

DEVELOPING AN ONLINE COURSE IN COMPUTER-SUPPORTED COLLABORATIVE DESIGN (CSCD)

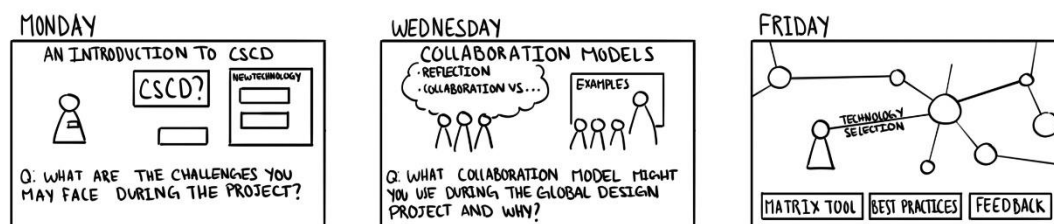
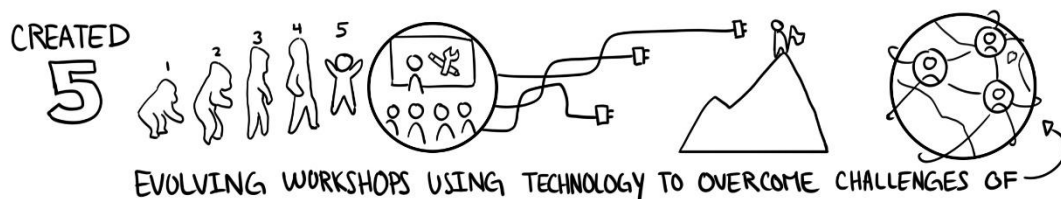
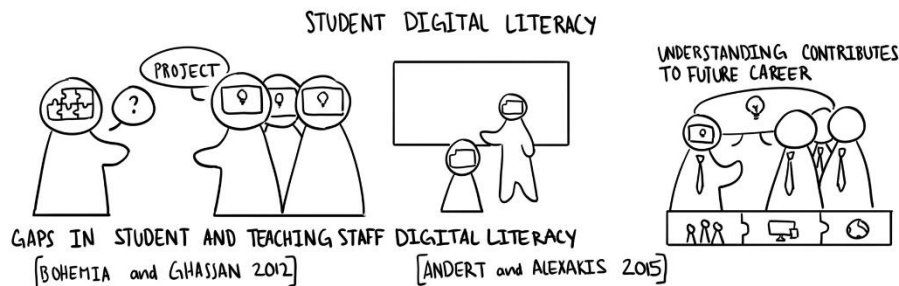
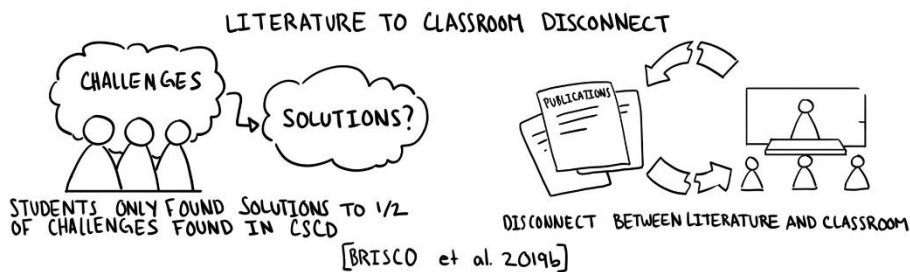
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ABSTRACT

WHY DO WE NEED A COURSE TO TRAIN STUDENTS IN COMPUTER-SUPPORTED COLLABORATIVE DESIGN?

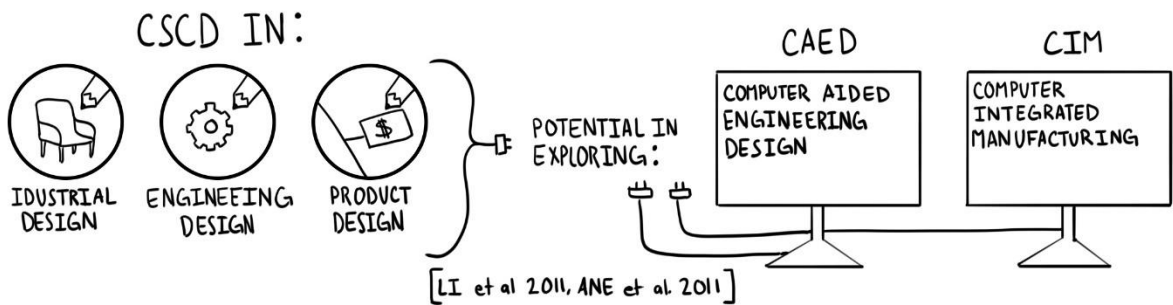
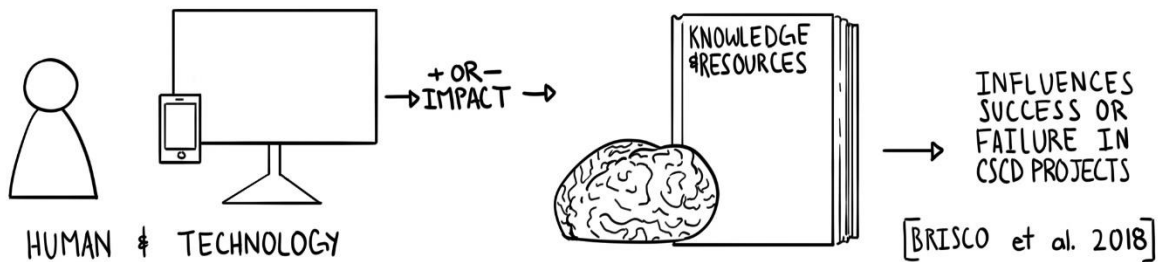
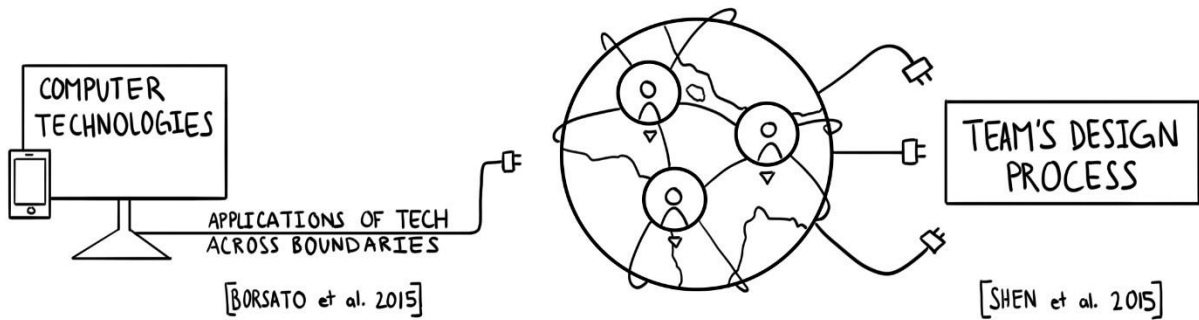


Keywords: Global design, distributed design, collaboration, online teamwork, project-based learning

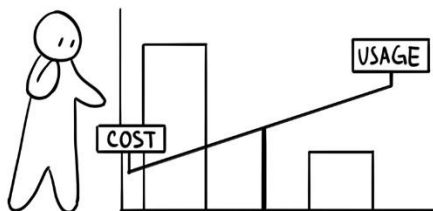
1.0 INTRO

1.1

WHAT IS COMPUTER-SUPPORTED COLLABORATIVE DESIGN (CSCD)?

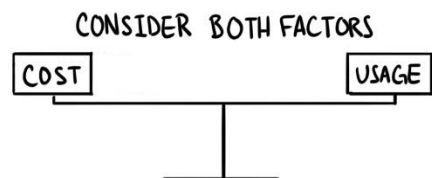


STUDENTS CONSIDER COST OVER USAGE



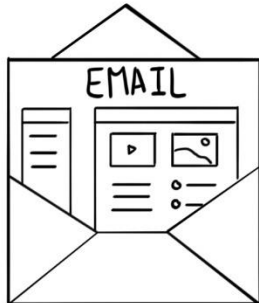
LEARNING
FILL THE GAP

[HSU 2013]



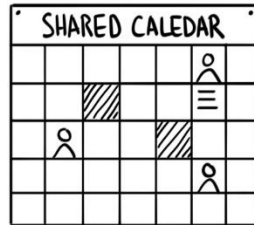
1.2

HOW MIGHT PEOPLE COLLABORATE ONLINE?



EMAIL

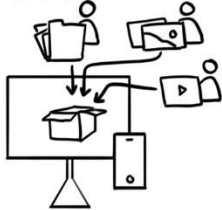
- COMMON TOOL
- USED BY STUDENTS LESS OFTEN
- DISPLAY ENHANCED MULTIMEDIA



SHARED CALEDAR

- SCHEDULE
- FIND COMMON TIMES
- MANAGE AND SHARE INFORMATION

SHARED STORAGE



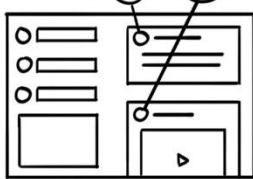
- SHARE DOCUMENTS
- IMMEDIATE ACCESS
- PRIVATE OR CLOUD

VIDEO/AUDIO CONFERRING



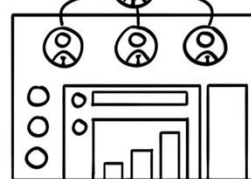
- CONVEY NUANCE
- PHONE OR INTERNET
- SHARED SCREENS, POLLING, NON-VERBAL COMMUNICATION

SOCIAL NETWORK SITES



- POPULAR
- SEND, STORE, NOTIFY, TAG, POLL
- PERSONAL AND SOCIAL

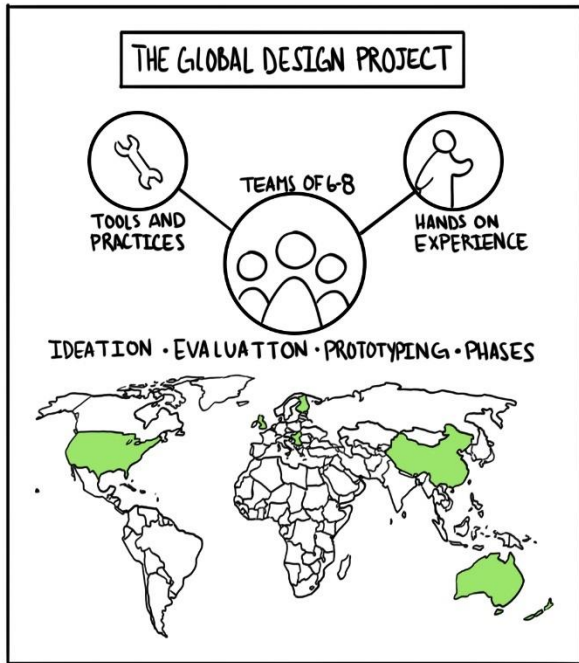
GROUP MANAGEMENT TOOLS



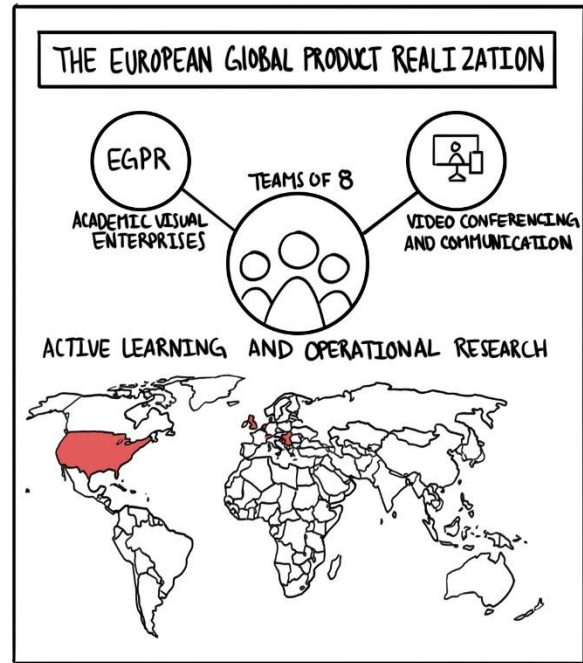
- GREATER AWARENESS FOR OTHER'S WORK
- SHARING, TAGGING, AND NOTIFICATIONS
- INTEGRATED STORAGE, CONFERRING, CALEDARS, AND MESSAGING



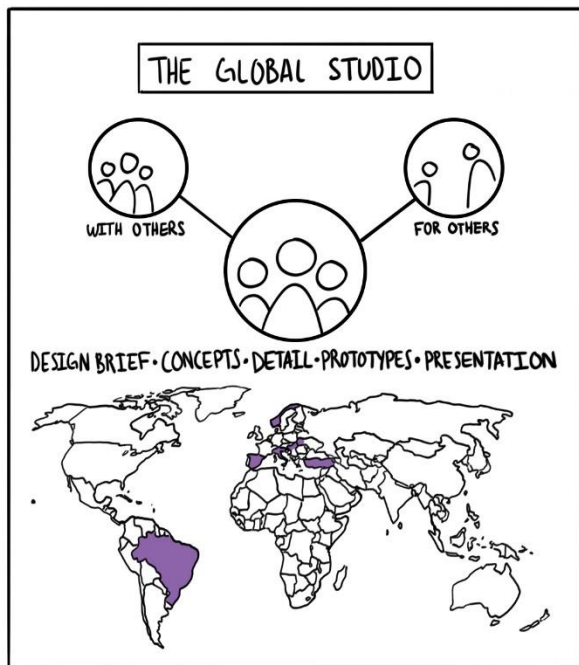
TEACHING GLOBAL DESIGN?



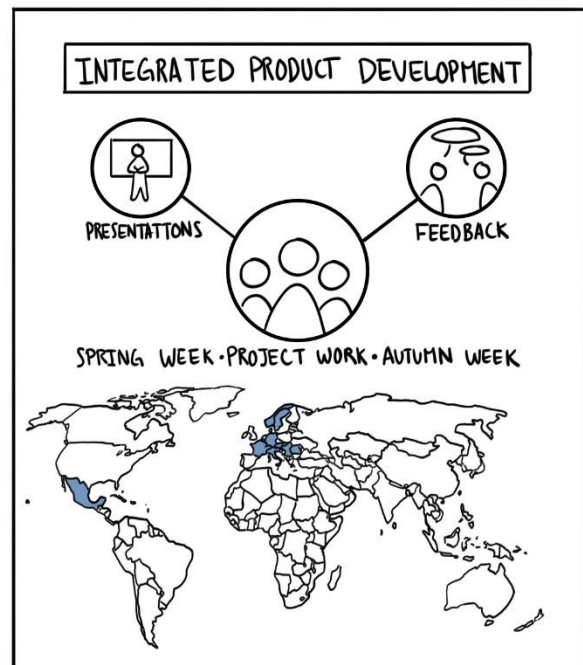
[BRISCO et al. 2019]



[KOVACEVIC et al. 2018]



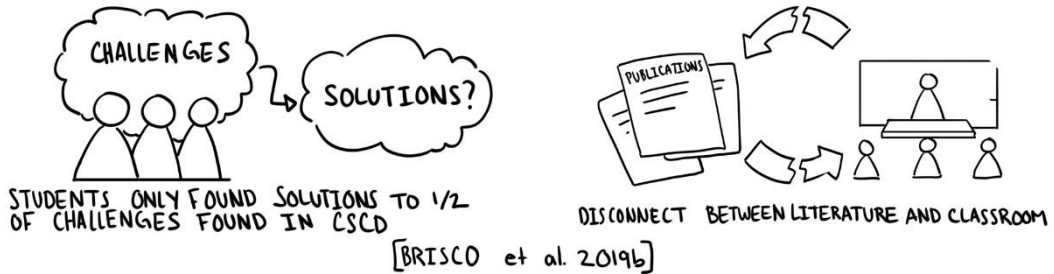
[BOHEMIA et al. 2012]



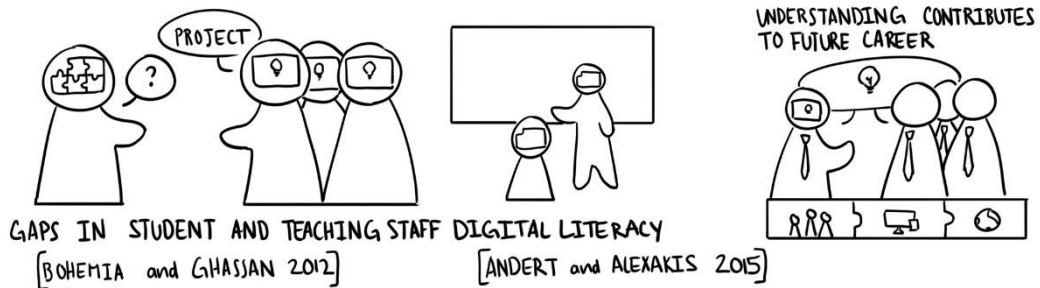
[EL BADAWI EL NAJJAR et al. 2016]

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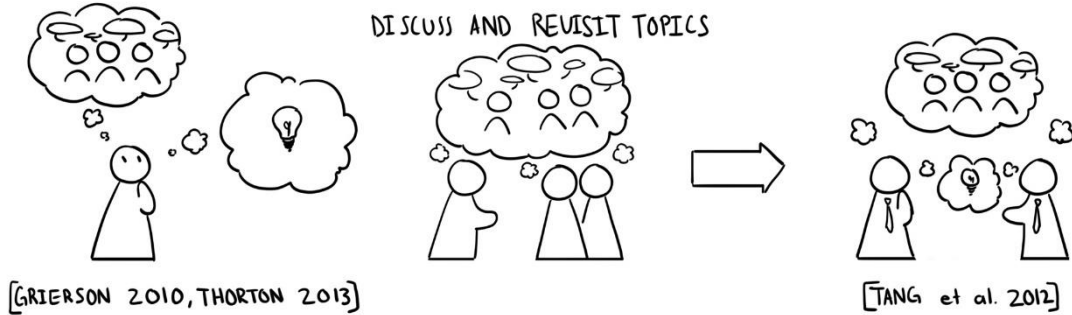
LITERATURE TO CLASSROOM DISCONNECT



STUDENT DIGITAL LITERACY



REFLECT ON TEAM INTERACTIONS



SUPPORT EDUCATIONAL THEORIES



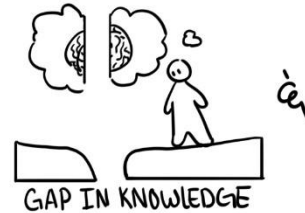
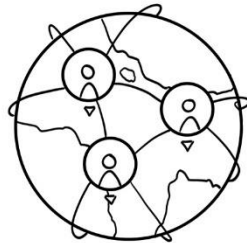
1.5 PROBLEM STATEMENT

HOW MIGHT WE USE



EXPLORATORY WORKSHOPS

TO



PROPERLY PREPARE



TO



CSCD PROJECTS



2.0 METHOD

2.1

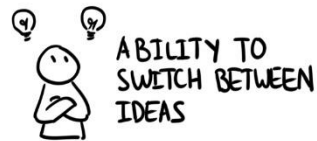
HOW TO SUPPORT AND EXCHANGE IDEAS, ARTEFACTS, AND DOCUMENTS

2.1.1



[GOSPILL et al. 2013]

2.1.2



[HERRMANN et al. 2013]

2.1.3 USING ARTEFACTS IN IDEATION



[GOSPILL et al. 2013]

2.1.4 ALLOW FOR CRITIQUE



[GOSPILL et al. 2013 and IACOB et al 2011]

2.1.5 ARTEFACTS CAN BE MODIFIED



[XIE et al. 2010]

2.1.6 INCORPORATE PROBLEM SOLVING ACTIVITIES

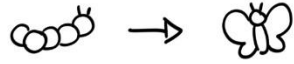


[FRUCHTER et al. 2010]

2.1 CONTINUED

2.1.7 TRANSFORMATION OF SUPPORT

IDEAS TO CONCEPTS



[HANSEN and DAISGAARD et al. 2012]

2.1.8 COMMUNICATION & DOCUMENTATION



[FRUCHTER et al. 2010]

2.2

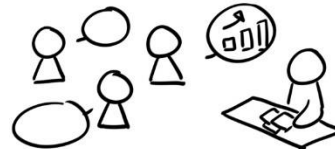
HOW TO SUPPORT REASONING AND DESIGN DISCUSSION OF DESIGN DECISIONS

2.2.1 CREATE FORUM TO SHARE OPINIONS



[CHO and CHO et al. 2014]

2.2.2 ALLOW ALL TO SUGGEST DESIGN CHANGES



[HANSEN and DAISGAARD et al. 2012]

2.2.3 TECHNOLOGY SUPPORTS OPPORTUNITIES TO NEGOTIATE



[CHO and CHO et al. 2014]

2.2.4 RANKING OF CONCEPTS



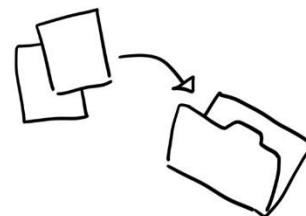
[IACOB et al. 2011]

2.2.5 ENCOURAGE FREQUENT DECISION MAKING

M	T	W	T	F	S	S
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				✓		
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						*

[FRUCHTER et al. 2010]

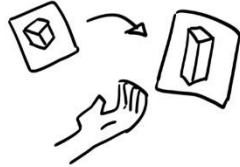
2.2.6 DOCUMENT DECISION MAKING



[HANSEN and DAISGAARD et al. 2012]

2.2 CONTINUED

2.2.7 SUPPORT IMPLEMENTATION OF DESIGN CHANGES



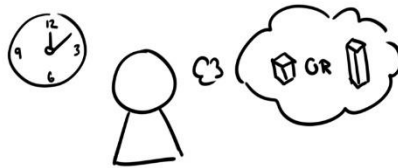
[HANSEN and DAISGAARD et al. 2012]

2.2.8 ALLOW ASKING OF CLOSED QUESTIONS



[FRUCHTER et al. 2010]

2.2.9 TIME TO REFLECT ON DESIGN



[HANSEN and DAISGAARD et al. 2012]

2.3

HOW TO SUPPORT COLLABORATIVE DESIGN ACTIVITIES

2.3.1 SUPPORT COLLABORATIVE DISCUSSION WITHIN TEAM



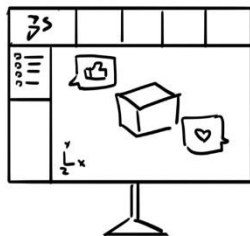
[IACOB et al. 2011 and GORSILL et al. 2013]

2.3.2 SUPPORT CO-CONSTRUCTION



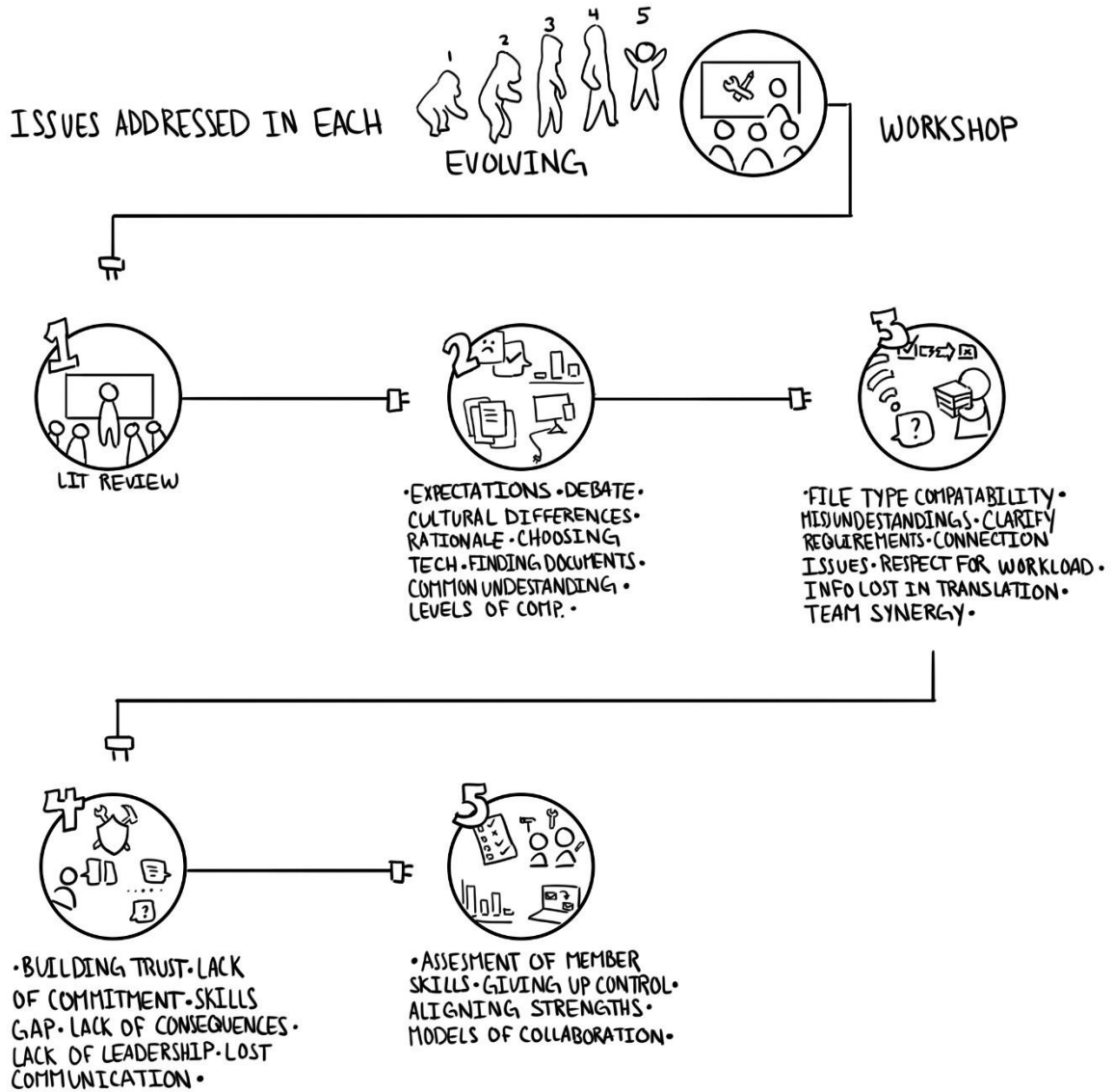
[RAPANTA et al. 2013]

2.3.3 INTEGRATE COMMUNICATION INTO DESIGN SOFTWARE



[IACOB et al. 2011 and HORVÁTH et al. 2012]

CREATION OF FIVE WORKSHOPS



3.0 RESULTS

3.1

10 BEST PRACTICES FORMED TO SOLVE THOSE PROBLEMS

1. EVALUATE BEST TECHNOLOGY TO USE, DON'T BASE IT ON POPULARITY

	✓ ✓ x ✓
	x ✓ x x x
	x x ✓ ✓
	✓ ✓ ✓ x

2. CONSIDER CHALLENGES TO COLLABORATION BEFORE BEGINNING THE PROJECT



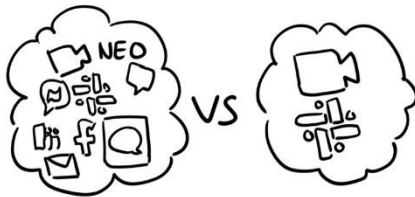
9. TEAM EXPECTATIONS NEED TO BE DISCUSSED AND AGREED ON



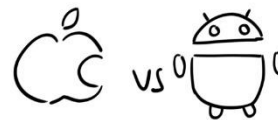
3. BE CRITICAL, TEST TECHNOLOGY AND PRACTICES AND CHANGE THEM AS REQUIRED



4. CHOOSE LIMITED NUMBER OF TECHNOLOGY TO KEEP COMMUNICATION SIMPLE



5. SUPPORT ALL COMMUNICATION METHODS REQUIRED AND DEVICES USED



6. SUPPORT FOR REQUIRED FUNCTIONALITIES THROUGHOUT PROJECT

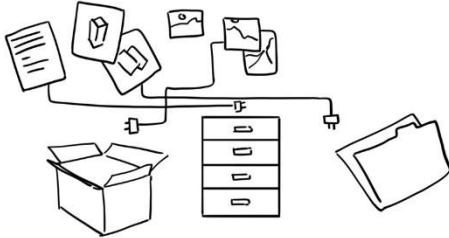


7. AWARENESS OF OTHER TEAM MEMBER'S WORK TO DEMONSTRATE COMPETENCY AND TRUST

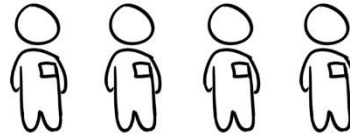


3.1 CONTINUED

8. DECIDE ON TEAM PROTOCOLS OF STORING AND SHARING KNOWLEDGE

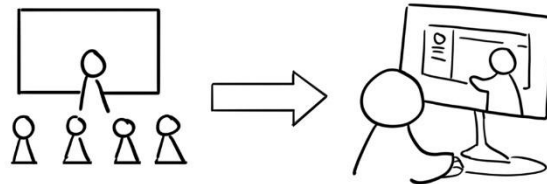


10. TEAM ROLES SHOULD BE ASSIGNED TO ENSURE DATA IS RECORDED AND THERE IS REGULAR COMMUNICATION



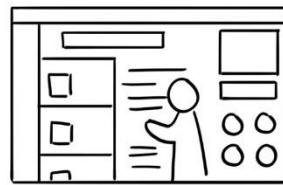
3.2

HOW DO WE MAKE AN OFFLINE WORKSHOP AN ONLINE COURSE?



BY USING

NEO LMS



ONLINE LEARNING PLATFORM

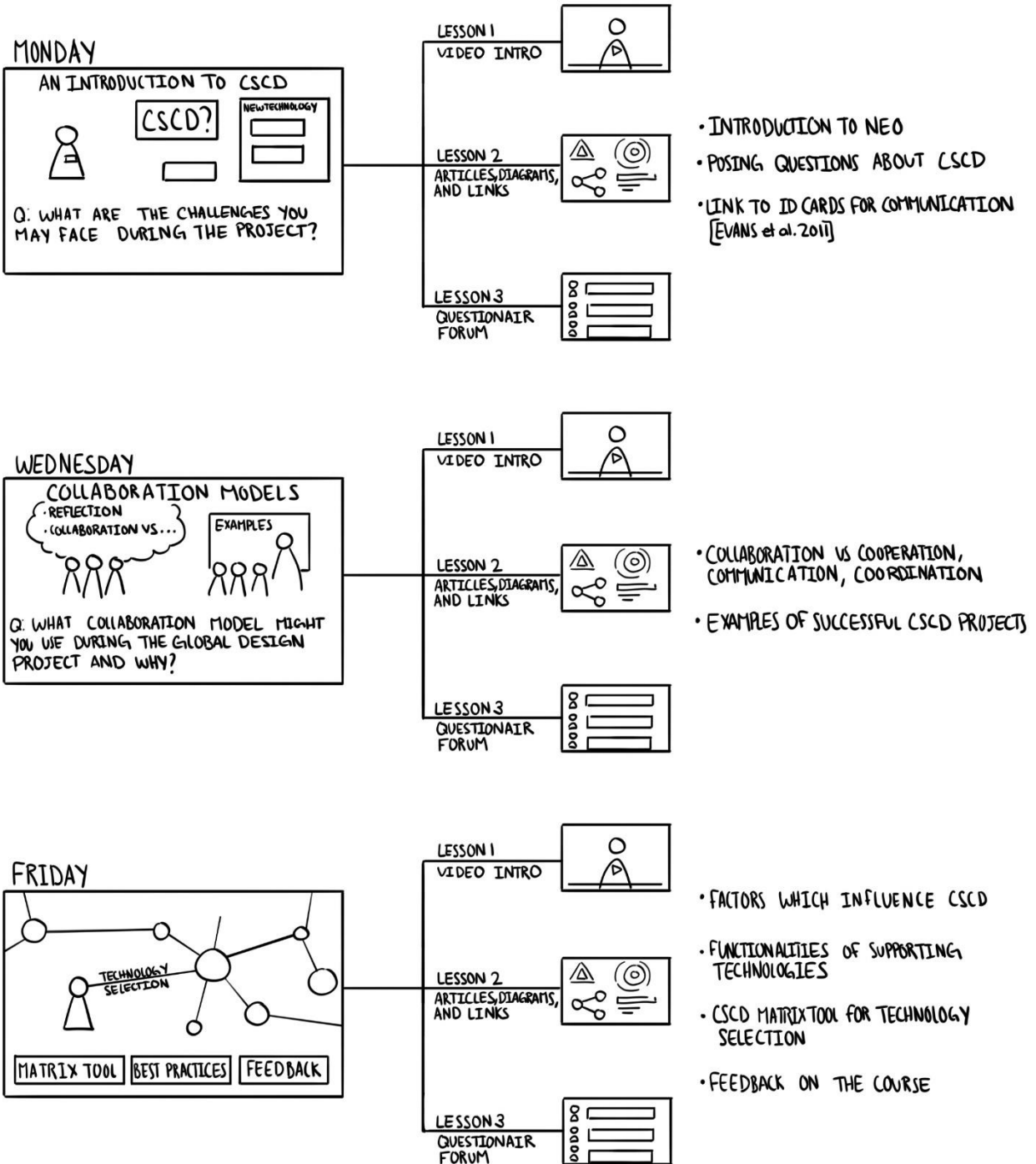


ETC.

ALLOWING YOU TO BUILD ONLINE COURSES

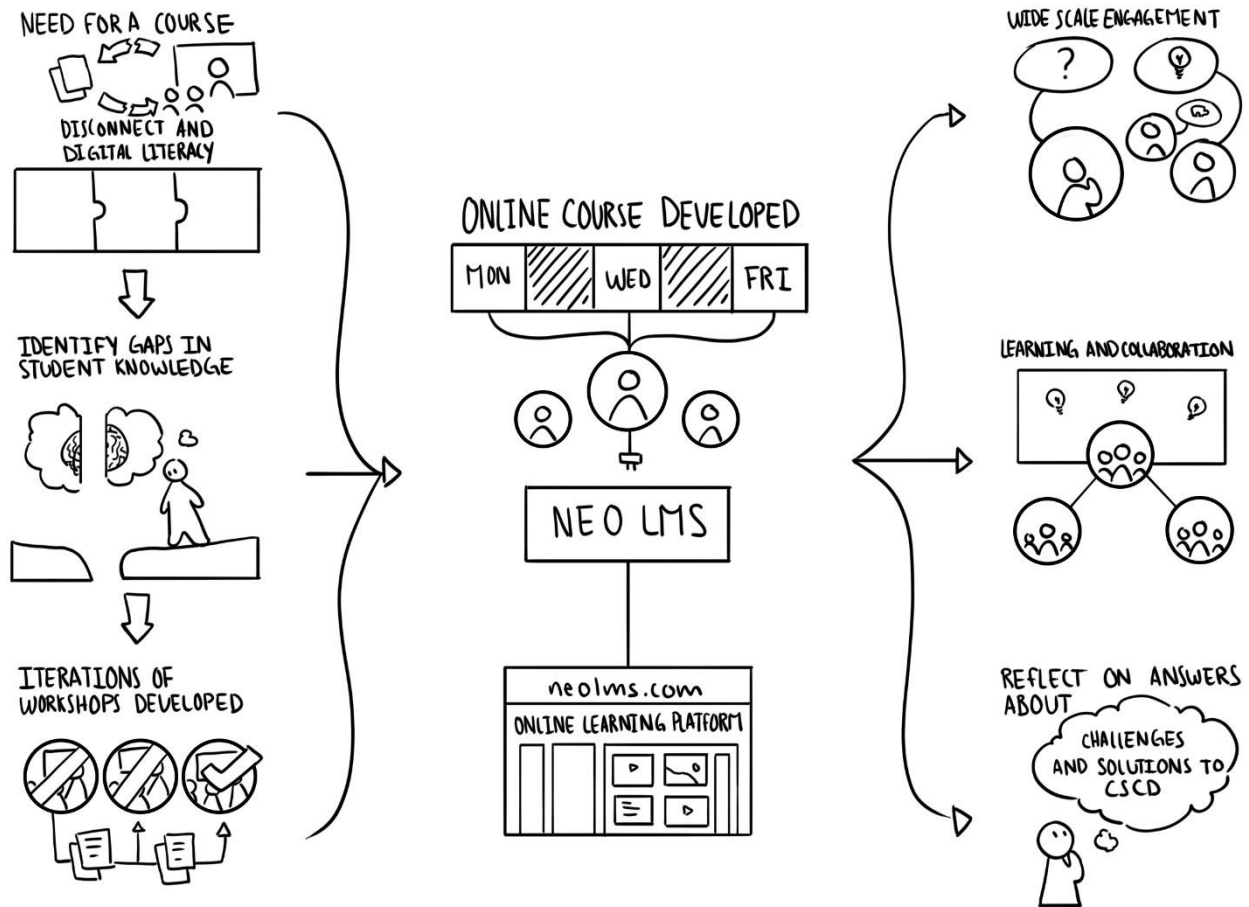
3.3

FORMAT OF THE ONLINE COURSE



4.0 CONCLUSIONS

DEVELOPMENT OF AN ONLINE COURSE IN COMPUTER-SUPPORTED COLLABORATIVE DESIGN (CSCD)



THIS ONLINE COURSE IS AVAILABLE FOR YOU.

FOR MORE DETAILS ON THE COURSE, CONTACT ROSS BRISCO: ross.brisco@strath.ac.uk

ACKNOWLEDGEMENTS

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