UNIVERSITY OF TWENTE.

USING DIGITAL CLASSROOM SESSIONS IN INTERNATIONAL OPEN ONLINE EDUCATION

PIE WORKSHOP NOVEMBER 2014

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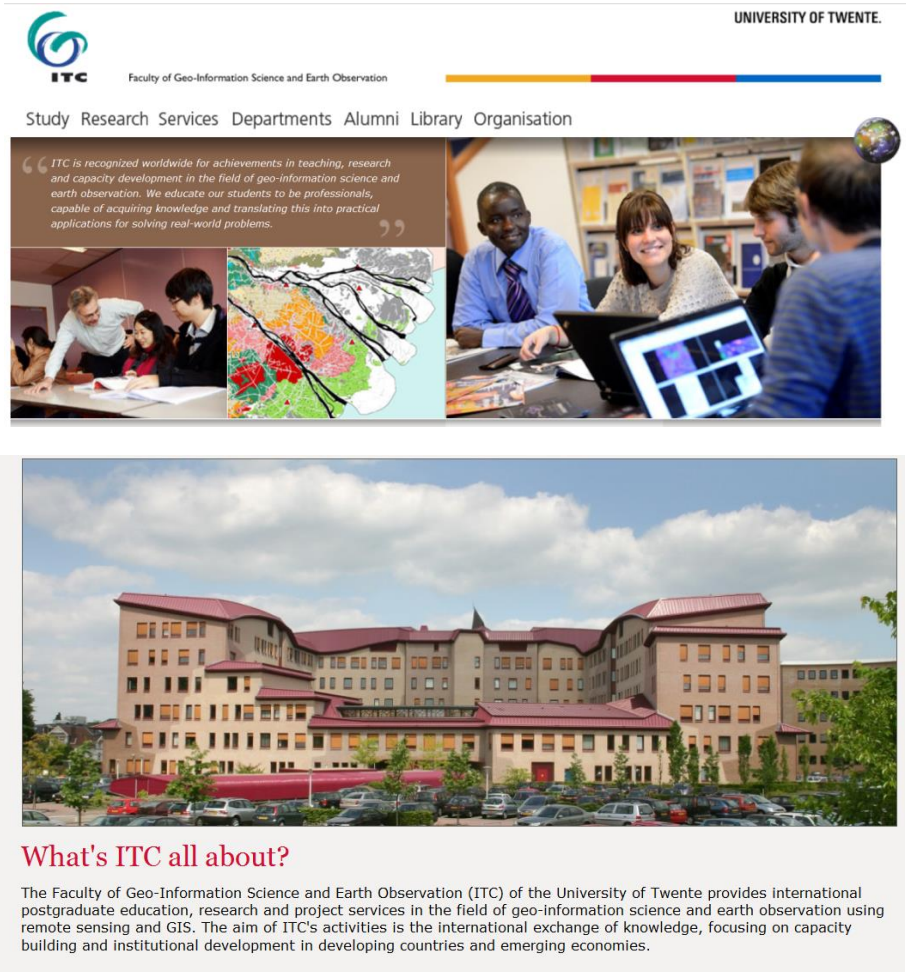
ITC FACULTY OF GEO-INFORMATION SCIENCE AND EARTH OBSERVATION

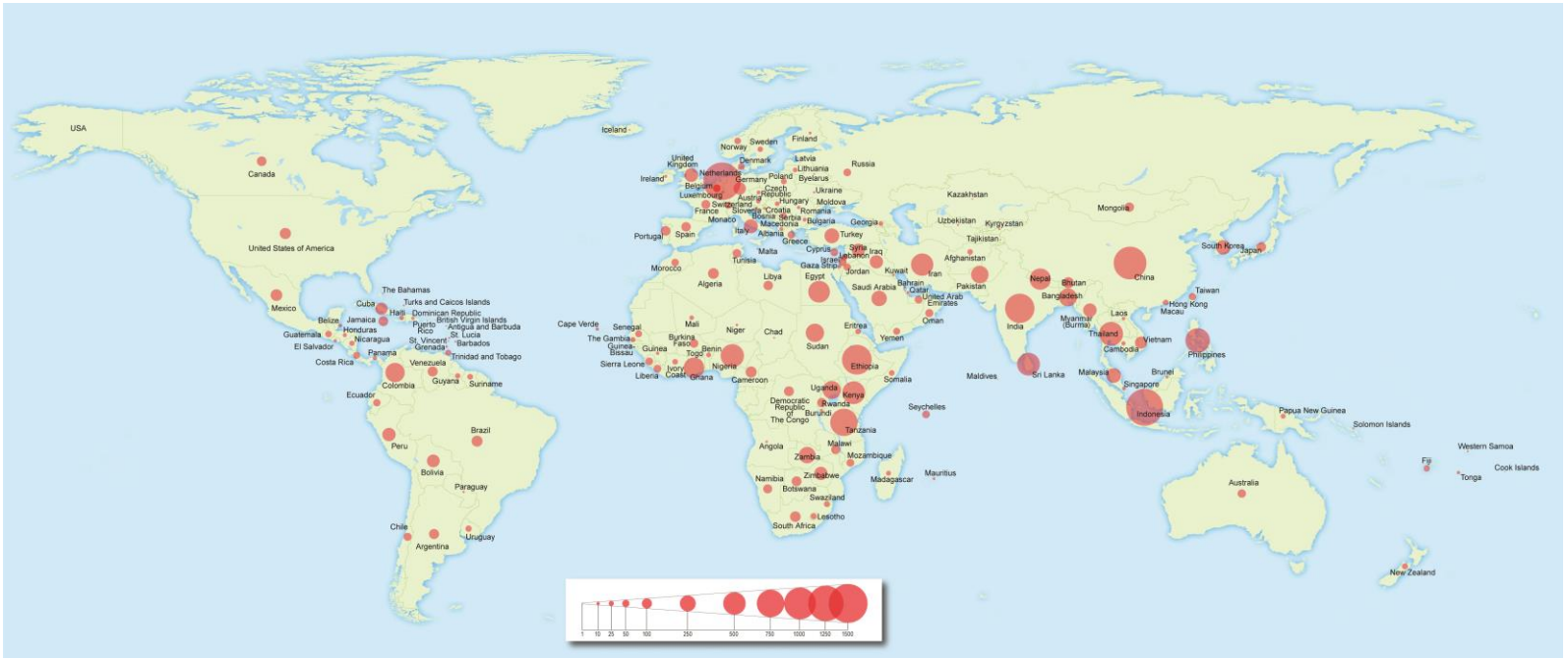
ITC

FAC. OF GEO-INFORMATION AND EARTH OBSERVATION – UNIVERSITY OF TWENTE



- Founded in 1950 by Prof. Dr.Willem Schermerhorn
- Part of the University of Twente since January 2010
- Offer MSc, Master and diploma courses on Geographic Information Systems (GIS) and Remote Sensing
- 19,000 students from over 170 countries have followed ITC courses since 1950

ITC ALUMNI



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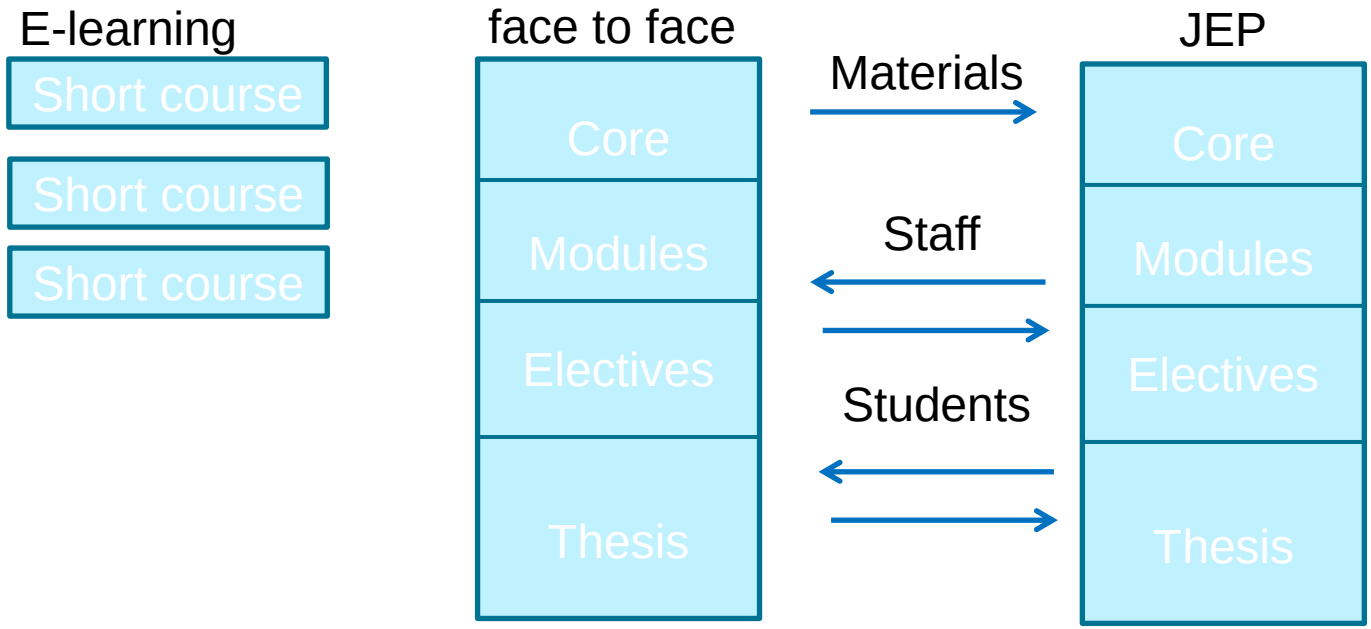
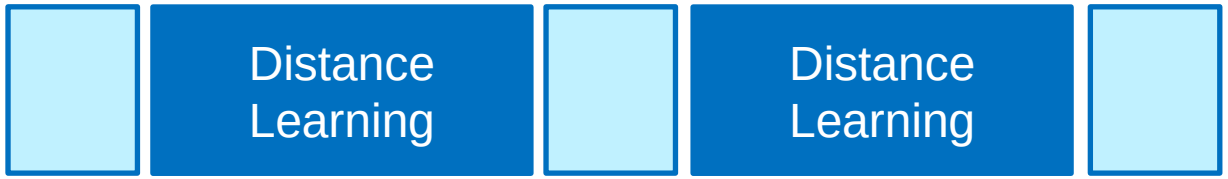
JOINT EDUCATIONAL PROGRAMS

STRUCTURE OF COURSES (PAST)



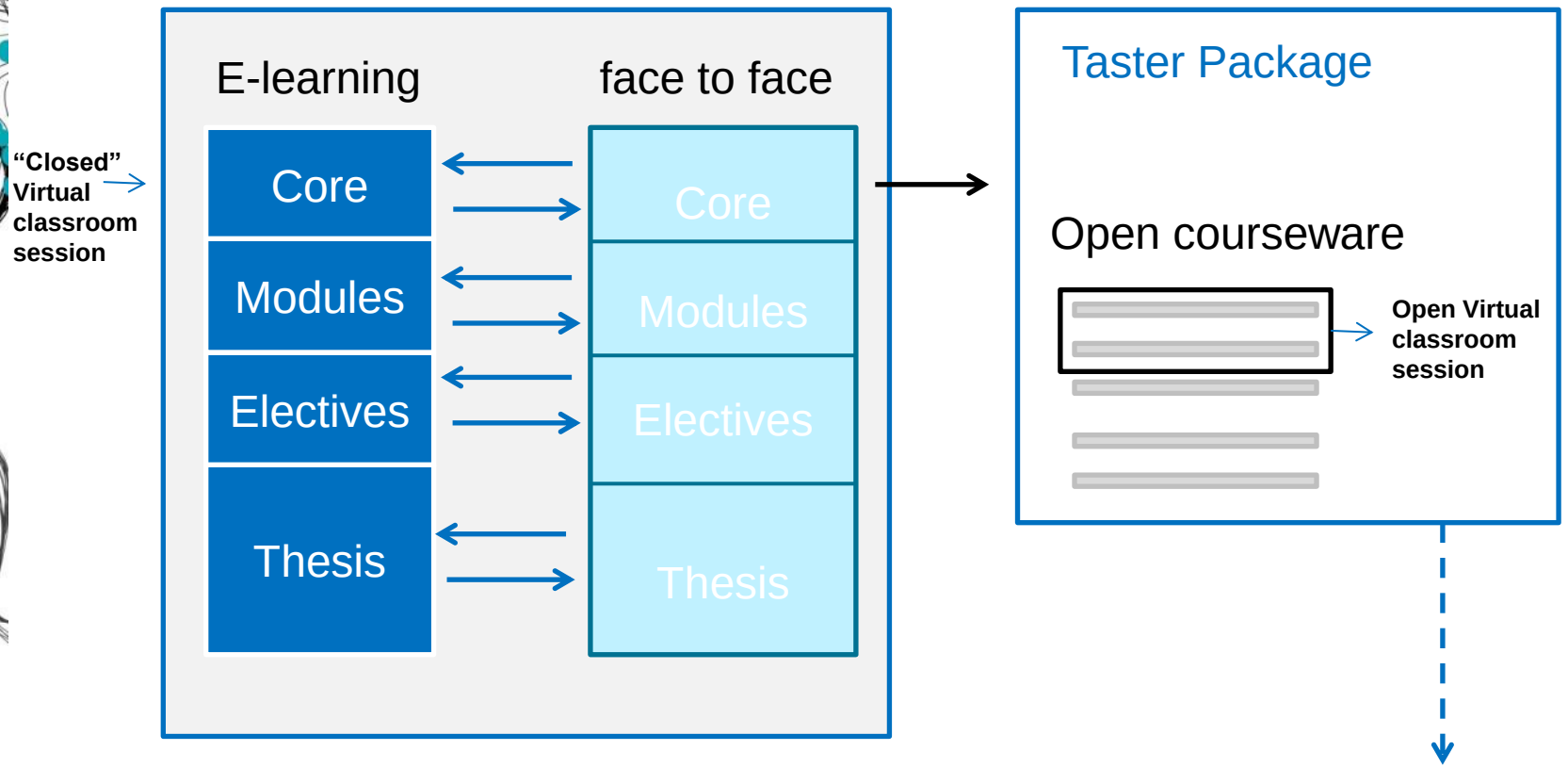
Blended Learning (GIMA)



DEVELOPMENTS

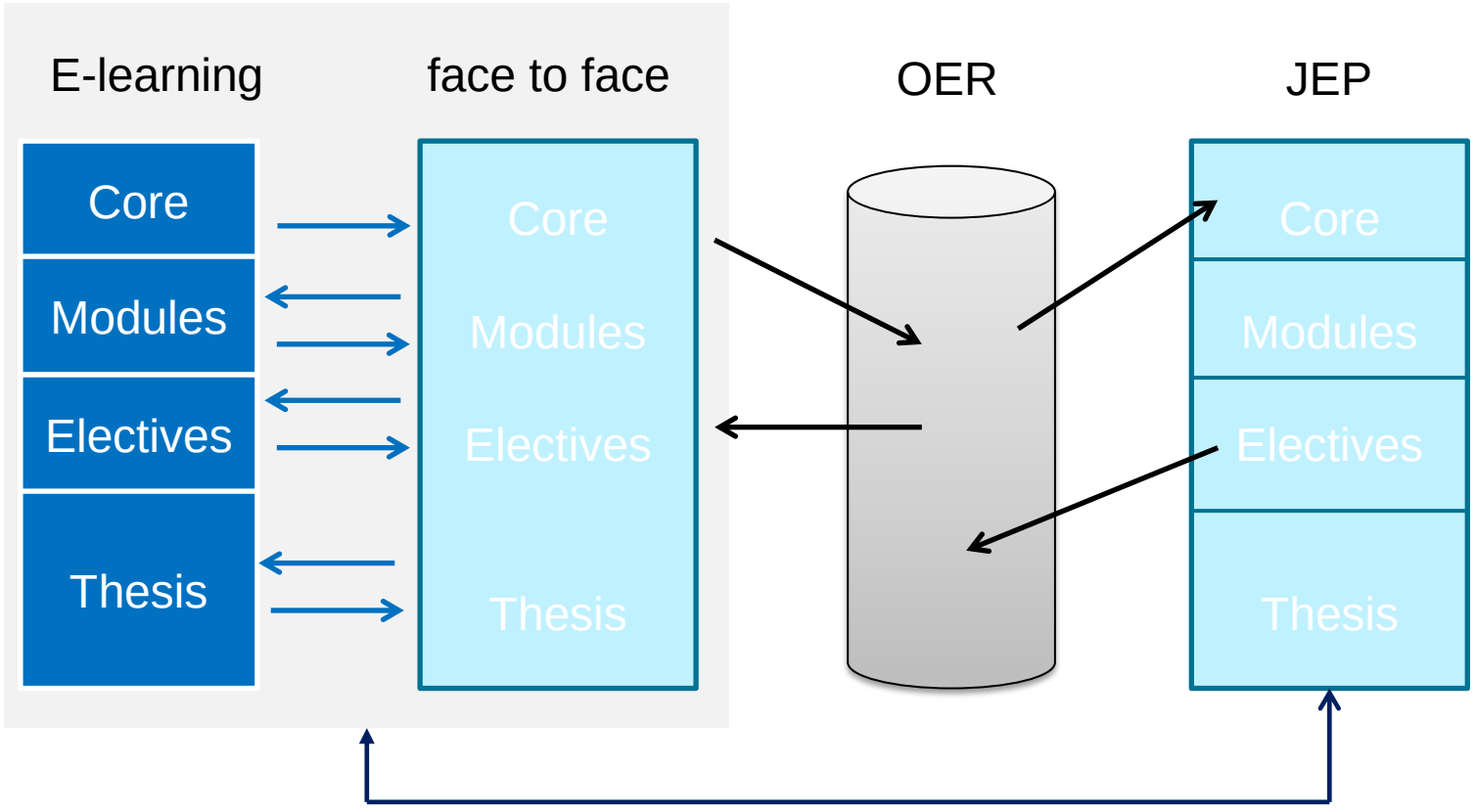
- Students have to leave home for a very long time (not always feasible)
- Future International Students do not always know what “level” is expected
- Learning is changing – Part time students, Students demand flexibility (switch between different modes of learning)
- ……

STRUCTURE OF COURSE (FUTURE)



"***Open***" as "***Flexible***"

CONTACT WITH JEPS



Combination of open and closed content

HOW DO WE SEE THE FUTURE OF EDUCATION?

- Instructor led teaching still plays an important role
- Open and Closed educational resources
- Much larger freedom for the student to define the mode of education and the order and speed of studying…….. open is flexibility

WHAT ARE DIGITAL/VIRTUAL CLASSROOMS ?

- Just like in a real-world classroom, a student in a virtual classroom participates in **synchronous** instruction, which means that the teacher and students meet in the virtual learning environment at the **same time**.
- A Virtual Classroom is a private online meeting space for synchronous (real-time) learning activities that are interactive.

- Video lectures (recorded lectures)– **not real time** and **not interactive**
- Streaming lectures – **real time** but **not interactive**
- Discussion boards – **not real time** but **interactive**

WHY IS SYNCHRONIZED INTERACTION IMPORTANT?

- Cao, Griffin, and Bai (2009) suggested that synchronous interaction effectively **raises student satisfaction**.
- Motteram (2001) stated that "synchronous tools are more effective for the **'social' side of education"** (p. 131)
- Park and Bonk (2007) listed the major benefits of using a synchronous virtual classroom as: **providing immediate feedback**, **encouraging the exchange of multiple perspectives**, **enhancing dynamic interactions** among participants, strengthening **social presence**.
- Parker and Martin (2014): **increasing social presence** and **enhancing student learning.**

WHY IS SYNCHRONIZED INTERACTION IMPORTANT?

Table 5. *Factors that influenced faculty adoption and use of the synchronous virtual classroom*

Category	Very Unimportant (1)	Unimportant (2)	Important (3)	Very Important (4)	*M*	*SD*
Organizational						
Mandate	17 (21.5%)	19 (24.1%)	26 (32.9%)	17 (21.5%)	2.54	1.06
Reward availability	17 (21.5%)	33 (41.8%)	16 (20.3%)	13 (16.5%)	2.32	0.99
Institutional support	3 (3.8%)	4 (5.1%)	26 (32.9%)	46 (58.2%)	3.46	0.76
Institutional resource availability	2 (2.5%)	1 (1.3%)	24 (30.4%)	52 (65.8%)	3.59	0.65
Social						
Peer support	10 (12.7%)	23 (29.1%)	26 (32.9%)	20 (25.3%)	2.71	0.99
Peer pressure	22 (27.8%)	39 (49.4%)	11 (13.9%)	7 (8.9%)	2.04	0.88
Promotes sense of community	2 (2.5%)	9 (11.4%)	33 (41.8%)	35 (44.3%)	3.28	0.77
Promotes social presence	1 (1.3%)	7 (8.9%)	27 (34.2%)	44 (55.7%)	3.44	0.71
Personal						
Personal preference	4 (5.1%)	8 (10.1%)	34 (43.0%)	33 (41.8%)	3.22	0.83
Personal motivation	3 (3.8%)	5 (6.3%)	32 (40.5%)	39 (49.4%)	3.35	0.77
Reduced travel time to campus	13 (16.5%)	28 (35.4%)	13 (16.5%)	25 (31.6%)	2.63	1.10
Reduced travel cost	14 (17.7%)	28 (35.4%)	13 (16.5%)	24 (30.4%)	2.59	1.10
Reduced face-to-face lessons	19 (24.1%)	32 (40.5%)	15 (19.0%)	13 (16.5%)	2.28	1.01
Importance of real-time interaction	3 (3.8%)	6 (7.6%)	30 (38.0%)	40 (50.6%)	3.35	0.79
Improving my teaching	0 (0.0%)	4 (5.1%)	25 (31.6%)	50 (63.3%)	3.58	0.59
Enhancing student learning	0 (0.0%)	2 (2.5%)	18 (22.8%)	59 (74.7%)	3.72	0.50
Technological						
Availability of technology	0 (0.0%)	0 (0.0%)	13 (16.5%)	66 (83.5%)	3.84	0.37
Easy to set up	0 (0.0%)	3 (3.8%)	19 (24.1%)	57 (72.2%)	3.68	0.54
Easy to use	0 (0.0%)	2 (2.5%)	18 (22.8%)	59 (74.7%)	3.72	0.50
My expertise with technology	1 (1.3%)	4 (5.1%)	37 (46.8%)	37 (46.8%)	3.39	0.65

Results from a study by Martin and Parker (2014): Use of Synchronous Virtual Classrooms: Why, Who, and How? In: MERLOT Journal of Online Learning and Teaching, vol10, no 2, June 2014

COMPONENTS OF DIGITAL/VIRTUAL CLASSROOMS

- Shared interactive whiteboard- A blank screen where people can share information, write comments, and draw pictures in real time.
- Presentation capability – including sharing applications
- Audio- Students and teachers can share information with a microphone and speakers
- Video- Students and teachers see each other via webcams
- Chats – Students and teachers can type questions and responses.
- Polling or survey tools- The ability to take a survey and publish the results possibly on the white board instantly
- Emoticons – for fast student feedback
- Breakout rooms- A way of breaking the session into or more sub rooms

WHICH OF THE FEATURES ARE USED?

Table 6. *Features in the virtual classroom that influenced faculty adoption*

Feature	Frequency
Archiving the session	56 (70.9%)
Viewing the webcam	47 (59.5%)
Text chat	43 (54.4%)
Audio chat	38 (48.1%)
Sharing web links	33 (41.8%)
Guest access	33 (41.8%)
E-board	33 (41.8%)
Polling	30 (38.0%)
Listening to the audio via phone	28 (35.4%)
Downloading the archive	27 (34.2%)
Hand-raising	26 (32.9%)
Application sharing	25 (31.6%)
Breakout rooms	18 (22.8%)
Emoticons	13 (16.5%)

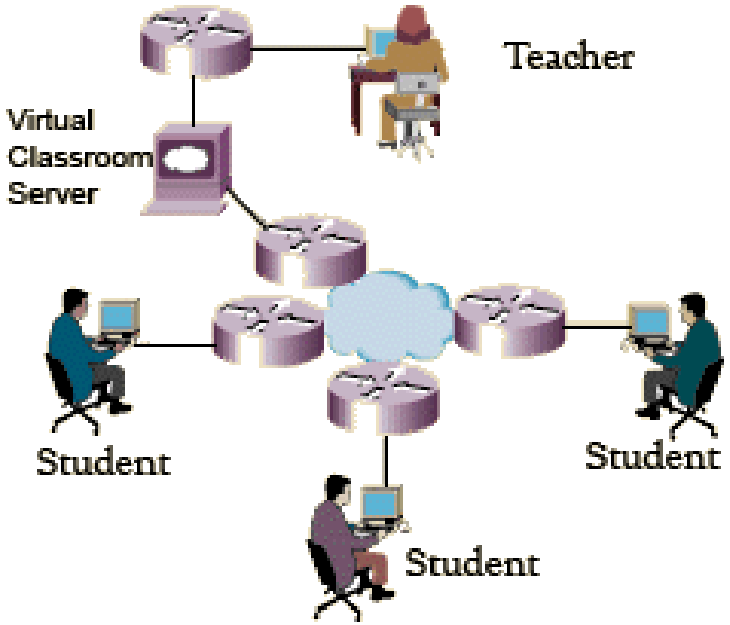
Results from a study by Martin and Parker (2014): Use of Synchronous Virtual Classrooms: Why, Who, and How? In: MERLOT Journal of Online Learning and Teaching, vol10, no 2, June 2014

Table 7. *Respondents' frequency of use of virtual classroom features*

Feature	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	All the Time (5)	*M*	*SD*
Archiving the session	2 (2.8%)	17 (23.9%)	13 (18.3%)	28 (39.4%)	11 (15.5%)	3.41	1.10
Viewing the webcam	7 (12.3%)	9 (15.8%)	11 (19.3%)	20 (35.1%)	10 (17.5%)	3.30	1.28
Audio chat	8 (11.9%)	13 (19.4%)	15 (22.4%)	24 (35.8%)	7 (10.4%)	3.13	1.21
Text chat	11 (15.5%)	13 (18.3%)	16 (22.5%)	26 (36.6%)	5 (7.0%)	3.01	1.21
Sharing web links	12 (17.9%)	13 (19.4%)	16 (23.9%)	20 (29.9%)	6 (9.0%)	2.93	1.26
E-board	10 (16.4%)	14 (23.0%)	14 (23.0%)	19 (31.1%)	4 (6.6%)	2.89	1.21
Hand-raising	11 (16.7%)	19 (28.8%)	9 (13.6%)	22 (33.3%)	5 (7.6%)	2.86	1.26
Application sharing	12 (18.2%)	13 (19.7%)	19 (28.8%)	16 (24.2%)	6 (9.1%)	2.86	1.24
Breakout rooms	15 (28.8%)	17 (32.7%)	6 (11.5%)	11 (21.2%)	3 (5.8%)	2.42	1.27
Polling	21 (36.8%)	10 (17.5%)	12 (21.1%)	13 (22.8%)	1 (1.8%)	2.35	1.25
Emoticons	20 (33.3%)	15 (25.0%)	11 (18.3%)	13 (21.7%)	1 (1.7%)	2.33	1.20
Guest access	20 (36.4%)	15 (27.3%)	12 (21.8%)	7 (12.7%)	1 (1.8%)	2.16	1.12
Listening to the audio via phone	13 (30.2%)	16 (37.2%)	8 (18.6%)	6 (14.0%)	0 (0.0%)	2.16	1.02
Downloading the archive	19 (42.2%)	11 (24.4%)	8 (17.8%)	4 (13.3%)	1 (2.2%)	2.09	1.16

E-MODERATOR

- Students and moderator
- Remotely give moderator rights to students (share their documents applications)

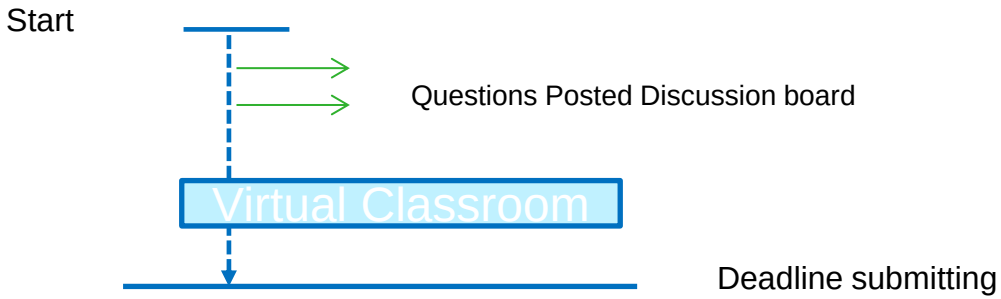


WHY BLACKBOARD COLLABORATE?

- Comparison between different software…….Skype, Google Handout, Adobe connector, WebEx. (stand-alone communication tools)
- Collaborate was chosen because it provides not only communication but is part of the learning environment (combines Powerpoint, polling, question-answer, breakout rooms)
- Requires low bandwidth (African students)
- Cost (no license on the student side and installation student side easy (computer dependent))

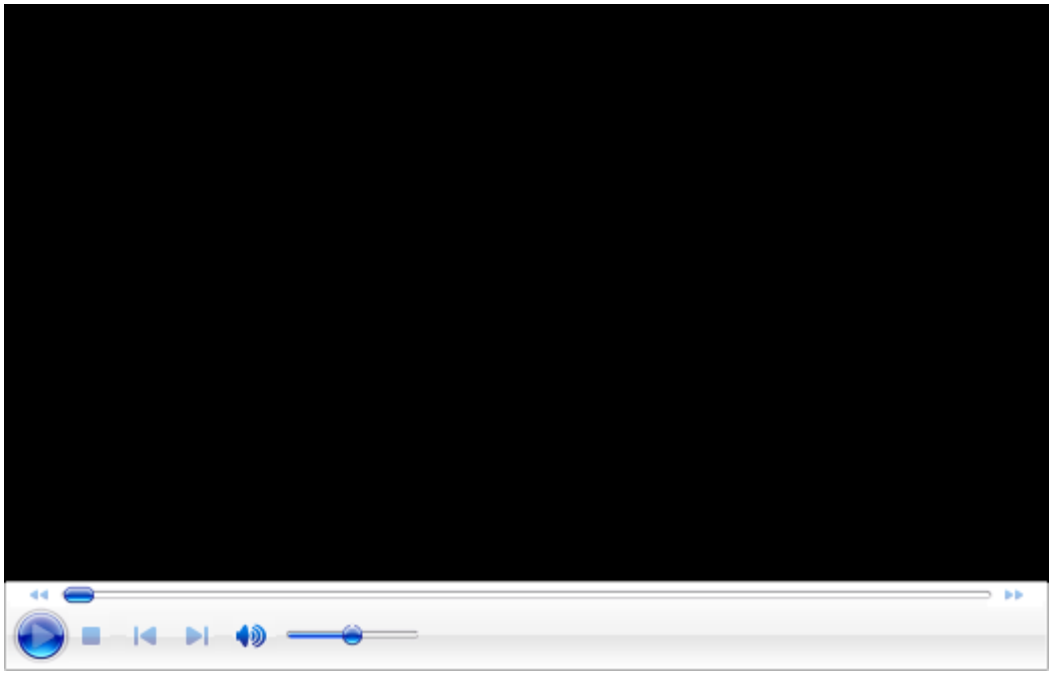
ACTUAL CLASSROOM EXAMPLES

- Used in a Blended Learning setting (not in a taster package)
- Students are “blended learners” currently in a 12 week period of E-learning
- They have to submit several “Tasks” that involve theory but also working with software
- Flipped classroom approach
- Timing of the sessions
- Work in groups of two teachers



ACTUAL CLASSROOM EXAMPLES (1)

- Welcome students and test the connection…….

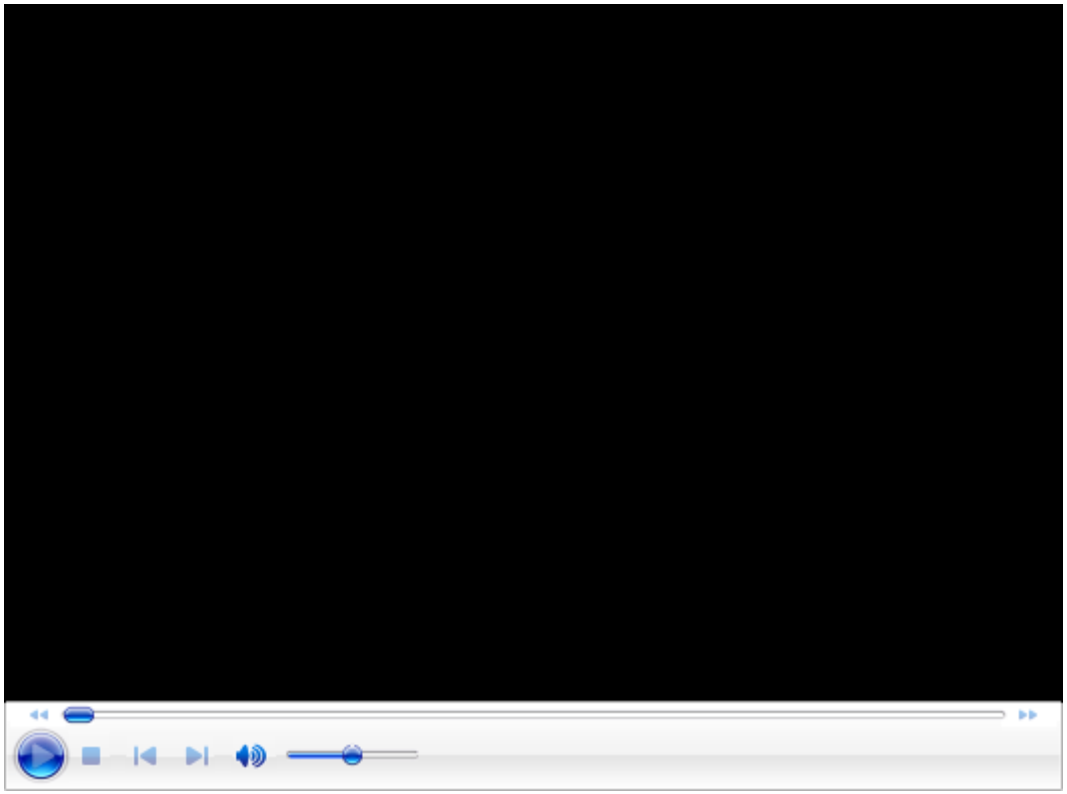


ACTUAL CLASSROOM EXAMPLES (1)

- Making sure that every student is “tuned” is not always easy
- Difficult to work with very large groups
- When you repeat this type of session with the same group of students this will be easier

ACTUAL CLASSROOM EXAMPLES (2)

- Question and answer sessions…..

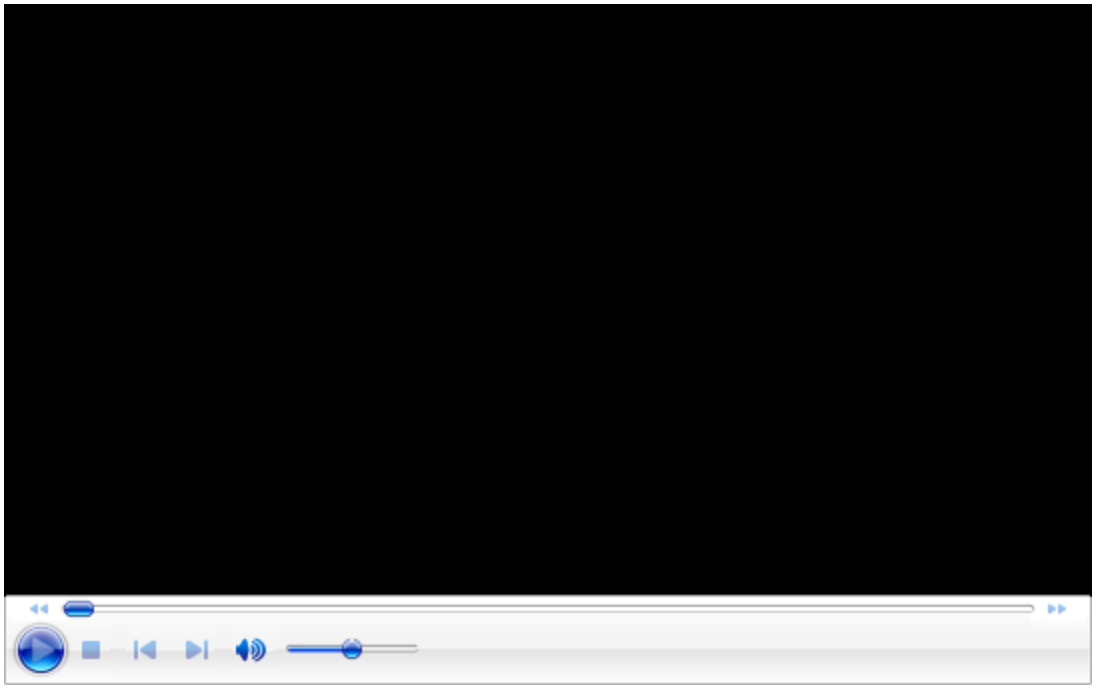


ACTUAL CLASSROOM EXAMPLES (2)

- Not a very suitable medium for questions based on previously studied work…
- Student attend the session just in case something interesting pops up but are inclined to listen
- It is not easy to make students participate actively…..this is not their natural behavior

ACTUAL CLASSROOM EXAMPLES (III)

- What about sharing desktop to demonstrate practical elements of the course?



ACTUAL CLASSROOM EXAMPLES (III)

- Students are far more active and willing to participate the moment that we show them how to do certain things (in this case in software) and are willing to share their problems and further needs for support

BEST PRACTICES FOR DELIVERING VIRTUAL CLASSROOM SESSIONS

- Prepare and practice until you know the software completely (we had teacher training sessions)
- Rehearsal (before you have a session, make sure you have all materials ready) – you will not have time to search
- Make sure the goals of your class are clear and match the interests of the students
- Engage students often (make everybody feel important) – let them play an active role
- Frequently ask a feedback from students (agree – disagree via emoticons)
- Ask students to use the “step away” emoticon when not actively participating
- Use a co-instructor

CONCLUDING COMMENTS

- We use virtual classrooms in both an open and closed session (but for open students need a link to enter the session)
- Only works for small groups and in a synchronized way (not suitable for MOOCs)
- Real time and a two-directional communication
- When recorded you can Publish link on website (make it open)

HOW OPEN IS OUR EDUCATION?

Why not a MOOC?

- The total number of students needed for a MOOC is more than our potential student "reservoir"
- We would like to be flexible in the number of times and the time we run a taster package session
- We would like interaction between students and teachers

OER (for the taster packages):

- Select your own learning content
- Study at your own location
- At your own speed
- No entrance requirements
- ……with teacher interaction

Degree courses

- We try to combine **open in the mode of education** with **degree** courses (not open)

CHALLENGES AHEAD

Virtual Classroom sessions

- Improve my own skills in using Virtual Classrooms (what works, and what does not work)
- Experiment with other software
- Apply Virtual classroom sessions in open education (combined with OER in a flipped classroom session)

Open Education Resources

- Not only make materials available but make teachers available to motivate students, enhance social elements in learning and reduce drop-out rates in distance learning.

Wat is open education?

Bij open education gaat het niet alleen om de leermaterialen of 'ingeblikte colleges', maar ook om diensten (dlwo, toetsing, certificering) en onderwijsinspanningen (de 'menselijke inbreng' van o.a. docenten).

➢zie ook artikel Fred Mulder en Ben Janssen in het Trendrapport OER 2013 (http://www.mindz.com/plazas/SURF_Open_Educational_Resources/book/2013_06_Open_(het)_onderwijs)
en presentatie Fred Mulder tijdens het Open Education evenement op 13 maart 2013 (http://www.youtube.com/watch?feature=player_embedded&v=2vUKeaLZB6A)