

Appendix A

#	Massive Open Online Course Title	Platform	Offered by
1	Introduction to the Science of Cancer	Canvas Network	The Ohio State University
2	Understanding Common Diseases	OpenEdXstudy	University of Wollongong
3	The Social Context of Mental Health and Illness	Coursera	University of Toronto
4	Managing Addiction: A Framework for Successful Treatment	EdX	University of Adelaide
5	Introduction to Cataract Surgery	Coursera	University of Michigan
6	Histology: Using Microscopy to Study Anatomy and Identify Disease	Futurelearn	The Open University
7	Talking About Cancer: Reducing Risk, Early Detection, and Mythbusting	Futurelearn	Cancer Research UK
8	Genomic Medicine: Transforming Patient Care in Diabetes	Futurelearn	University of Exeter
9	The Many Faces of Dementia	Futurelearn	University College London
10	Clinical Kidney, Pancreas and Islet Transplantation	Coursera	Leiden University Medical Center
11	Diabetes - A Global Challenge	Coursera	University of Copenhagen
12	Diabetes - The Essential Facts	Coursera	University of Copenhagen
13	Well and Able: Improving the Physical Health of People with Intellectual Disability	Coursera	University of Queensland
14	Epidemics: the dynamics of Infectious Diseases	Coursera	The Pennsylvania State University
15	ADHD: Everyday Strategies for Elementary Students	Coursera	The State University of New York, University at Buffalo
16	AIDS: Hope and Fear	Coursera	University of Michigan
17	In the Footsteps of Zika: Approaching the Unknown	EdX	Université de Genève, Institut Pasteur, Université Paris Descartes and Centre Virchow-Villermé
18	Ebola Virus Disease: An Evolving Epidemic	Coursera	Emory University
19	Preventing the Zika virus: Understanding and controlling the Aedes Mosquito	Futurelearn	London School of Hygiene and Tropical Medicine and the Arthropod Control Product
20	Easing the burden of obesity and cardiovascular disease	Coursera	The University of Sydney
21	Organ donation: from death to life	Coursera	University of Cape Town
22	Introduction to breast cancer	Coursera	Yale University
23	Tropical parasitology, protozoans, worms, vectors and human diseases	Coursera	Duke University and Kilimanjaro and Christian Medical University College
24	Bacteria and chronic infections	Coursera	University of Copenhagen
25	Good brain, bad brain, Parkinson's disease	Futurelearn	University of Birmingham
26	Understanding Alzheimer's disease: A molecular and genetic approach	EdX	The University of Texas at San Antonio
27	MalariaX: Defeating malaria/ from the genes to the globe	EdX	Harvard University
28	Better conversations with aphasia	UCLxTend	University College London
29	Clinical management of HIV	Iversity	European AIDS Clinical Society
30	Congenital hypothyroidism, what every primary care provider needs to know	Stanford Online	Stanford Medicine
31	Prescription drug misuse and addiction: compassionate care for a complex problem	Stanford Online	Stanford Medicine
32	Perspectives on disability	Open Education by Blackboard	Northern Illinois University
33	Understanding dementia	desire2Learn	The University of Tasmania

Appendix B

MOOC Instructional Design Quality Tool

- CourseScan extended with Goal-Setting Items -

This tool was assembled to study the instructional design quality of MOOCs, based on a 10 principle framework named CourseScan by Margaryan, Bianco and Littlejohn (2015), published in *Computers & Education*. Goal-setting was added as 11th principle. In addition information about course presentation and organization can be gathered with the tool. The tool consists of 3 sections:

A - Researcher information and course information that can be gathered on the course information page

B - Course information that can be gathered once one is enrolled in the course

C - Instructional design principles: goal-setting, problem-centeredness, authentic resources, activation, application, integration, differentiation, demonstration, collective knowledge, feedback and collaboration

(Assembled by Renée Hendriks, Center for Innovation in Medical Education, Leiden University Medical Center, The Netherlands, 2019)

SECTION A

This section concerns the information page of the course

A1 Initials of researcher:

A2 Course name:

A3 Course startdate/Self-paced:

A4 Date of analysis:

A5 Course website:

A6 Course platform:

- | | |
|--------------------------------------|--|
| <input type="radio"/> Coursera | <input type="radio"/> Independent |
| <input type="radio"/> EdX | <input type="radio"/> OpenEx |
| <input type="radio"/> Iversity | <input type="radio"/> Open2study |
| <input type="radio"/> Futurelearn | <input type="radio"/> Open Education by Blackboard |
| <input type="radio"/> Canvas Network | <input type="radio"/> Other: |

A7 Does the course information page specify the learner population that will engage in the course?

- ☐ Yes
☐ No

A8 Does the course information page specify the change that needs to be promoted in the skill set of the learner population?

- ☐ Yes
- ☐ No

A9 Are distal goals described on the course information page (at the end of this course...)?

- ☐ No
- ☐ Yes, namely:

A10 Are the course enrollment requirements clearly outlined on the course information page?

- ☐ Yes
- ☐ No

A11 Are the course completion requirements clearly outlined on the course information page?

- ☐ Yes
- ☐ No

A12 Is the course description on the course information page clear?

- ☐ Yes
- ☐ No

Please enter the course for the following sections

SECTION B

Likert-scale items scoring system for section B and C:

- **None.** The course does not reflect a given principle at all.
- **To some extent.** Serious gaps were found, the course reflects a given principle in less than 50% of the included teaching modes.
- **To large extent.** The course reflects a given principle mostly sufficient, in 51% to 80% of included teaching modes.
- **To very large extent.** The course reflects a given principle to complete satisfaction, in 81% to 100% of included teaching modes.
- **Not applicable.** An item is absent, for example when group work is absent in a course, all questions regarding the composition of the group are not applicable.
- **No information.** No information is available to determine if a given principle is reflected in the course.

B1 Is the course description clear?

- ☐ Yes
☐ No

B2 Does the course specify the learner population that will engage in the course?

- ☐ Yes
☐ No

B3 Does the course specify the change that needs to be promoted in the skill set of the learner population?

- ☐ Yes
☐ No

B4 To what extent are the course materials well organised?

- ☐ None
☐ To some extent
☐ To large extent
☐ To very large extent
☐ Not applicable
☐ No information

B5 Are the course enrollment requirements clearly outlined?

- ☐ Yes
☐ No

B6 Are the course completion requirements clearly outlined?

- ☐ Yes
☐ No

SECTION C

Goal setting

C1 Are distal goals described (at the end of this course...)?

- ☐ No
☐ Yes, namely:

C2 Are proximal goals described (per week or per activity)?

- ☐ No
☐ Yes, namely:

C3 To what extent are the course objectives measurable?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ Not applicable
- ☐ No information

C4 Are students encouraged to make a commitment statement about learning goals or a change in their knowledge, skill set or attitude?

- ☐ Yes
- ☐ No

C5 Are students invited to construct or set their own goals?

- ☐ Yes
- ☐ No

C6 Are students encouraged to think about possible obstacles that might impede their development in the course?

- ☐ Yes
- ☐ No

Problem-centeredness

C7 To what extent do the activities build upon each other?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ No information

C8 To what extent are the course objectives relevant to real-world problems?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ Not applicable
- ☐ No information

C9 To what extent are the problems in the course typical of those learners will encounter in the real world?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ Not applicable
- ☐ No information

C10 To what extent do the activities in the course relate to the participants' real workplace problems?

- ☐ None
 - ☐ To some extent
 - ☐ To large extent
 - ☐ To very large extent
 - ☐ Not applicable
 - ☐ No information
-

C11 To what extent are the problems ill-structured – ie have more than one correct solution?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ Not applicable
- ☐ No information

C12 To what extent are the problems divergent from one another?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ Not applicable
- ☐ No information

Authentic resources

C13 To what extent are the resources reused from real-world settings?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ No information

Activation

C14 To what extent do the activities attempt to activate learners' relevant prior knowledge or experience?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ No information

Application

C15 To what extent do the activities require learners to apply their newly acquired knowledge or skill?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ No information

Integration

C16 To what extent do the activities require learners to integrate the new knowledge or skill into their everyday life or work?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ No information

Differentiation

C17 To what extent are there activity options for participants with various learning needs?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ No information

Demonstration

C18 Are there examples of problem solutions?

- ☐ Yes
- ☐ No
- ☐ Not applicable

C19 If there are examples of solutions, to what extent do these solutions represent a range of quality from excellent examples to poor examples?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ Not applicable
- ☐ No information

Collective knowledge

C20 To what extent do the activities require participants to learn from each other?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ No information

C21 To what extent do the activities require learners to build on other participants' submissions?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ No information

C22 To what extent do the activities require participants to contribute to the collective knowledge, rather than merely consume knowledge?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ Not applicable
- ☐ No information

Feedback

C23 Is there feedback on activities by the instructor(s) in this course?

- ☐ Yes
- ☐ No

C24 If there is feedback, is the way feedback will be provided clearly explained to the participants?

- ☐ Yes
- ☐ No
- ☐ Not applicable

Collaboration

C25 To what extent do the activities require participants to collaborate with other course participants?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ No information

C26 To what extent do the activities require participants to collaborate with others outside the course?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ No information

C27 To what extent do the activities require that the peer-interaction groups be comprised of individuals with different backgrounds, opinions, and skills?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ Not applicable
- ☐ No information

C28 To what extent can the individual contribution of each learner in the group be clearly identified?

- ☐ None
- ☐ To some extent
- ☐ To large extent
- ☐ To very large extent
- ☐ Not applicable
- ☐ No information

C29 Are the peer-interaction groups given specific directions for interaction?

- ☐ Yes
- ☐ No
- ☐ Not applicable

C30 Does each member of a peer-interaction group have a specific role to play?

- ☐ Yes
- ☐ No
- ☐ Not applicable

Appendix C

*the matching titles can be found in appendix A.

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