I | I F | n/a | n/a | Rf0 Ci1 CC1 |
| [6] | 2011 | oncology | E | We | T I D | C Q I F P | n/a | n/a | Rf2 Ci1 CC1 |
| [7] | 2010 | dermatology | E | Po | V Au | n/a | n/a | n/a | Rf1 Ci1 CC0 |
| [8] | 2012 | geriatrics | E | We | n/a | I | n/a | n/a | Rf1 Ci1 CC0 |
| [9] | 2012 | cardiology | E | We | n/a | n/a | n/a | n/a | Rf2 Ci1 CC1 |
| [10] | 2012 | professionalism | E | n/a | V | Q F P | n/a | Se | Rf0 Ci0 CC0 |
| [11] | 2010 | anatomy genetics histology | B | T | V | n/a | n/a | n/a | Rf2 Ci2 CC1 |
| [12] | 2012 | emergency | E | We M | T I | I | F | n/a | Rf1 Ci1 CC0 |
| [13] | 2008 | pulmonology | E | We Wi | T V Au I D | Q I F | F | Me | Rf0 Ci1 CC1 |
| [14] | 2008 | dermatology | E | We | T I D | S I F | H | n/a | Rf2 Ci1 CC1 |
| [15] | 2010 | ophthalmology | E | We | T I D | Q I | n/a | n/a | Rf2 Ci1 CC1 |
| [16] | 2009 | general surgery | E | We Po | T I | n/a | n/a | n/a | Rf1 Ci2 CC1 |
| [17] | 2013 | general | B | E | n/a | n/a | n/a | n/a | Rf0 Ci0 CC0 |
| [18] | 2010 | cardiology haematology | E | We | T I D | S V C I F P | n/a | n/a | Rf0 Ci2 CC1 |

| Ref | Year | Subject | Teach. Method | Platform support | Media features | Interactive features | Accessibility features | Instructional design principles | Citations |
|------|------|---------------------------|---------------|------------------|----------------|----------------------|------------------------|---------------------------------|-------------|
| [18] | 2010 | cardiology haematology | B | We | T I D | S V C I F P | n/a | n/a | Rf0 Ci1 CC1 |
| [19] | 2007 | general | E | We | n/a | Cb S G I F | I F | n/a | Rf1 Ci2 CC1 |
| [20] | 2012 | immunology | B | We | An | n/a | n/a | n/a | Rf2 Ci1 CC1 |
| [21] | 2011 | general | E | We | T D | n/a | n/a | n/a | Rf0 Ci0 CC0 |
| [22] | 2009 | general | B | n/a | V | n/a | n/a | n/a | Rf0 Ci1 CC1 |
| [22] | 2009 | general | B | T | n/a | n/a | n/a | n/a | Rf0 Ci1 CC1 |
| [23] | 2013 | cardiology | E | We | V | Q I F | n/a | n/a | Rf0 Ci0 CC0 |
| [24] | 2004 | pathology | E | We | T | C Q I | F Ca | n/a | Rf0 Ci1 CC1 |
| [25] | 2013 | emergency | E | We | n/a | S G I F | n/a | n/a | Rf0 Ci1 CC1 |
| [26] | 2008 | professionalism | B | We | T V Au I D | Cb I F | I F D | Me | Rf2 Ci2 CC1 |
| [27] | 2004 | general | E | Pt | n/a | n/a | n/a | n/a | Rf1 Ci2 CC0 |
| [28] | 2012 | general | E | T | n/a | n/a | n/a | n/a | Rf1 Ci1 CC0 |
| [29] | 2011 | radiology | E | T | V Au | n/a | n/a | n/a | Rf1 Ci1 CC0 |
| [30] | 2003 | primary | E | We | T I D | C I F P | n/a | Se | Rf0 Ci1 CC1 |
| [31] | 2012 | psychiatry | E | T | V | n/a | n/a | n/a | Rf2 Ci1 CC1 |
| [32] | 2009 | general | B | We | T I D | C I P | n/a | n/a | Rf1 Ci1 CC1 |
| [33] | 2009 | general | E | We | T Au I D | S V C I F P | n/a | n/a | Rf1 Ci1 CC1 |
| [34] | 2012 | radiology | n/a | We | n/a | I F | n/a | n/a | Rf0 Ci0 CC1 |
| [35] | 2008 | professionalism | B | B | T | n/a | n/a | n/a | Rf2 Ci2 CC1 |

| Ref | Year | Subject | Teach. Method | Platform support | Media features | Interactive features | Accessibility features | Instructional design principles | Citations |
|------|------|-------------------------|---------------|------------------|----------------|----------------------|------------------------|---------------------------------|-------------|
| [36] | 2009 | orthopaedics | B | We | T V I D | n/a | n/a | Me | Rf0 Ci1 CC0 |
| [37] | 2009 | public health | B | B Wi | T | Cb | F | n/a | Rf1 Ci1 CC0 |
| [38] | 2012 | ophthalmology | B | We | n/a | n/a | n/a | n/a | Rf0 Ci0 CC0 |
| [39] | 2011 | anatomy | E | We | T | I | n/a | n/a | Rf1 Ci2 CC1 |
| [40] | 2012 | immunology | E | We B | T | n/a | n/a | n/a | Rf0 Ci0 CC0 |
| [41] | 2012 | general surgery | E | We | T | Cb I | n/a | n/a | Rf2 Ci1 CC1 |
| [42] | 2008 | general surgery | B | We | T I | C I F | n/a | Me | Rf1 Ci2 CC1 |
| [43] | 2008 | general surgery | B | We | n/a | S | n/a | n/a | Rf1 Ci1 CC1 |
| [44] | 2012 | emergency | E | We | n/a | Cb G I F | n/a | n/a | Rf1 Ci1 CC0 |
| [45] | 2009 | anaesthesia | B | We | T V Au I D | S C Q I F P | n/a | Me | Rf1 Ci1 CC0 |
| [46] | 2012 | cardiovascular surgery | E | We | T V Au I | Q I F P | n/a | n/a | Rf1 Ci0 CC0 |
| [47] | 2013 | geriatrics | B | We | T V Au I D | Q I F | n/a | Me | Rf0 Ci1 CC1 |
| [48] | 2011 | physiology | B | We | T V Au I D An | S C Q I F P | n/a | Ch Pr Se Mo Me Pe | Rf0 Ci1 CC1 |
| [49] | 2011 | anatomy | B | We | T V I D | Cb Q I F P | D | Me | Rf1 Ci1 CC0 |
| [50] | 2012 | general | B | We | n/a | n/a | F D | n/a | Rf1 Ci1 CC0 |
| [51] | 2007 | evidence based medicine | E | We C | T V Au | n/a | n/a | Me | Rf2 Ci2 CC1 |
| [52] | 2012 | emergency | B | We | V Au | n/a | n/a | n/a | Rf2 Ci1 CC1 |
| [53] | 2012 | biochemistry | B | We | T V Au I | Cb | F | n/a | Rf1 Ci0 CC0 |

| Ref | Year | Subject | Teach. Method | Platform support | Media features | Interactive features | Accessibility features | Instructional design principles | Citations |
|------|------|------------------------|---------------|------------------|----------------|----------------------|------------------------|---------------------------------|-------------|
| [54] | 2006 | general | B | We | T V Au I | n/a | F | n/a | Rf2 Ci0 CC1 |
| [55] | 2007 | general | E | We | V | n/a | n/a | n/a | Rf1 Ci1 CC1 |
| [56] | 2012 | anatomy | E | We | n/a | S I | n/a | Ch | Rf1 Ci1 CC0 |
| [57] | 2011 | nephrology | E | We | T V Au I D | Q I | F | n/a | Rf2 Ci0 CC1 |
| [58] | 2009 | radiology | E | We | T I D | n/a | n/a | Ch Si Cn Pr Se Mo Me | Rf1 Ci0 CC0 |
| [59] | 2010 | nuclear medicine | E B | We | T V I D | C Q I F | n/a | Me | Rf1 Ci1 CC1 |
| [60] | 2005 | radiology | E | We | T I D An | S I F | n/a | Cn Me | Rf1 Ci1 CC1 |
| [61] | 2012 | geriatrics | B | We T Pt | T V Au | G | n/a | n/a | Rf1 Ci2 CC1 |
| [62] | 2008 | anatomy | B | We | T I D | Cb | F | n/a | Rf1 Ci1 CC1 |
| [63] | 2008 | palliative | E | We | T | Q | n/a | n/a | Rf1 Ci1 CC1 |
| [64] | 2003 | n/a | B | We Pt | T I D | Cb Q I F P | F Ca | Se Me | Rf2 Ci1 CC1 |
| [65] | 2005 | dermatology | E | We | T I D | C Q I F P | n/a | Si Cn Pr Se Me | Rf2 Ci1 CC0 |
| [66] | 2013 | paediatrics | B | We | T I D | C Q I F | n/a | Si Pr Se | Rf1 Ci1 CC0 |
| [67] | 2012 | infectious diseases | B | We T Po | n/a | n/a | D | n/a | Rf0 Ci0 CC0 |
| [68] | 2009 | psychiatry | E | We | T V Au I | S I F | n/a | n/a | Rf1 Ci1 CC0 |
| [69] | 2013 | radiology | E | We | n/a | n/a | n/a | n/a | Rf1 Ci1 CC1 |
| [70] | 2005 | cardiovascular surgery | E | We | T V Au I D An | S I | n/a | Cn V | Rf0 Ci0 CC1 |
| [71] | 2006 | cardiovascular surgery | E | We | T V Au I D An | S I | n/a | Cn | Rf2 Ci1 CC1 |

| Ref | Year | Subject | Teach. Method | Platform support | Media features | Interactive features | Accessibility features | Instructional design principles | Citations |
|------|------|-----------------|---------------|------------------|----------------|----------------------|------------------------|---------------------------------|-------------|
| [72] | 2012 | general surgery | B | We | T V I | Cb S C Q I F P | n/a | Me | Rf1 Ci1 CC1 |
| [73] | 2006 | primary | B | We Pt | T | n/a | n/a | n/a | Rf0 Ci1 CC1 |
| [74] | 2013 | general | B | We T | n/a | Cb | n/a | n/a | Rf0 Ci1 CC1 |
| [75] | 2003 | general | E | We | T Au I D | C | D | n/a | Rf1 Ci1 CC1 |
| [76] | 2010 | paediatrics | E | We Po | T V Au I D | Cb C Q I F | n/a | Me | Rf2 Ci1 CC0 |
| [77] | 2012 | histology | E | B | n/a | C | n/a | n/a | Rf2 Ci0 CC0 |
| [78] | 2013 | otolaryngology | B | Pt | T V Au I | Q I F P | D | n/a | Rf0 Ci1 CC0 |
| [79] | 2011 | paediatrics | E | We | V An | n/a | n/a | n/a | Rf2 Ci1 CC0 |
| [80] | 2011 | primary | E | We | T V Au I | V C I | n/a | n/a | Rf2 Ci1 CC1 |
| [81] | 2006 | radiology | E B | We | T V I D | Cb Q I F | F D | Si Cn Pr Se Me | Rf0 Ci1 CC1 |
| [82] | 2008 | anatomy | E | n/a | n/a | n/a | n/a | n/a | Rf1 Ci1 CC1 |
| [83] | 2012 | otolaryngology | E | We | T I | C Q | n/a | n/a | Rf1 Ci1 CC0 |
| [84] | 2010 | general | B | We | n/a | Cb | F | n/a | Rf1 Ci1 CC0 |
| [85] | 2010 | palliative | B | We | T V I | C I | n/a | Me | Rf0 Ci2 CC0 |
| [86] | 2007 | genetics | E | We | T An | I | D | Se | Rf0 Ci2 CC0 |
| [87] | 2013 | epidemiology | B | We | T V Au I | n/a | F | n/a | Rf1 Ci0 CC1 |
| [88] | 2009 | radiology | E | We | T I D | S Q I F | n/a | Me | Rf0 Ci1 CC1 |
| [89] | 2012 | emergency | B | We | n/a | V | n/a | n/a | Rf0 Ci1 CC1 |
| [90] | 2013 | general surgery | E | We M | T | C Q I | n/a | n/a | Rf1 Ci1 CC1 |

| Ref | Year | Subject | Teach. Method | Platform support | Media features | Interactive features | Accessibility features | Instructional design principles | Citations |
|-------|------|-------------------------|---------------|------------------|----------------|----------------------|------------------------|---------------------------------|-------------|
| [91] | 2010 | evidence based medicine | E | We | n/a | n/a | D | n/a | Rf2 Ci2 CC1 |
| [92] | 2011 | physics | E | We | T I D | Cb S V Q I F | n/a | n/a | Rf2 Ci2 CC0 |
| [93] | 2011 | general | E | We | T V Au I D | Q I | n/a | Cn Se Mo Me | Rf1 Ci1 CC1 |
| [94] | 2012 | advanced life support | E | We | n/a | n/a | D | n/a | Rf2 Ci0 CC0 |
| [95] | 2010 | pulmonology | B | We | T | Q F | F | n/a | Rf0 Ci0 CC0 |
| [96] | 2008 | informatics | E | Wi | n/a | Cb | D | n/a | Rf0 Ci1 CC0 |
| [97] | 2013 | psychiatry | E | We | T V Au I | V I | n/a | n/a | Rf2 Ci1 CC0 |
| [98] | 2013 | reproductive medicine | E | We | n/a | Q | n/a | n/a | Rf0 Ci0 CC0 |
| [99] | 2008 | psychology | B | We C Pt | T V Au I | C Q I F | n/a | Me V | Rf2 Ci1 CC1 |
| [100] | 2012 | professionalism | B | We | V | Q | n/a | n/a | Rf2 Ci1 CC0 |
| [101] | 2009 | neurology | B | We | T V Au | Q | n/a | Me | Rf2 Ci1 CC0 |
| [102] | 2012 | professionalism | E | We | T V Au I | Q F | n/a | n/a | Rf0 Ci0 CC0 |
| [103] | 2010 | neuroscience | B | We | T I D | Q I F | n/a | Cn Me | Rf0 Ci0 CC1 |
| [104] | 2013 | pharmacology | E | C Po | n/a | n/a | n/a | n/a | Rf1 Ci1 CC1 |
| [105] | 2006 | radiology | E | We | T V Au I D An | Q F | n/a | n/a | Rf1 Ci1 CC1 |
| [106] | 2009 | physiology | E | We | D | S Q I F | H | Ch Si Cn Pr Se Mo Me Pe | Rf1 Ci1 CC1 |
| [107] | 2009 | urology | B | We | T I | S C Q I F | n/a | Me | Rf0 Ci1 CC1 |
| [108] | 2011 | urology | E | We | T I D | S C I F P | n/a | Se | Rf2 Ci1 CC1 |

| Ref | Year | Subject | Teach. Method | Platform support | Media features | Interactive features | Accessibility features | Instructional design principles | Citations |
|-------|------|----------------|---------------|------------------|----------------|----------------------|------------------------|---------------------------------|-------------|
| [109] | 2006 | radiology | E | We | T I | n/a | n/a | Cn | Rf0 Ci0 CC1 |
| [110] | 2010 | otolaryngology | E | We | T | S I | n/a | n/a | Rf1 Ci2 CC0 |
| [111] | 2013 | general | B | We | n/a | V I F P | n/a | n/a | Rf1 Ci1 CC0 |
| [112] | 2009 | general | B | We Pt | T | Cb C Q P | n/a | n/a | Rf1 Ci0 CC1 |
| [113] | 2011 | ophthalmology | B | We | n/a | n/a | n/a | n/a | Rf0 Ci0 CC1 |
| [114] | 2012 | anatomy | B | We | V Au | n/a | n/a | n/a | Rf0 Ci2 CC1 |
| [115] | 2012 | gynaecology | E | T | T V Au I | n/a | n/a | n/a | Rf0 Ci0 CC0 |
| [116] | 2009 | dermatology | B | We | T V Au I D An | G Q I F P | D | n/a | Rf1 Ci1 CC0 |
| [117] | 2009 | otolaryngology | E | We | T I | C Q I | n/a | n/a | Rf2 Ci2 CC1 |
| [118] | 2008 | urology | E | We | T Au I D | Q I F | n/a | Pr Se Me | Rf2 Ci2 CC1 |
| [119] | 2009 | urology | E | M | T | Q | n/a | n/a | Rf2 Ci1 CC1 |
| [120] | 2012 | urology | E | We M | T | G Q I F P | n/a | n/a | Rf2 Ci1 CC1 |
| [121] | 2007 | urology | E | M | n/a | Q | n/a | n/a | Rf2 Ci1 CC1 |
| [122] | 2009 | urology | E | We M | T I D | Q F | n/a | Se Me | Rf2 Ci1 CC1 |
| [123] | 2007 | urology | B | We M | T Au | C Q I | n/a | n/a | Rf1 Ci1 CC1 |
| [124] | 2010 | pathology | E | We M | T I D | Q F | n/a | Se Me | Rf2 Ci1 CC1 |
| [125] | 2011 | physiology | E | We | T V Au I D | Cb S Q I F P | F | Pr Me V | Rf2 Ci1 CC1 |
| [126] | 2013 | anatomy | E | We | n/a | S I | n/a | n/a | Rf2 Ci1 CC1 |
| [127] | 2010 | general | E | We | T V Au I D | S C Q I F | n/a | Me | Rf0 Ci0 CC0 |

| Ref | Year | Subject | Teach. Method | Platform support | Media features | Interactive features | Accessibility features | Instructional design principles | Citations |
|-------|------|----------------------------|---------------|------------------|----------------|----------------------|------------------------|---------------------------------|-------------|
| [128] | 2008 | general | B | We | n/a | Cb S F P | I | Me | Rf1 Ci1 CC0 |
| [129] | 2011 | physiology | E | We | T V Au I D An | S I F | n/a | n/a | Rf1 Ci1 CC1 |
| [130] | 2006 | occupational medicine | E | We | T V Au I D | Q I F P | n/a | Me | Rf1 Ci1 CC1 |
| [131] | 2012 | general | E | We | T V Au I D | Cb | n/a | n/a | Rf1 Ci1 CC1 |
| [132] | 2012 | advanced life support | B | We | T V I | S V Q I F | n/a | Ch Si Cn Se Me | Rf1 Ci1 CC0 |
| [133] | 2005 | haematology | B | We | T I | C Q F P | n/a | Cn Pr Se Me | Rf0 Ci1 CC1 |
| [134] | 2010 | biochemistry | B | We | T Au I D An | Cb S Q I F | n/a | n/a | Rf2 Ci2 CC1 |
| [135] | 2008 | anatomy genetics histology | E B | We | T I D | G Q I F | I | Me | Rf1 Ci2 CC1 |
| [135] | 2008 | physiology | B | We Wi | n/a | Cb I | I F | n/a | Rf0 Ci2 CC1 |
| [136] | 2008 | evidence based medicine | E | We C | T Au I | I | D | Me | Rf2 Ci1 CC1 |
| [137] | 2013 | emergency | B | We Po | T V Au I D | Q | n/a | Se | Rf2 Ci1 CC1 |
| [138] | 2010 | paediatrics | B | We | T V Au I D | S V I | n/a | Me | Rf0 Ci1 CC0 |
| [139] | 2013 | paediatrics | B | We | T V Au I D | S Q I F | n/a | Cn Se Mo Me Pe | Rf1 Ci1 CC1 |
| [140] | 2012 | radiology | E | We | T I | Q I | n/a | Me | Rf0 Ci1 CC1 |
| [141] | 2011 | anaesthesia | B | We | T I D | S V C Q I F P | n/a | Se | Rf0 Ci1 CC0 |
| [142] | 2009 | primary | B | We | T V Au I D An | C Q I | F | n/a | Rf2 Ci1 CC1 |
| [143] | 2006 | cardiovascular surgery | B | n/a | n/a | S I | n/a | n/a | Rf0 Ci0 CC0 |
| [144] | 2005 | microbiology | E | We | T I D | G F P | n/a | Me | Rf0 Ci1 CC0 |

| Ref | Year | Subject | Teach. Method | Platform support | Media features | Interactive features | Accessibility features | Instructional design principles | Citations |
|-------|------|----------------------------|---------------|------------------|----------------|----------------------|------------------------|---------------------------------|-------------|
| [145] | 2006 | informatics | E | We | n/a | n/a | F | n/a | Rf0 Ci2 CC1 |
| [146] | 2011 | psychiatry | B | We M Wi | T | C | F D | n/a | Rf2 Ci1 CC0 |
| [147] | 2010 | telemedicine | B | T | n/a | Cb | n/a | n/a | Rf0 Ci1 CC0 |
| [148] | 2009 | radiology | B | We Po | T V Au I D | I F | n/a | n/a | Rf0 Ci0 CC0 |
| [149] | 2010 | anatomy | E | We | n/a | S I | n/a | n/a | Rf1 Ci1 CC0 |
| [150] | 2013 | paediatrics | B | We | T V Au I D | Cb S V C Q I F | n/a | Se Me | Rf1 Ci0 CC0 |
| [151] | 2008 | evidence based medicine | B | We | T | I | n/a | n/a | Rf1 Ci1 CC1 |
| [152] | 2011 | urology | E | We | T V Au I D An | F | n/a | n/a | Rf1 Ci1 CC1 |
| [153] | 2011 | radiology | E | We | T I | C Q I F P | n/a | Cn Se Mo Me Pe | Rf0 Ci2 CC1 |
| [154] | 2005 | microbiology | B | We M | T I An | n/a | I F D | n/a | Rf2 Ci2 CC0 |
| [155] | 2009 | urology | E | M | T | n/a | n/a | n/a | Rf1 Ci1 CC1 |
| [156] | 2013 | dermatology | E | We | T I | Q | n/a | n/a | Rf1 Ci0 CC0 |
| [157] | 2010 | infectious diseases | B | We | n/a | C I | n/a | n/a | Rf2 Ci1 CC0 |
| [158] | 2012 | neurology | E | We | T I | Q I | n/a | Cn Me | Rf0 Ci0 CC0 |
| [159] | 2009 | geriatrics | E | We | T | n/a | n/a | n/a | Rf1 Ci1 CC1 |
| [160] | 2011 | pharmacology | B | We | T V Au I D | Q I | I F | Me | Rf2 Ci1 CC0 |
| [161] | 2010 | paediatrics | B | We Wi | T V I | C I | I | Me | Rf1 Ci1 CC1 |
| [162] | 2010 | biochemistry | E | We | T V I | G I F P | n/a | Me | Rf1 Ci2 CC1 |

| Ref | Year | Subject | Teach. Method | Platform support | Media features | Interactive features | Accessibility features | Instructional design principles | Citations |
|-------|------|------------------|---------------|------------------|----------------|----------------------|------------------------|---------------------------------|-------------|
| [163] | 2012 | haematology | E | We | T V Au I D | C Q I F P | n/a | Ch Si Cn Pr Se Mo Me V | Rf2 Ci2 CC1 |
| [164] | 2010 | informatics | B | We M | T | Q | D Ca | n/a | Rf0 Ci1 CC1 |
| [165] | 2012 | general | B | Po | n/a | n/a | n/a | n/a | Rf1 Ci1 CC1 |
| [166] | 2009 | dermatology | B | We T | V Au | n/a | n/a | Me | Rf1 Ci1 CC1 |
| [167] | 2012 | anatomy | B | We | T V Au I D | n/a | n/a | n/a | Rf2 Ci1 CC1 |
| [168] | 2008 | cardiology | B | We | T I D An | S C Q I F | n/a | n/a | Rf1 Ci1 CC1 |
| [169] | 2011 | emergency | E | We C | n/a | S C I | n/a | n/a | Rf0 Ci1 CC0 |
| [170] | 2010 | paediatrics | E | We | n/a | n/a | n/a | n/a | Rf1 Ci1 CC1 |
| [171] | 2013 | anaesthesia | E | We | n/a | S | n/a | n/a | Rf2 Ci1 CC0 |
| [172] | 2010 | radiology | E | T | n/a | n/a | n/a | n/a | Rf0 Ci1 CC0 |
| [173] | 2005 | cardiology | E | We | T V Au I D | I F | n/a | n/a | Rf0 Ci0 CC0 |
| [174] | 2003 | general | E | We E | T Au I | C Q I F | I F D | n/a | Rf0 Ci1 CC1 |
| [175] | 2008 | geriatrics | E | We | T V Au I | S C I F P | D | Me | Rf2 Ci1 CC0 |
| [176] | 2011 | microbiology | B | We | T | Q I F | n/a | n/a | Rf1 Ci2 CC0 |
| [177] | 2004 | radiology | E | We | T I D | Cb S Q I F | n/a | n/a | Rf0 Ci1 CC0 |
| [178] | 2013 | nuclear medicine | E | We T | T V Au I D | V Q I F | I F | n/a | Rf0 Ci0 CC0 |
| [179] | 2012 | urology | E | C | T I | n/a | n/a | n/a | Rf1 Ci0 CC0 |
| [180] | 2012 | general surgery | E | We Po | T V Au I | n/a | n/a | n/a | Rf2 Ci1 CC1 |
| [181] | 2007 | anatomy | B | We M | n/a | Q I | F D | n/a | Rf2 Ci2 CC1 |

| Ref | Year | Subject | Teach. Method | Platform support | Media features | Interactive features | Accessibility features | Instructional design principles | Citations |
|-------|------|-------------------------|---------------|------------------|----------------|----------------------|------------------------|---------------------------------|-------------|
| [182] | 2010 | advanced life support | E | C | T V Au I D | S I | n/a | Me | Rf2 Ci1 CC1 |
| [183] | 2012 | advanced life support | B | We | V Au | Q F | n/a | n/a | Rf2 Ci1 CC1 |
| [184] | 2011 | neuroscience | B | We | n/a | Q | F | n/a | Rf2 Ci1 CC1 |
| [185] | 2006 | occupational medicine | B | We | T V Au I D | C Q I F | n/a | Me | Rf1 Ci1 CC1 |
| [186] | 2013 | primary | E | We | T I | Q | n/a | n/a | Rf0 Ci0 CC0 |
| [187] | 2010 | physiology | B | We | T I | C Q I F | F | n/a | Rf2 Ci2 CC1 |
| [188] | 2012 | anatomy | B | We | T I D | Q I F P | n/a | Ch Si Cn Se Mo Me Pe | Rf1 Ci1 CC1 |
| [189] | 2007 | general surgery | E | We | T Au I D | n/a | n/a | Me V | Rf1 Ci1 CC1 |
| [190] | 2012 | evidence based medicine | E | We | T | C I | F | n/a | Rf1 Ci0 CC0 |
| [191] | 2003 | general | B | We | T V Au I D | Cb Q I F P | F D Ca | Se Me | Rf1 Ci2 CC1 |
| [192] | 2006 | emergency | E | We | T I D An | S I F P | n/a | n/a | Rf1 Ci1 CC0 |
| [193] | 2012 | radiology | E | We | D | n/a | n/a | n/a | Rf1 Ci1 CC1 |
| [194] | 2007 | geriatrics | B | We | T V Au I | S Q F | n/a | Pr Me | Rf2 Ci2 CC0 |
| [195] | 2013 | general surgery | E | We | T V Au I D An | Cb S Q I F P | n/a | Ch Si | Rf1 Ci0 CC0 |
| [196] | 2012 | histology | B | We | T I D | I F | F | n/a | Rf2 Ci1 CC1 |
| [197] | 2008 | anatomy | B | C | V | n/a | n/a | n/a | Rf2 Ci1 CC1 |
| [198] | 2006 | informatics | B | We | T | Cb P | F | n/a | Rf1 Ci2 CC1 |
| [199] | 2012 | radiology | E | We | T V Au I D | C | n/a | Ch Se | Rf1 Ci1 CC0 |

| Ref | Year | Subject | Teach. Method | Platform support | Media features | Interactive features | Accessibility features | Instructional design principles | Citations |
|-------|------|--------------------------|---------------|------------------|----------------|----------------------|------------------------|---------------------------------|-------------|
| [200] | 2011 | legal medicine | B | We | T Au I D | S C I F P | n/a | n/a | Rf1 Ci1 CC1 |
| [201] | 2011 | histology | E | We | T I | S I | n/a | Me | Rf1 Ci1 CC0 |
| [202] | 2013 | emergency | B | We | T V Au I D An | S Q I F P | n/a | n/a | Rf1 Ci1 CC1 |
| [203] | 2011 | physiology | B | We | T V Au I D | Q C I I | I F D Ca | n/a | Rf0 Ci1 CC1 |
| [204] | 2013 | radiology | E | We T | V Au | n/a | D | Se | Rf2 Ci1 CC1 |
| [205] | 2010 | paediatrics | E | We | V | n/a | n/a | n/a | Rf1 Ci0 CC1 |
| [206] | 2004 | anatomy | B | We | T I D | Cb C Q I | n/a | Cn Pr Se Me | Rf1 Ci2 CC1 |
| [207] | 2007 | emergency | B | We | n/a | C | n/a | n/a | Rf0 Ci0 CC0 |
| [208] | 2011 | primary | B | We M | T | C Q F | n/a | n/a | Rf2 Ci1 CC1 |
| [209] | 2004 | general | E | We T | T V Au I | Cb C I F P | F | Me | Rf0 Ci0 CC1 |
| [210] | 2008 | radiology | E | We | n/a | n/a | n/a | Se | Rf1 Ci1 CC1 |
| [211] | 2011 | dermatology | B | We | T V Au I | Q I F | F | Me | Rf1 Ci1 CC0 |
| [212] | 2009 | pathology | E | We M | T V Au I D An | Q I F | I F D Ca | n/a | Rf1 Ci0 CC1 |
| [213] | 2013 | urology | B | We | V | n/a | n/a | n/a | Rf2 Ci0 CC0 |
| [214] | 2007 | emergency | E | We | T I D | S I | n/a | Si Cn Me | Rf1 Ci1 CC1 |
| [215] | 2007 | paediatrics radiology | E | We | T V I D | C Q I | n/a | Me | Rf2 Ci2 CC1 |
| [216] | 2010 | neurosurgery | B | We | n/a | S | n/a | n/a | Rf1 Ci0 CC1 |
| [217] | 2012 | rheumatology | B | We Pt | V | Q I F | D | Si Pr | Rf2 Ci0 CC1 |
| [218] | 2012 | ophthalmology | E | We | V Au | n/a | n/a | n/a | Rf0 Ci0 CC1 |

| Ref | Year | Subject | Teach. Method | Platform support | Media features | Interactive features | Accessibility features | Instructional design principles | Citations |
|-------|------|--------------------------------------|---------------|------------------|----------------|----------------------|------------------------|---------------------------------|-------------|
| [219] | 2009 | pathology | E | We | T I D | Cb C Q I F | F D Ca | n/a | Rf0 Ci1 CC0 |
| [220] | 2012 | paediatrics | B | We | T V Au I | n/a | n/a | Me | Rf0 Ci2 CC1 |
| [221] | 2013 | ophthalmology | B | We | T V Au I | V C I | n/a | n/a | Rf1 Ci1 CC0 |
| [222] | 2008 | anatomy | B | We | T V Au I D | C Q I F | n/a | Me | Rf0 Ci1 CC1 |
| [223] | 2008 | paediatrics | E | We | T An | Cb G Q | n/a | n/a | Rf1 Ci1 CC0 |
| [224] | 2004 | radiology | E | E | T I | n/a | n/a | Cn Se Me | Rf1 Ci1 CC0 |
| [225] | 2009 | radiology | E | We | T I D | C Q I F | n/a | n/a | Rf0 Ci1 CC0 |
| [226] | 2012 | otolaryngology | E | We | T I D An | V I | n/a | n/a | Rf1 Ci1 CC0 |
| [227] | 2004 | physiology | B | We A | T V Au I D An | Cb S Q C I I F P | I F | Si Pr Se Me | Rf0 Ci2 CC1 |
| [228] | 2006 | pathology | E | We | n/a | C Q I | n/a | n/a | Rf0 Ci1 CC0 |
| [229] | 2008 | gastrointestinal | E | We | T V Au I D An | C Q I F P | n/a | Se Me | Rf1 Ci0 CC0 |
| [230] | 2011 | advanced life support paediatrics | B | We | n/a | n/a | n/a | n/a | Rf1 Ci1 CC1 |
| [231] | 2011 | evidence based medicine | E | We T | T V Au | Q I F | I | n/a | Rf2 Ci2 CC1 |
| [232] | 2011 | emergency | B | n/a | n/a | n/a | n/a | n/a | Rf2 Ci1 CC1 |
| [233] | 2010 | professionalism | B | We B Wi | T | Cb | F | n/a | Rf1 Ci2 CC1 |
| [234] | 2012 | biochemistry | B | We | n/a | C Q F | F D | n/a | Rf2 Ci1 CC1 |
| [235] | 2010 | psychiatry | B | n/a | n/a | C I | D | n/a | Rf0 Ci1 CC1 |
| [236] | 2013 | nephrology | E | We | T D | I | n/a | Ch Si | Rf2 Ci1 CC1 |

| Ref | Year | Subject | Teach. Method | Platform support | Media features | Interactive features | Accessibility features | Instructional design principles | Citations |
|-----------------------|------|----------------------|---------------|------------------|----------------|----------------------|------------------------|---------------------------------|-------------|
| [237] | 2012 | general surgery | E | Pt | n/a | n/a | n/a | n/a | Rf1 Ci1 CC0 |
| [238] | 2007 | neurology | E | We M | n/a | Cb Q I | I F | n/a | Rf2 Ci1 CC1 |
| [239] | 2006 | primary | E | We | T | C I | F | n/a | Rf2 Ci1 CC1 |
| [240] | 2003 | psychology | E | We | T V | I F P | F | Me | Rf0 Ci2 CC1 |
| [241] | 2011 | physiology | E | n/a | T D | S I | n/a | Me | Rf0 Ci0 CC0 |
| [242] | 2006 | rheumatology | B | We | T I | S C Q I F | n/a | Me | Rf1 Ci1 CC1 |
| [243] | 2010 | general | B | We Wi | T V Au I | Cb S Q I F P | n/a | Pr Me | Rf1 Ci2 CC1 |
| [244] | 2009 | traditional medicine | E | We | n/a | C | F | n/a | Rf2 Ci1 CC1 |
| [245] | 2013 | general | B | We | T V Au I D An | Cb C | I F | n/a | Rf2 Ci1 CC1 |
| [246] | 2006 | orthopaedics | E | We | T Au I An | C Q I F | n/a | Cn | Rf2 Ci1 CC1 |
| [247] | 2010 | orthopaedics | E | We | T V Au I D An | S V C I F P | n/a | n/a | Rf2 Ci1 CC1 |
| [248] | 2006 | radiology | E | We | V I | n/a | n/a | n/a | Rf1 Ci1 CC0 |
| [249] | 2012 | general surgery | B | We | T V Au I | V I P | n/a | n/a | Rf2 Ci1 CC1 |
| [250] | 2009 | anaesthesia | E | We | T I D | C Q I F | n/a | Me | Rf2 Ci2 CC1 |
| [251] | 2006 | radiology | B | We | T V Au I D An | C | n/a | Cn Me | Rf0 Ci1 CC0 |

Experiment variables

| Ref | Year | Study type | Participant total | Educ. | Duration | Knowledge | Attitudes | Skills | Usage | MERSQI | Findings |
|---------------------|------|------------|-------------------|-------|----------|-----------|-----------|--------|-------|--------|----------|
| [1] | 2011 | Pr | 190 | B | <3Mo | n/a | Fo Lb | n/a | n/a | n/a | A+ |

| Ref | Year | Study type | Participant total | Educ. | Duration | Knowledge | Attitudes | Skills | Usage | MERSQI | Findings |
|------|------|--------------|-------------------|-------|----------|-----------|-----------|--------|--------|--------|----------|
| [2] | 2012 | Pr Pp C | 277 | C | <3Mo | M Li F E | Li | n/a | n/a | 11 | K+ A+ |
| [3] | 2013 | Pr | 522 | C | <3Mo | n/a | Li | A | Ti | 6 | A+ U~S+ |
| [4] | 2012 | Pr | 130 | B | <3Mo | n/a | Li | n/a | Po R A | 8 | A+ U+ |
| [5] | 2009 | Pr | 150 | B | <3Mo | M | Li | n/a | n/a | 10 | K+ A+ |
| [6] | 2011 | Pr R Mt Pp C | 37 | R | <3Mo | M Li | Li | n/a | A Ti | 11 | K+ A+ U+ |
| [8] | 2012 | Pr Pp | 40 | S | <1Wk | n/a | Li | A P | n/a | 10 | A+ S+ |
| [9] | 2012 | Pr R C | 60 | B | <1Wk | M Li | Li | n/a | n/a | 10 | K~A+ |
| [10] | 2012 | Pr R Pp C | 204 | B | <1Wk | n/a | Li Lb | n/a | n/a | 11 | A- |
| [11] | 2010 | Rt | 200 | B | >3Mo | M E | Li | n/a | A Ti | 7 | K~A+ U+ |
| [12] | 2012 | Pr | 101 | S | >3Mo | n/a | Li Tx | n/a | A | 9 | A+ U~ |
| [14] | 2008 | Pr Pp | 166 | n/a | <1Wk | Tx P Lb | Li Lb | n/a | Ti | 11 | K+ A+ U+ |
| [15] | 2010 | Pr Pp | 137 | S | <3Mo | M | Li | n/a | n/a | 8 | K+ A+ |
| [16] | 2009 | Pr R Pp C | 148 | B | <1Wk | M | Li | n/a | n/a | 12.5 | K+ A+ |
| [17] | 2013 | Pr Pp C | 158 | B | <3Mo | n/a | Li | n/a | n/a | 10 | A+ |
| [18] | 2010 | Pr R Pp C | 49 | C | >3Mo | n/a | n/a | A | n/a | 11 | S+ |
| [18] | 2010 | Pr R Mt Pp C | 216 | C | >3Mo | E | n/a | A P | n/a | 11 | S+ |
| [20] | 2012 | Pr | 125 | B | >3Mo | M E | Li | n/a | Ti | 11 | K+ A+ U+ |
| [21] | 2011 | Pr Mt | 963 | B | >3Mo | n/a | Tx | n/a | T A | 9 | A+ U~ |

| Ref | Year | Study type | Participant total | Educ. | Duration | Knowledge | Attitudes | Skills | Usage | MERSQI | Findings |
|------|------|-----------------|-------------------|-------|------------|-----------|------------|--------|--------|--------|----------|
| [22] | 2009 | Rt | 1736 | B | >3Mo | E | n/a | n/a | n/a | 11.5 | K+ |
| [22] | 2009 | Pr | 1736 | B | can't tell | E | Li | n/a | n/a | 10 | K+ A+ |
| [23] | 2013 | Pr R Pp C | 55 | B | <3Mo | M | n/a | n/a | n/a | 11 | K+ |
| [24] | 2004 | Pr R Pp C | 11 | C | <3Mo | n/a | Li P Fo Lb | n/a | Ti | 8 | A+ U~ |
| [25] | 2013 | Pr Pp | 40 | R | <1Wk | M | Li | n/a | n/a | 9 | K+ A+ |
| [26] | 2008 | Pr C | 49 | n/a | <3Mo | Li P | Li | A P Lb | Po | 11 | K+ U~S~ |
| [28] | 2012 | Pr Mt | 10261 | S | >3Mo | n/a | Li | n/a | n/a | 9 | A+ |
| [29] | 2011 | Pr Mt | 7405 | R | >3Mo | n/a | Li | n/a | n/a | 7 | A+ |
| [30] | 2003 | Pr R Mt Pp C | 3067 | S | <1Wk | M | n/a | n/a | n/a | 9 | K+ |
| [31] | 2012 | Pr Pp C | 167 | C | <1Wk | M Lb | n/a | n/a | n/a | 10 | K~ |
| [32] | 2009 | Pr | 50 | C | can't tell | n/a | Li | n/a | n/a | 9 | A+ |
| [33] | 2009 | Pr R C | 80 | C | <1Wk | M | Li | n/a | n/a | 11 | A+ |
| [34] | 2012 | Pr | 30 | C | can't tell | n/a | Li | n/a | n/a | 9 | A+ |
| [35] | 2008 | Pr | 90 | C | <3Mo | n/a | Li Tx | n/a | Po R A | 9 | A+ U~ |
| [36] | 2009 | Pr | 309 | n/a | <3Mo | n/a | Li | n/a | A | 7.5 | A+ U+ |
| [37] | 2009 | Pr | 10 | B | <3Mo | n/a | n/a | n/a | n/a | 7 | A+ |
| [38] | 2012 | Pr C | 150 | S | >3Mo | n/a | n/a | n/a | n/a | 9 | K+ |
| [39] | 2011 | Pr C | 12 | B | <1Wk | M | Li | n/a | n/a | 10 | K~A+ |

| Ref | Year | Study type | Participant total | Educ. | Duration | Knowledge | Attitudes | Skills | Usage | MERSQI | Findings |
|------|------|-----------------|-------------------|-------|----------|-----------|-----------|--------|--------|--------|----------|
| [40] | 2012 | Pr Mt | 50 | B | <3Mo | n/a | P | n/a | Po A | n/a | A+ U~ |
| [41] | 2012 | Pr Mt | 60 | C | <3Mo | n/a | Li Fo Lb | n/a | Po A | 8.5 | A+ U+ |
| [42] | 2008 | Pr C | 117 | C | >3Mo | E | Li | n/a | A | 10.5 | K+ A+ U~ |
| [43] | 2008 | Pr | 118 | C | >3Mo | n/a | Li Tx | A P | Po Ti | 7 | A+ U~S+ |
| [44] | 2012 | Pr Pp C | 30 | B | >3Mo | tf Lb | n/a | A P Lb | n/a | 10 | K+ S+ |
| [45] | 2009 | Pr | 149 | C | <3Mo | M Tx E Lb | Tx | n/a | T A Ti | 10.5 | A+ U+ |
| [46] | 2012 | Pr | 43 | S | >3Mo | n/a | Li | n/a | n/a | 7 | A+ U+ |
| [47] | 2013 | Pr Mt C | 562 | C | <3Mo | M tf E Lb | Li | n/a | n/a | 9 | K+ A+ |
| [48] | 2011 | Pr | 70 | S | <1Wk | n/a | Li Lb | n/a | n/a | 10 | A+ |
| [49] | 2011 | Pr Pp | 300 | n/a | >3Mo | Li | Li | n/a | n/a | 10.5 | K+ A+ |
| [50] | 2012 | Pr | 387 | B C | >3Mo | n/a | Li Fo | n/a | A | 9 | A+ U~ |
| [51] | 2007 | Pr R Mt Pp C | 229 | R | <1Wk | M O P Lb | Li Lb | n/a | n/a | 12.5 | K~A+ |
| [52] | 2012 | Pr C | 128 | S | <1Wk | n/a | n/a | A P Lb | n/a | 12 | S+ |
| [53] | 2012 | Pr | 106 | B | >3Mo | n/a | Li | n/a | n/a | 6 | A+ |
| [54] | 2006 | Pr | 355 | B | <3Mo | n/a | Li | n/a | n/a | 6 | A+ |
| [55] | 2007 | Pr | 21 | B | >3Mo | n/a | Fo | n/a | n/a | 6 | A+ |
| [57] | 2011 | Pr Pp | 20 | R | >3Mo | n/a | n/a | n/a | Po R | 8 | K~U~ |
| [59] | 2010 | Pr | 246 | B | <3Mo | Li | Li | n/a | n/a | 10 | K+ A+ |
| [61] | 2012 | Pr Pp | 137 | B | <3Mo | M Lb | Li | n/a | n/a | 6 | K+ A+ |

| Ref | Year | Study type | Participant total | Educ. | Duration | Knowledge | Attitudes | Skills | Usage | MERSQI | Findings |
|------|------|------------|-------------------|-------|------------|-----------|-----------|--------|-------------|--------|------------|
| [63] | 2008 | Rt Mt C | 612 | R | >3Mo | M | n/a | n/a | n/a | 6 | K+ |
| [64] | 2003 | Pr | can't tell | B | can't tell | n/a | n/a | n/a | T A | 10.5 | A+ U+ |
| [65] | 2005 | Pr | 13 | C | <1Wk | n/a | Li Tx Lb | n/a | n/a | 8 | A+ |
| [66] | 2013 | Pr Pp | 21 | B R | <3Mo | M Li | Li | n/a | n/a | 8 | K+ A+ |
| [68] | 2009 | Pr R Pp C | 102 | B | <3Mo | n/a | n/a | A P Lb | n/a | 11 | S+ |
| [69] | 2013 | Pr Mt Pp | 185 | R | <1Wk | M Li | n/a | n/a | A Ti | 11 | K+ U~ |
| [70] | 2005 | Pr Pp | 30 | B C R | <3Mo | M E | Li Tx | n/a | n/a | 8 | K+ A+ |
| [71] | 2006 | Pr R Pp C | 126 | B C | <1Wk | M Lb | Li Tx | A P Lb | Ti | 9 | K~A+ U+ S+ |
| [72] | 2012 | Pr | 116 | C | <3Mo | M F | Li | n/a | n/a | 7 | K+ A+ |
| [73] | 2006 | Pr | 6 | C | <3Mo | n/a | Li Fo | n/a | Po R A Ti | 6 | A+ U~ |
| [74] | 2013 | Pr | 26 | B | >3Mo | n/a | Li | n/a | n/a | 9 | A+ |
| [77] | 2012 | Rt C | 36 | B | <3Mo | E | Li | n/a | n/a | 10 | K+ A+ |
| [78] | 2013 | Pr | 112 | C | <3Mo | n/a | Li | n/a | n/a | 8 | A+ |
| [79] | 2011 | Pr Pp C | 223 | R | <3Mo | M | Li | n/a | n/a | 11 | K+ A+ |
| [80] | 2011 | Pr | 260 | C | <3Mo | n/a | Li | n/a | n/a | 10 | A+ |
| [81] | 2006 | Pr | 276 | B | <3Mo | M | Li Tx | n/a | T Po R A Ti | 10.5 | K+ A+ U~ |
| [82] | 2008 | Pr Mt | 62 | B S | <1Wk | n/a | Li | n/a | n/a | 8 | A+ |
| [83] | 2012 | Pr Pp | 245 | C | <1Wk | M | Li | n/a | Ti | 11 | K+ A+ U~ |

| Ref | Year | Study type | Participant total | Educ. | Duration | Knowledge | Attitudes | Skills | Usage | MERSQI | Findings |
|-------|------|--------------|-------------------|-------|------------|---------------|-------------|--------|--------------|--------|----------|
| [84] | 2010 | Pr Pp C | 88 | C | <3Mo | n/a | Li | A P | Po R A Ti | 10 | A+ U~S~ |
| [85] | 2010 | Pr R Pp C | 133 | B | <3Mo | M Li tf Tx Lb | Li Lb | A P Lb | n/a | 12.5 | K+ A+ S+ |
| [86] | 2007 | Pr | 93 | n/a | can't tell | n/a | Li | n/a | A | 6 | A+ U~ |
| [87] | 2013 | Pr Mt | 54 | R | <1Wk | Li | Li | n/a | Ti | 10 | A+ U+ |
| [89] | 2012 | Pr R C | 155 | B | <1Wk | M E | n/a | n/a | Po Ti | 11 | K- U- |
| [90] | 2013 | Pr R C | 97 | R | <3Mo | M | Li | n/a | n/a | 12 | K+ A+ |
| [91] | 2010 | Pr R Mt Pp C | 237 | B | <3Mo | M E | n/a | n/a | n/a | 12 | K~ |
| [92] | 2011 | Pr | 304 | B | <3Mo | n/a | Li | n/a | n/a | 7 | A~ |
| [94] | 2012 | Pr R Pp C | 58 | R | <1Wk | n/a | n/a | A P | n/a | 11 | S~ |
| [95] | 2010 | Pr | 10 | R | <3Mo | n/a | Li | n/a | Ti | 9 | A+ U~ |
| [96] | 2008 | Pr | 82 | B | >3Mo | n/a | Li Tx | n/a | n/a | 6 | A~ |
| [97] | 2013 | Pr R Mt C | 120 | S | <1Wk | M | n/a | n/a | Ti | 11 | K~U~ |
| [98] | 2013 | Pr | 341 | B | <3Mo | n/a | Li | n/a | n/a | 9 | A+ |
| [99] | 2008 | Pr | 302 | C | <3Mo | Tx P Lb | Li Tx Fo Lb | n/a | n/a | 10.5 | K+ A+ |
| [100] | 2012 | Pr R Pp C | 166 | B | <3Mo | n/a | n/a | A P | n/a | 13 | S+ |
| [101] | 2009 | Pr C | 92 | C | <3Mo | M E | n/a | A P Lb | n/a | 10.5 | K~S+ |
| [103] | 2010 | Rt | can't tell | n/a | can't tell | E | n/a | n/a | n/a | 9 | K+ A+ |
| [104] | 2013 | Pr | 62 | n/a | <3Mo | n/a | Li | n/a | n/a | 7 | A+ |

| Ref | Year | Study type | Participant total | Educ. | Duration | Knowledge | Attitudes | Skills | Usage | MERSQI | Findings |
|-------|------|--------------|-------------------|-------|------------|--------------|---------------|--------|-------|--------|----------|
| [106] | 2009 | Pr R Pp C | 92 | B | <1Wk | M | n/a | n/a | n/a | 11 | K+ |
| [107] | 2009 | Pr | 83 | C | can't tell | n/a | Li Tx P Fo Lb | n/a | n/a | 8 | A+ |
| [110] | 2010 | Pr R C | 100 | B C | <1Wk | M Lb | Li Lb | n/a | n/a | 11 | K~A+ |
| [111] | 2013 | Pr C | 116 | C | >3Mo | n/a | Fo | n/a | n/a | 11 | A+ |
| [112] | 2009 | Pr | can't tell | n/a | can't tell | n/a | n/a | n/a | A | n/a | U+ |
| [113] | 2011 | Pr R Pp C | 16 | R | >3Mo | M | Li | n/a | n/a | 11 | K~A+ |
| [114] | 2012 | Pr | 91 | B | >3Mo | n/a | Li | n/a | A Ti | 7 | A+ U~ |
| [115] | 2012 | Pr | 84 | B | <3Mo | n/a | Li | n/a | n/a | 9 | A~ |
| [116] | 2009 | Pr | 42 | B | <3Mo | M | Li | n/a | n/a | 9 | K~A+ |
| [117] | 2009 | Pr R Pp C | 133 | B | <1Wk | M | Li | n/a | Ti | 11 | K+ A+ U+ |
| [118] | 2008 | Pr R C | 237 | B | <3Mo | M E Lb | Tx | n/a | n/a | 12.5 | K~A+ |
| [119] | 2009 | Pr R Mt C | 537 | R | >3Mo | M | n/a | n/a | n/a | 12 | K+ |
| [120] | 2012 | Pr R Mt C | 1470 | R | >3Mo | M | Li | n/a | n/a | 11 | K+ A+ |
| [121] | 2007 | Pr R Mt Pp C | 537 | R | >3Mo | M | n/a | n/a | Ti | 10 | K+ U~ |
| [122] | 2009 | Pr R Mt Pp C | 330 | B | >3Mo | M Li Tx E Lb | Li | n/a | n/a | 12 | K+ |
| [123] | 2007 | Pr R Pp C | 133 | B | >3Mo | M Lb | Li Tx | n/a | n/a | 12 | K+ |
| [124] | 2010 | Pr R Mt Pp C | 724 | R | >3Mo | M | n/a | n/a | n/a | 12.5 | K+ A+ |
| [125] | 2011 | Pr | 164 | B | <3Mo | n/a | Li Tx Lb | n/a | Ti | 7.5 | A+ |

| Ref | Year | Study type | Participant total | Educ. | Duration | Knowledge | Attitudes | Skills | Usage | MERSQI | Findings |
|-------|------|------------|-------------------|-------|------------|-----------|-----------|--------|--------|--------|-------------|
| [126] | 2013 | Pr R C | 60 | B | <1Wk | M Lb | n/a | n/a | n/a | 11 | K- |
| [127] | 2010 | Pr Mt | 153 | S | can't tell | n/a | Li | n/a | T | 9 | A+ U~ |
| [130] | 2006 | Pr Mt | 212 | B | <3Mo | n/a | Li | n/a | n/a | 9 | A+ |
| [132] | 2012 | Pr R Pp C | 226 | B | <3Mo | tf F Lb | Li | A P Lb | T A Ti | 12 | K+ A+ U+ S+ |
| [133] | 2005 | Pr | 150 | B C | <3Mo | M E | Li | n/a | T | 7 | K+ A+ U+ |
| [134] | 2010 | Pr R C | 295 | B | <1Wk | M O Tx F | Li | n/a | n/a | 10 | K+ A+ |
| [135] | 2008 | Pr Mt Pp | 68 | B | <1Wk | n/a | Li | n/a | T A | 11.5 | K+ A+ U~ |
| [135] | 2008 | Pr Mt Pp | 68 | S | can't tell | n/a | Li | n/a | n/a | 8 | K+ A+ |
| [136] | 2008 | Pr Mt Pp | 112 | S | <1Wk | M | n/a | n/a | n/a | 6 | K+ A+ |
| [137] | 2013 | Rt Pp | 121 | C | <3Mo | M | Li | n/a | n/a | 8 | K+ A+ |
| [138] | 2010 | Pr | 30 | C | can't tell | n/a | Li Tx | n/a | n/a | 8 | A+ |
| [139] | 2013 | Pr | 310 | C | <3Mo | Li | Li Tx | A | n/a | 8 | K+ A+ S+ |
| [140] | 2012 | Pr Pp C | 127 | C | <3Mo | Lb | Li Lb | n/a | A | 11 | K+ A+ U+ |
| [141] | 2011 | Pr | 140 | C | >3Mo | n/a | Li | n/a | A | 6 | A+ U~ |
| [142] | 2009 | Pr C | 41 | B | <3Mo | M E | Li | n/a | Ti | 9 | K~A+ U+ |
| [143] | 2006 | Pr | 209 | B | <1Wk | n/a | Li | n/a | n/a | 6 | A+ |
| [144] | 2005 | Pr | 134 | B | <1Wk | n/a | Li | n/a | n/a | 8 | A+ |
| [145] | 2006 | Pr | 1232 | B | <1Wk | n/a | Li Lb | n/a | n/a | 8 | A~ |

| Ref | Year | Study type | Participant total | Educ. | Duration | Knowledge | Attitudes | Skills | Usage | MERSQI | Findings |
|-------|------|--------------|-------------------|-------|------------|-----------|-----------|--------|--------|--------|---------------|
| [146] | 2011 | Pr Pp | 272 | S | <3Mo | M | Tx | n/a | n/a | 8 | K+ A+ |
| [147] | 2010 | Pr R Mt C | 42 | S | <1Wk | M Lb | Li | n/a | Ti | 9 | K~A~U~ |
| [148] | 2009 | Pr | 102 | S | <1Wk | n/a | Li | n/a | n/a | 9 | A+ |
| [149] | 2010 | Pr | 22 | C | can't tell | n/a | Li | n/a | n/a | 9 | A+ |
| [150] | 2013 | Pr R C | 207 | C | <3Mo | M F E Lb | n/a | n/a | T A | 9 | K~U+ |
| [151] | 2008 | Pr | 141 | B | >3Mo | n/a | Li Tx | n/a | n/a | 7.5 | A+ |
| [152] | 2011 | Pr Pp | 20 | C R | <1Wk | M | n/a | n/a | n/a | 9 | K+ |
| [153] | 2011 | Pr Pp | 177 | R | <3Mo | M | n/a | n/a | n/a | 10 | K+ |
| [154] | 2005 | Pr Pp | 50 | B | <3Mo | n/a | Li | n/a | n/a | 9 | A~ |
| [155] | 2009 | Pr R C | 55 | R | >3Mo | n/a | Li | n/a | n/a | 11 | n/a |
| [156] | 2013 | Pr Pp | 82 | R | <1Wk | M | Li | n/a | n/a | 10 | K+ A+ |
| [157] | 2010 | Pr | can't tell | n/a | <1Wk | n/a | n/a | n/a | R A Ti | n/a | U~ |
| [158] | 2012 | Pr | 52 | C S | can't tell | n/a | Li | n/a | n/a | 8 | A+ |
| [159] | 2009 | Pr R Pp C | 72 | R | <3Mo | M | Li | A | R A | 12 | K+ A+ U~S+ |
| [161] | 2010 | Pr R Pp C | 237 | n/a | <3Mo | M Li Lb | Li P Fo | n/a | n/a | 12.5 | K+ |
| [162] | 2010 | Pr R C | 143 | n/a | <1Wk | n/a | Li Lb | n/a | n/a | 10 | A+ |
| [163] | 2012 | Pr R Pp C | 520 | C | <3Mo | M Lb | Li Tx Lb | n/a | Ti | 11.5 | K+ A+ U+ |
| [164] | 2010 | Pr Pp | 38 | B | >3Mo | M E Lb | Li Lb | n/a | n/a | 10.5 | K+ A+ |

| Ref | Year | Study type | Participant total | Educ. | Duration | Knowledge | Attitudes | Skills | Usage | MERSQI | Findings |
|-------|------|--------------|-------------------|-------|------------|-----------|-----------|--------|-------|--------|----------|
| [165] | 2012 | Pr R Mt C | 70 | C | <3Mo | n/a | Li | n/a | n/a | 10 | A+ |
| [166] | 2009 | Pr | 325 | n/a | >3Mo | n/a | Li | n/a | n/a | 8 | A+ |
| [167] | 2012 | Pr | 804 | B | >3Mo | n/a | n/a | n/a | A Ti | 9 | U+ |
| [168] | 2008 | Pr C | 62 | B | >3Mo | M E | Li | n/a | A | 8 | K+ A+ U~ |
| [169] | 2011 | Pr Pp | 93 | S | <3Mo | M Li | Li | n/a | n/a | 12 | K+ A+ |
| [170] | 2010 | Pr Pp | 28 | B | <3Mo | M Li Lb | Tx | A P Lb | n/a | 11 | K+ A+ S+ |
| [171] | 2013 | Pr R C | 20 | B | <1Wk | n/a | n/a | A | n/a | 11 | S+ |
| [172] | 2010 | Pr | 18 | R | >3Mo | n/a | Li Tx | n/a | n/a | 10 | A+ |
| [175] | 2008 | Pr Mt | 287 | C | can't tell | n/a | Li | n/a | Ti | 8 | U~ |
| [176] | 2011 | Pr Pp | 307 | B | <3Mo | M | Li | n/a | n/a | 10 | K+ A+ |
| [177] | 2004 | Pr | 17 | R | can't tell | n/a | Li Lb | n/a | n/a | 6 | A+ |
| [179] | 2012 | Pr Pp | 10 | S | <1Wk | M Li | Li | n/a | n/a | 8 | K+ A+ |
| [180] | 2012 | Pr R Pp C | 154 | C | <1Wk | M Li | Li | n/a | n/a | 11 | K~A- |
| [181] | 2007 | Pr C | 134 | B | >3Mo | M E | Li | n/a | A | 8 | K+ A+ U+ |
| [182] | 2010 | Pr R Mt Pp C | 657 | S | can't tell | M E | Li | A P Lb | n/a | 13.5 | K~A+ S~ |
| [183] | 2012 | Pr R Mt Pp C | 3732 | S | <1Wk | M E | n/a | A P | n/a | 12 | K- S- |
| [184] | 2011 | Pr Pp | 73 | B | <1Wk | M O E Lb | Li | n/a | n/a | 11 | K+ A+ |
| [185] | 2006 | Pr Mt | 557 | C | >3Mo | M | Li | n/a | T Ti | 8 | K+ A+ U~ |

| Ref | Year | Study type | Participant total | Educ. | Duration | Knowledge | Attitudes | Skills | Usage | MERSQI | Findings |
|-------|------|------------|-------------------|-------|------------|---------------|------------|--------|----------------|--------|----------|
| [186] | 2013 | Pr | 280 | S | can't tell | Li | n/a | n/a | n/a | 8 | K+ |
| [187] | 2010 | Pr R C | 183 | C | <3Mo | M Li | n/a | n/a | n/a | 11 | K+ |
| [188] | 2012 | Pr Pp | 129 | B | >3Mo | M O Tx E Lb | Li Tx | n/a | A | 7 | K~A+ U~ |
| [189] | 2007 | Pr C | 88 | C | <3Mo | M E Lb | Li | n/a | A | 10 | K+ A+ U~ |
| [190] | 2012 | Pr | 61 | R | <1Wk | n/a | Li Fo | n/a | n/a | 8 | A+ |
| [192] | 2006 | Pr Pp C | 29 | S | <1Wk | M F E | n/a | n/a | n/a | 8 | K+ U+ |
| [193] | 2012 | Pr Mt C | 80 | B S | <1Wk | n/a | Li Lb | A P Lb | Ti | 10 | A+ U~S+ |
| [194] | 2007 | Pr Pp C | 140 | B | can't tell | M Li | Li P Fo Lb | A P Lb | n/a | 10.5 | K+ A+ S+ |
| [195] | 2013 | Pr | 10 | S | <1Wk | n/a | Li Tx | n/a | n/a | 10 | A+ |
| [196] | 2012 | Pr Pp | 89 | B | >3Mo | n/a | Li | n/a | A | 7 | A+ U+ |
| [197] | 2008 | Pr | 282 | B | <3Mo | M E | Li | n/a | A | 11 | K~A+ U~ |
| [198] | 2006 | Pr R Pp C | 238 | B | <3Mo | Li O Tx F E P | Li | A P Lb | n/a | 12.5 | K+ A+ S+ |
| [200] | 2011 | Pr Pp | 36 | B | <3Mo | n/a | Li | n/a | n/a | 8.5 | A+ |
| [201] | 2011 | Pr | 447 | B | <3Mo | n/a | Li | n/a | A | 8 | A+ U+ |
| [203] | 2011 | Rt C | 104 | B | >3Mo | M E | Li | n/a | T Po R A Ti | 10 | K+ A+ U+ |
| [204] | 2013 | Pr C | 191 | B | <1Wk | P | Li | A P | n/a | 10 | K+ A+ S+ |
| [205] | 2010 | Pr | 100 | C | can't tell | n/a | n/a | n/a | A | 9 | A+ |
| [206] | 2004 | Pr | 508 | B | >3Mo | n/a | Li Tx | n/a | n/a | 8.5 | A+ |
| [207] | 2007 | Pr | 210 | C | <3Mo | n/a | Li | n/a | n/a | n/a | A+ |

| Ref | Year | Study type | Participant total | Educ. | Duration | Knowledge | Attitudes | Skills | Usage | MERSQI | Findings |
|-------|------|--------------|-------------------|-------|------------|-----------|-------------|--------|---------|--------|----------|
| [208] | 2011 | Pr R C | 300 | S | >3Mo | n/a | Li | n/a | n/a | 14 | A+ |
| [210] | 2008 | Pr | 62 | B | <3Mo | n/a | Li | n/a | n/a | 6 | A+ |
| [211] | 2011 | Pr R Pp C | 44 | B | <3Mo | M | Li | n/a | n/a | 12.5 | K+ |
| [212] | 2009 | Pr | 38 | C | <3Mo | n/a | Li | n/a | Po R A | 9 | A+ U+ |
| [213] | 2013 | Pr Pp | 7 | R | <1Wk | Li | n/a | A P | n/a | 7 | K+ S+ |
| [214] | 2007 | Pr Pp | 41 | C | <1Wk | M Lb | Tx Lb | n/a | Ti | 10.5 | K+ A+ U+ |
| [215] | 2007 | Pr | can't tell | n/a | can't tell | n/a | n/a | n/a | Po A Ti | n/a | U~ |
| [216] | 2010 | Pr R C | 65 | C R | <1Wk | n/a | Li Lb | A P Lb | n/a | 11 | A- S- |
| [217] | 2012 | Rt C | 18 | C | <3Mo | M E | Li Fo | n/a | A | 9 | K~A+ U+ |
| [218] | 2012 | Pr R C | 25 | B | <1Wk | M | Li | n/a | Ti | 11 | K+ A+ U+ |
| [219] | 2009 | Pr | 14 | S | <3Mo | n/a | Li Tx Fo Lb | n/a | n/a | 7 | A+ |
| [220] | 2012 | Pr R C | 81 | C | <3Mo | n/a | Li | A P Lb | n/a | 12.5 | A+ S+ |
| [221] | 2013 | Pr R Mt Pp C | 188 | C | <3Mo | M | Li | n/a | n/a | 11 | K+ A+ |
| [222] | 2008 | Pr | 205 | B | <3Mo | M E Lb | Li Lb | n/a | n/a | 10.5 | K~A~ |
| [223] | 2008 | Pr R Pp C | 108 | B | <3Mo | M | Li Tx | n/a | n/a | 11 | K~ |
| [226] | 2012 | Pr R C | 40 | R | <1Wk | M Lb | Li | n/a | n/a | 12 | K~A+ |
| [227] | 2004 | Pr C | 121 | B | <3Mo | Lb | Li Lb | n/a | T | 11.5 | K+ A+ U+ |
| [228] | 2006 | Pr | can't tell | n/a | can't tell | n/a | n/a | n/a | n/a | n/a | A+ |

| Ref | Year | Study type | Participant total | Educ. | Duration | Knowledge | Attitudes | Skills | Usage | MERSQI | Findings |
|-------|------|------------|-------------------|-------|------------|-----------|------------|--------|-------------|--------|----------|
| [229] | 2008 | Pr | 200 | B | <3Mo | n/a | n/a | n/a | n/a | 9 | A+ |
| [230] | 2011 | Pr Pp | 21 | B C | can't tell | M Li | Li Tx | n/a | n/a | 10.5 | K+ A+ |
| [231] | 2011 | Pr | 176 | S | >3Mo | M F E | n/a | n/a | A | 9 | K+ U~ |
| [232] | 2011 | Pr R Pp C | 19 | C | <3Mo | O E P Lb | Li Tx | n/a | n/a | 12.5 | K+ A+ |
| [233] | 2010 | Pr | 32 | B | <3Mo | n/a | Li P Fo Lb | n/a | n/a | 8 | A+ |
| [234] | 2012 | Pr | 60 | B | >3Mo | F E | Li Tx | n/a | A | 11 | K~A+ |
| [235] | 2010 | Pr R Pp C | 389 | S | <3Mo | M | Li | n/a | T | 11 | K~A+ U+ |
| [236] | 2013 | Pr Pp | 35 | C | <3Mo | M Li | Li | A P | T | 8 | K+ A+ S+ |
| [237] | 2012 | Pr | 40 | R | >3Mo | n/a | Li Fo | n/a | n/a | 10 | A+ |
| [238] | 2007 | Pr Pp C | 41 | S | >3Mo | M E | Li | n/a | Ti | 8 | K+ A+ U~ |
| [239] | 2006 | Pr R Pp C | 159 | B | >3Mo | M Tx | Li | n/a | Ti | 9 | K+ A~U~ |
| [240] | 2003 | Pr Mt Pp | 10 | C | <3Mo | Li O P | Li P Lb | n/a | T Po R A | 13.5 | K+ A+ U+ |
| [241] | 2011 | Pr | 310 | n/a | can't tell | n/a | n/a | n/a | T | n/a | U~ |
| [242] | 2006 | Pr | 84 | B R | can't tell | M O P | Li Tx | n/a | n/a | n/a | K+ A+ |
| [243] | 2010 | Pr Pp C | 185 | B | <3Mo | M E | Li Tx P Lb | n/a | T A | 10.5 | A+ U+ |
| [244] | 2009 | Pr R C | 1267 | S | <3Mo | M Li | n/a | n/a | T Po R A Ti | 12 | K+ U+ |
| [245] | 2013 | Pr R Pp C | 120 | B C | <1Wk | M tf | Li | n/a | n/a | 11 | K+ A+ |
| [246] | 2006 | Pr | 18 | n/a | can't tell | n/a | Li | n/a | n/a | 6 | A+ |

| Ref | Year | Study type | Participant total | Educ. | Duration | Knowledge | Attitudes | Skills | Usage | MERSQI | Findings |
|-------|------|------------|-------------------|-------|------------|-----------|-----------|--------|-------|--------|----------|
| [247] | 2010 | Pr Pp | 160 | C | <1Wk | M | Li Tx | n/a | A Ti | 8 | K+ A+ U~ |
| [249] | 2012 | Pr C | 99 | B | <3Mo | Li | Li | A P Lb | n/a | 10 | A+ S~ |
| [250] | 2009 | Pr Mt Pp | 454 | S | can't tell | n/a | n/a | n/a | n/a | 9 | n/a |

Experimental groups for controlled trials

| Ref | Year | Controls |
|------|------|---|
| [2] | 2012 | B-learning vs. Lecture |
| [6] | 2011 | B-learning vs. Lecture |
| [9] | 2012 | Exploratory practice vs. Blocked practice |
| [10] | 2012 | Virtual Patient vs. OSCE vs. Role-play |
| [16] | 2009 | E-learning vs. Lecture |
| [17] | 2013 | B-learning vs. Lecture |
| [18] | 2010 | Simulation vs. Lecture |
| [18] | 2010 | Virtual patient + lecture vs. Virtual patient vs. Lecture |
| [23] | 2013 | Multimedia content vs. Text content |
| [24] | 2004 | Complex user interface vs. Simple user interface |
| [26] | 2008 | B-learning vs. Lecture |
| [30] | 2003 | B-learning vs. No intervention |
| [31] | 2012 | E-learning vs. Lecture |

| Ref | Year | Controls |
|------|------|--|
| [33] | 2009 | Adaptive system vs. Non-adaptive system |
| [38] | 2012 | E-learning vs. Lecture |
| [39] | 2011 | Simulation vs. Dissection + Simulation vs. No intervention |
| [42] | 2008 | B-learning vs. Lecture |
| [44] | 2012 | Immediate feedback vs. Delayed feedback |
| [47] | 2013 | B-learning vs. Lecture |
| [51] | 2007 | E-learning vs. Lecture |
| [52] | 2012 | E-learning vs. No intervention |
| [63] | 2008 | B-learning vs. Lecture |
| [68] | 2009 | Simulation vs. No Intervention |
| [71] | 2006 | Digital multimedia content vs. Printed content |
| [77] | 2012 | B-learning vs. Lecture |
| [79] | 2011 | E-learning vs. No intervention |
| [84] | 2010 | E-learning vs. Lecture |
| [85] | 2010 | E-learning vs. Lecture |
| [89] | 2012 | Timed virtual patient vs. Untimed virtual patient |
| [90] | 2013 | Spaced education vs. No intervention |
| [91] | 2010 | E-learning vs. Lecture |
| [94] | 2012 | Lecture notes vs. Lecture + Group discussion |

| Ref | Year | Controls |
|----------------------------|------|---|
| [97] | 2013 | Interactive virtual patient vs. Audio virtual patient vs. No intervention |
| [100]] | 2012 | Immediate feedback vs. Delayed feedback |
| [101]] | 2009 | B-learning vs. Lecture |
| [106]] | 2009 | Simulation + Explanation vs. Simulation vs. Multimedia content |
| [110] | 2010 | 3d content vs. 2d content |
| [111] | 2013 | Different sequences of Lecture, Discussion and Virtual patient activities |
| [113] | 2011 | E-learning vs. No intervention |
| [117] | 2009 | Clinical cases vs. Research articles |
| [118] | 2008 | Spaced education vs. Bolus education |
| [119] | 2009 | Spaced education vs. Bolus education |
| [120]] | 2012 | Two-week spaced education vs. Four-week spaced education |
| [121]] | 2007 | Spaced education vs. Bolus education |
| [122]] | 2009 | Spaced education vs. Bolus education |
| [123]] | 2007 | Spaced education vs. No intervention |
| [124]] | 2010 | Spaced education vs. Bolus education |
| [126]] | 2013 | 3d content vs. 2d content vs. Physical model |
| [132]] | 2012 | B-learning vs. Lecture |
| [134]] | 2010 | Simulation vs. Laboratory vs. No intervention |

| Ref | Year | Controls |
|-----------------------|------|---|
| [140] | 2012 | In-person e-learning session vs. Distant e-learning session |
| [142] | 2009 | B-learning vs. Lecture |
| [147] | 2010 | In-person e-learning session vs. Distant e-learning session |
| [150] | 2013 | Spaced education vs. Bolus education |
| [153] | 2011 | E-learning vs. No intervention |
| [155] | 2009 | Spaced education vs. No intervention |
| [159] | 2009 | B-learning vs. Lecture |
| [161] | 2010 | Wiki vs. Instant messaging vs. Links to external resources |
| [162] | 2010 | B-learning vs. Lecture |
| [163] | 2012 | Integrated web-application vs. Online resources |
| [165] | 2012 | E-learning vs. No intervention |
| [168] | 2008 | B-learning vs. Lecture |
| [171] | 2013 | E-learning vs. No intervention |
| [180] | 2012 | E-learning vs. Lecture |
| [181] | 2007 | B-learning vs. Lecture |
| [182] | 2010 | B-learning vs. Lecture |
| [183] | 2012 | B-learning vs. Lecture |

| Ref | Year | Controls |
|-------|------|--|
| [187] | 2010 | B-learning vs. Lecture |
| [189] | 2007 | Multimedia content vs. Text content |
| [192] | 2006 | Adaptive system vs. Non-adaptive system |
| [193] | 2012 | 3d content vs. 2d content |
| [194] | 2007 | B-learning vs. Lecture |
| [198] | 2006 | B-learning vs. Lecture |
| [203] | 2011 | B-learning vs. Lecture |
| [204] | 2013 | E-learning vs. Lecture |
| [208] | 2011 | Immediate feedback vs. Delayed feedback |
| [211] | 2011 | E-learning vs. Lecture |
| [216] | 2010 | 3d content vs. 2d content vs. Physical model |
| [217] | 2012 | B-learning vs. Lecture |
| [218] | 2012 | Multimedia content vs. Text content |
| [220] | 2012 | B-learning vs. Lecture |
| [221] | 2013 | B-learning vs. Lecture |
| [223] | 2008 | Exploratory practice vs. Blocked practice |
| [226] | 2012 | 3d content vs. 2d content |

| Ref | Year | Controls |
|-------------------------|------|--|
| [227] | 2004 | B-learning vs. Lecture |
| [232] | 2011 | Spaced education vs. Bolus education |
| [235] | 2010 | B-learning vs. Lecture |
| [238] | 2007 | E-learning vs. No intervention |
| [239] | 2006 | E-learning vs. Lecture |
| [243] | 2010 | B-learning vs. Lecture |
| [244] | 2009 | Many hyperlinks vs. Few hyperlinks, Spaced education vs. Bolus education |
| [245] | 2013 | Complex user interface vs. Simple user interface |
| [249] | 2012 | Virtual patient vs. No intervention |

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