

Presentation of qualitative findings

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Procedure qualitative content analysis



1. Initial text work
2. Coding along deductive main categories
3. Building of subcategories inductively
4. With the resulting category system, the material was coded again



- **Human Dimension**

„If I can say it in two words. The human dimension is missing.” (R1.2)

“Yes, I fully agree with my colleagues, just a little bit additional topic here. I think working online slows down our social intelligence.”(R1.6)

“And they find it even more difficult maybe to interact with other people. So this human interaction is not their best after Covid. So they need to train again and to speak to people and just talk about the weather or whatever. So they become more human” (R3.3).

“Yeah, because when you’re online you’re not seeing the person and you can say whatever you want and you don’t see the reaction of the person and you don’t, you know, you lose the social [ethics] for dealing with people.” (R3.3)



- **Hiding behavior**

“But it basically works only if everyone got the camera on. And that’s one of the other challenges to get everyone to be happy to leave the camera on, because many of them switch it off and go back to the icon.” (R1.1)

“The most important problem which I observed during this as an instrument Process is that the student feels themselves more comfortable when they do not open their cams. The question is how can we motivate the students to open the cams and make a positive contribution to the lectures.” (R1.9)

“To my mind, you can provide theoretical information in an easier way during virtual classroom, but it becomes difficult to follow students’ progress. Students become more responsible for their own learning.” (R4.2)



- Facilitator

“Basically facilitating activity to make sure that those who are not volunteering are also be included without giving them a feeling that they are picked on. So, we have to have skills enabling us encourage participation gently”. (R1.1)

“Teachers had to be facilitators, mediators (...)”. (R1.4)

“Yes, in this case teacher or trainer has to obtain also a role as a moderator or facilitator, but it is a new role”. (R4.5)

“(...) not all teachers or trainers know how to moderate or facilitate learning process”. (R4.1)

Changing Role for the instructor (2/2)



- **Mentor and Motivator**

“we have more things to do the role is changing. Most difficult one for me is to motivate people. Because the best motivation is self motivation. So if they are not motivated to join to learn is very difficult. The teacher here needs to motivate. And I think this is the most challenging point. When people are hidden behind their cameras.” (R1.6)

“Need to find different ways to motivate learners, get them to participate, ensure that they do not get lost, especially if there is a big group.” (R3.2)

“A teacher cannot just teach the subject but also has to show to students on how to draft their personal learning schemes, must follow them in order to show the right path for getting better outcomes” (R41)

“I agree with everything which was already mentioned before. You need to be ready and open to get in touch with this new way of teaching and technical possibilities.” (R1.5)



- “This is another way to play the game. Basketball has a ball also but there are totally different games. The only common point is the have balls. So, you have to be self-motivated and find out how to play the game before you play it. And you have to find out interesting instruments, the way you are going to teach or the way you are going to motivate the students. Otherwise it cannot function. (R1.9)
- “Yes, I think as a teacher you have to be more structured and more prepared. You have to organize more things in advance because you cannot leave it open. Because that can create chaos in an online setting.”(R1.3)
- It takes different preparation (R3.3)
- “the way teachers deliver and design the course, as well as the supporting material included in the learning design are changing. Necessary to change the way teachers prepare learning material and the type of material used.” (R2.8)



- **Create a safe space**

“we have to create a comfortable environment and allow making mistakes and do not put them under pressure.” (R1.5)

“Yes I would like to come back with the Idea of a safe environment and the trust building environment that the student feel comfortable and encouraged. Any Question any answer is fine. I think this will be a good way of interaction.” (R1.2)

- **Increase variety**

“I think again it is orchestration of learning. Providing multiple channels of interaction.” (R1.3)

“addressing good questions and providing a change in tools after 20 mins”.(R1.7)

“I agree. Making students take part actively with questions, study cases and changing between different tools” (R1.8)

various activities: polls, breakout (or breakdown (smile) rooms, pair work, case studies. using digital whiteboard, e.g. Jamboard, Padlet, Mentimeter, etc. Fun activities related to their context & the business world” (R1.4)



- **Small Groups to create social relationships**

“in order to maintain the level of interaction and engagement, you have to re-design the way you teach and be more agile. In a virtual space, you need to make sure that there are group dynamics that can operate regardless of the trainer/facilitator. To do this, you need to break them in teams. Teams should not be broken up too often (changed), as it negates the relationships that are building. This should stimulate a learner to build relationships amongst themselves for the duration of the training, helping them stay engaged not only out of respect/commitment, but also because of their small group dynamic.”(R2.7)

“I believe an effective way to engage the students using online methods is maybe to divide the students into groups, in different spaces. Just to make it more interactive and engaging. I’ve worked with that before and it’s a very useful idea. Giving them [assignments] in groups and using breakout rooms.” (R3.2)

“That is true. Nowadays, most effective courses, most successful are teachers who [do that] exactly. Divide them into groups, give them one assignment” (R3.7)



- **Technology access**

At the same time, it's the accessibility of the technical equipment. Depending on which class people are in. So if they are lower class or middle class or higher class. So those who are living in poverty maybe don't have access to the tools required to use online studies. (R3.3)

“We need to have equal access to technology. Every single kid, adult and person needs this equal access to advanced technology.” (R2.3)

“My problem is the internet connection if you are working with people from outside Europe.” (R1.6)

- **Lacking technology literacy**

„Because the times force us to change our environment, it's very important that teachers, students, we all learn how to use technology” (R3.6)

“Yeah, some people can only use mobile, to call and something like that, but they cannot even use social media. So it's challenging for some people.”(R3.4)

“Yes, specific skills are needed in order to create collaborative learning environments. I suppose that to design a course online you need ICT knowledge, skills.” (R4.3)



- **Dynamic heterogeneity**

“Biggest challenge is that not everybody is using the same technology. Big problem with trying to show videos; not everyone has the right tools installed on their machines. Difficult to monitor who has what and ensure that all participant will be using the same tools at the same time and with the same quality.” (R2.3)

“The point of the data security. For example, I use one tool get along with it and then the laws for data security force us to use something different. That means we have to be flexible there. To get along then with the new technology. I think we are not at the end the rules can further change. Changing technology and changing rules.” (R1.5)

Application related assistance beforehand and support on the go



- “Here I refer back to an old idea to run moocs. That not only for the prepies you know that from the (Ivy league) universities in the states, that before you entering a course you have to run moocs (...) That could be a good Idea to provide a specific mooc. I know it demands and requires a lot of preparation, but it would help a lot”. (R1.7)
- “I suppose short training sessions on how to create online classroom, how to use various digital tools would be fine. Also the best would be to have an expert who could assist everytime the problem arises or every time I have some difficulties.” (R4.2)
- “It all has to happen beforehand because if you leave it too late, you can’t do that instead of content. People will feel less confident and that reduces their preparedness for interaction.” (R1.1)

Design

(participants had problems to express it in words)



- Easy and Intuitive design

“For me comes user-friendliness when everyone the students and the teacher fully know how to use the tool. Then it makes fun to use it but we need to be both on the same level”. (R1.2)

“I think that the digital platform where to create courses must be easy to use and intuitive.” (R4.5)

“If I could have a one click setting between one thing and the next. Super! The moment I have to do this do that do this... I have to write it down. I make myself step by step instructions just to use the tool. That’s not user-friendly. So, if we have something like one click and you are into a breakout room on click and you are back out again.” (R1.1)

- Limited features

“Yes, some easy tools which also allow easy collaboration methods between teacher and the student.” (R4.6)

“But especially some tools which also permit for the educator to follow the progress of every student. “ (R4.3)



- **Investments and divergent budget priorities**

“I think it goes down to budget priorities and many of them say we have a budget, that a lot of money we have invested in one thing they rather spread it over others and say we rather do that later.” (R1.1)

“Yes, you are right! But also educational institutions still are not ready for blearning, online classrooms because they must do further investments.”

(R4.5)

“Educational institutions must invest time and financial resources in this because it has become nowadays and the educational world is moving.”(R4.3)

- **Change**

“unwilling to adapt to new tech or just fear and anxiety”(R1.7)

“no need to challenge their comfort zone“.(R1.3)

“Digitalisation gap is often motivated due to fear of doing something new”
(R1.8)



- **Educational background**

„We have students having enormous difficulties for giving any feedback because they have never been encouraged in their country, because they have never been encouraged to criticise or to discuss and this has enormous implications in our teamwork as we all as when they are here in Germany working in multicultural teams. So there are many things based on their prior life in their country how they have been educated and raised upon.” (R1.2)

“So first of all we need to know what's their background some homework needs to happen here. The big lesson what I had here is never to judge without really being sure what is behind the words and the writings.” (R1.6)

“The most challenging were people from Indonesia as they tend not to ask any questions. They only participate when they are asked. They will not volunteer to contribute to the workshops.” (R2.6)

“The major challenges were cultural differences what regards the way of learning. How did I solve it? It was a difficult process... but I encouraged a lot self-learning.”(R4.2)



- Language

“For me the most challenging was the language barrier.” (R4.3)

“the Swedish language is not familiar for them. And the computer language is not familiar for them either, because you have to use the English or “press here” or “esc” or these things also. So some of them are illiterate when it comes to the technology.” (R3.3)

“Some people have quite good language skills others are very nervous about their skills. And the more nervous they are about their linguistic competence the less likely they are to contribute lengthy answers or even contribute to lecture at all. Because they already put themselves on the scale oh I am not very good everybody else is much better than me. Therefore, I just listen.”(R1.1)



- In the first interview, the experts agreed with the factors from the literature (time, fees, certification...) and acknowledged the need for uniform standards for course participation.

“When I give the task of preparing a presentation. The students from India constantly writing emails could you please give us precise instructions. How do we do it? And my idea when I working with a master student I expecting a little bit more self organization more self-determination” (R1.2)

“I don’t want to sound elitist or anyway racist. But we need to make sure that the students coming in have sufficient linguistic competence to actually do the job of studying in English at this level because we can not break everything down to small easy sentences because their language is not up to it.” (R1.1)



- Apply wider /different perspective

„I think many of us has a more western orientation towards USA or western Europe. I think we need to have a more worldwide perspective with emerging markets as well. We need to have a wider view when using examples for comparison and be aware of the impact.” (R1.1)

“Review everything in light of the participants. Try and educate yourself as a trainer as much as possible. If you are unaware beforehand, let the group guide you.” (R2.7)

- What vs How

„Yeah we use more videos or pictures in the intercultural groups. So one picture speaks more than 1000 words as they say. But we still have to adapt. Because there is no one fix yet. So we’re still experimenting. But the pictures and videos work well.” (R3.3)

“As we are lucky to have so many students from different nationalities with us. I leave the students to present. What is leadership in Iran what leadership in Nepal is. And this is obviously very rich input from native. And then we can discuss and learn from each other” (R1.2)



- **Barrier free technology**

„Inclusive learning for me is giving the participants the chance if they have the technology.(...) This is part of being inclusive. If I don't have the technology, I can not be included in this.” (R1.2)

“To increase inclusiveness, we need to be able to use technology and purchase the right tools e.g. headsets, fast internet, proper laptop (sometimes with multiple screens).” (R2.3)

- **Accepting diversity**

“Yes. It is classroom where students of every ability level receive teaching in the same place. This means that particularly able students learn alongside those who have special educational needs, such as dyslexia, dyspraxia and attention deficit disorder, etc.” (R4.2)

“allow all students to engage meaningfully with the curriculum and achieve their full potential. All students, I mean all students of different social and cultural background, with diverse learning potentials, etc.” (R4.3)



- **Invisible disabilities (ask and adapt)**

“But what you need in the first interview, you tell them, this is things which is natural and happen everywhere in every country. And if you are experiencing some kind of challenges, just tell us and we will help you the best way we can.” (R3.3)

“It is also important then to talk with the student having these disabilities, to assist, to interact and fill the missing learning gaps using different methods.” (R4.3)

“Teacher or trainer should listen to the person with a disability and follow his/her lead in relating to him/her.” (R4.4)



- Hearing and visual impaired
(only two respondents had experience)

“I also have done a lot of work with hearing impaired people. And it is most important especially when they are operating in a loop system that they can see your face.(...) And it is the little things that make the big difference.” (R1.1)

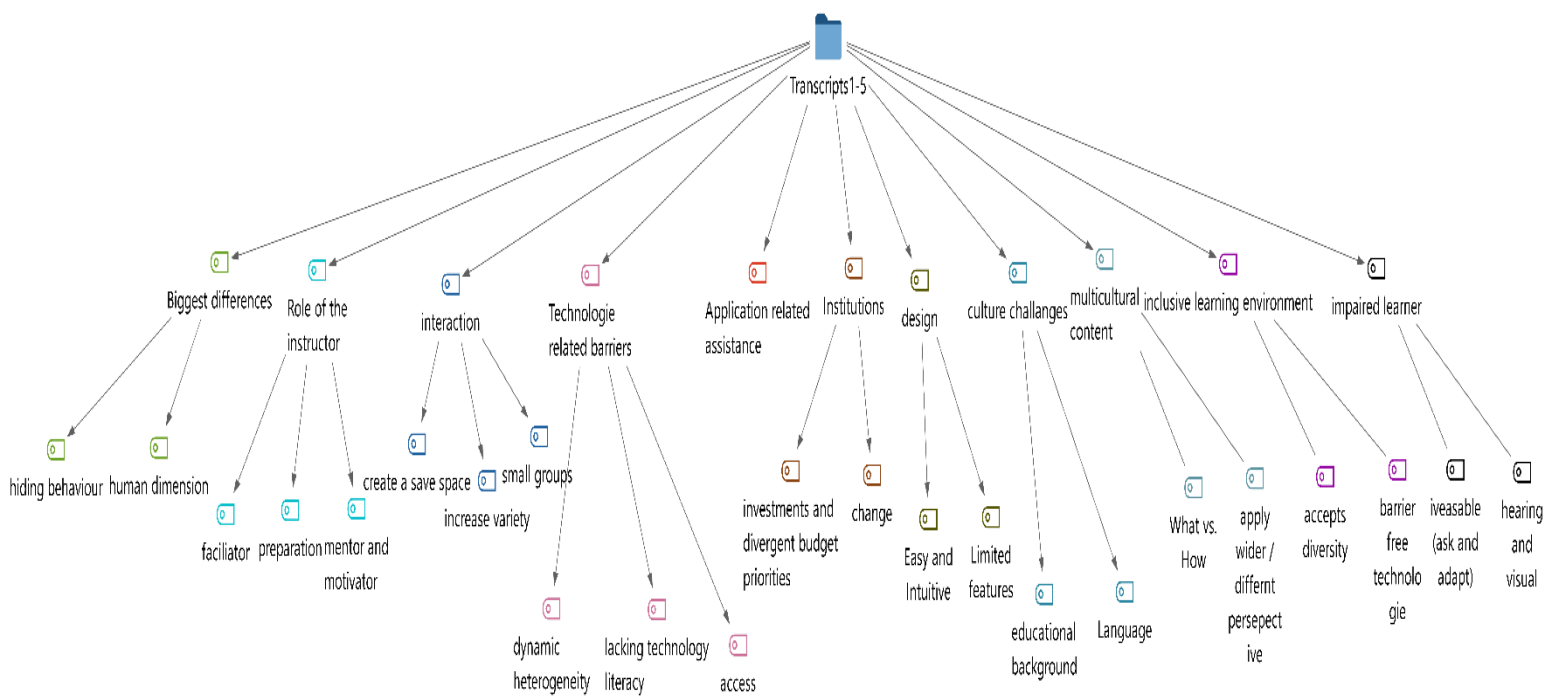
“I had a group of students who were not able to see. It was very challenging because I had to adjust the way I was talking to them to be very descriptive. (...) I felt that I needed more training to face such a class again. It went well, and they absorbed the lesson and were very positive, however it was challenging. I felt that I was not doing the best job for them.” (R2.2)

Qualitative Analysis React Focus Group

Coding Procedure:

1. initial text work
2. coding along deductive main categories
3. building of subcategories inductively
4. with the resulting category system, the material was coded again

Code-Hierarchie



Name	Procedure		Definition	Anchor examples
Biggest differences	deductive		All text passages mentioning the most significant differences to face to face education	“And they find it even difficult maybe to interact with other people. So human interaction is their best after Covid they need to train again to speak to people and talk about the weather whatever. So they be more human” (R3.3)
SC _ Human Dimension	inductive		All text passages referring to missing human dimension.	„If I can say it in two The human dimension missing.” (R1.2)
SC _ hiding behaviour	inductive		All text passages referring to a hiding behaviour of participants in virtual classrooms.	“But it basically works everyone got the camera on. And that’s one of other challenges to get everyone to be happy leave the camera on because many of the switch it off a go back icon.” (R1.1)
Changing role of instructor	deductive		All text passages referring to changes of instructor’s role.	“Yes, in this case the trainer has to obtain a new role as a moderator or facilitator, but it is a new role”. (R4.5)
SC _ Facilitator	inductive		All text passages referring to facilitation.	“Teachers had to be facilitators, mediators (R1.4)
SC _ Mentor and Motivator	inductive		All text passages referring to motivating and	“Need to find different ways to motivate learners, encourage them to participate, ensure that they do not get lost

			mentoring students.	especially if there is a group.” (R3.2)
SC_ Preparation and upskilling	inductive		All text passages mentioning more preparation and the development of new skills..	“Yes, I think as a teacher you have to more structure and more prepared. You have to organize more things in advance because you cannot leave it open. Because that can create chaos in an online setting.”(R1.3)
Interaction	deductive		All text passages that describe methods to ensure interaction.	“I believe an effective way to engage the students in online methods is making small groups, in different sizes. Just to make it more interactive and engaging. I’ve worked with that and it’s a very useful method. Giving them [assignments] in groups and using breakout rooms.” (R3.2)
SC_ small groups	inductive		All text passages that refer to small groups to create strong social relationships.	“In a virtual space, you need to make sure that the group dynamics that you create operate regardless of the presence of a trainer/facilitator. To make sure you need to break the teams.” (R2.7)
SC_ create a safe space	inductive		All text passages which imply that a safe space improves interaction.	“we have to create a safe and comfortable environment and allow making mistakes and do not put them under pressure.” (R1.5)
SC_ increase variety	inductive		All text passages which imply that the instructor should apply changing methods.	“addressing good questions and providing a change of tools after 20 mins”.(R1.3)

Technology related barriers	deductive		All text passages which refer to technology related barriers.	“At the same time, it’s accessibility of the te equipment.” (R3.3)
SC_ access	inductive		All text passages mentioning access as a major barrier.	“My problem is the in connection if you are working with people outside Europe.” (R1
SC_ lacking technology literacy	inductive		All text passages mentioning lacking technology literacy as a major barrier.	„Because the times f to change our enviro it’s very important tha teachers, students, v learn how to use technology” (R3.6)
SC_ dynamic heterogeneity	inductive		All text passages mentioning changing technology and new rules and regulations as major barrier.	“Biggest challenge is not everybody is using same technology. Big problem with trying to videos; not everyone the right tools installed their machines. Diffic monitor who has wha ensure that all partici will be using the sam at the same time and the same quality.” (R
Application related assistance	deductive		All text passages referring to application related assistance as an important factor which needs to happen beforehand.	“It all has to happen hand because if you it to late you cant do instead of content. P will feel less confider that reduces their preparedness for interaction.” (R1.1)

Design	deductive		All text passages referring to design characteristics.	“But especially some which also permit for educator to follow the progress of every stu (R4.3)
SC_easy and intuitive	inductive		All text passages referring to easy and intuitive design	“I think that the digital platform where to cre courses must be eas use and intuitive.” (R
SC_limited features	inductive		All text passages referring to a limited number of tools.	“Yes, some easy too also allow easy collaboration method between teacher and student.” (R4.6)
Digitilisation gap	deductive		All text passages referring to the digitilisation gap of institutions.	“Educational institutio must invest time and financial resources in because it has becom nowadays and the educational world is moving.”(R4.3)
SC_Change	Inductive		All text passages referring to fear to change as a major reason for the digitalisation gap.	“unwilling to adapt to tech or just fear and anxiety”(R1.7)
SC_investments and divergent budget priorities	inductive		All text passages referring to fear to investments and divergent budget priorities as a major reason for the digitalisation gap.	“Yes, you are right! E educational institutio are not ready for blea online classrooms be they must do further investments.” (R4.5)

Cultural challenges	deductive		All text passages mentioning different cultural challenges.	“So first of all we need to know what their background some homework needs to be done here. The big lesson I had here is never to do it without really being sure what is behind the words and the writings.” (R1.2)
SC_educational background	inductive		All text passages mentioning different educational background as a cultural challenge.	„We have students with enormous difficulties in giving any feedback because they have not been encouraged in their country, because they have never been encouraged to criticise or to discuss. This has enormous implications in our teaching as well as when they work here in Germany with multicultural teams. So there are many things based on their prior life in their home country, how they have been educated and raised (R1.2)
SC_language	inductive		All text passages mentioning language as a cultural challenge.	“the Swedish language is not familiar for them. The computer language is not familiar for them because you have to use the English or “press” or “esc” or these things. So some of them are illiterate when it comes to the technology.” (R3)
Course Management and Organisation	deductive		All text passages mentioning course management and organisation..	“When I give the task of preparing a presentation. The students from India are constantly writing emails. Could you please give me precise instructions. How do we do it? And my idea of working with a master

				student I expecting a more self organization self-determination” (R1.1)
Multicultural course content	deductive		All text passages mentioning characteristics of multicultural course content.	“Review everything in of the participants. T educate yourself as a as much as possible are unaware beforeh the group guide you.
SC_ apply wider perspective	inductive		All text passages that indicate the need to apply a wider perspective.	„I think many of us ha more western orienta towards USA or wes Europe. I think we ne have a more worldwi perspective with eme markets as well. We have a wider view wh using examples for comparison and be a the impact.” (R1.1)
SC_ What vs How	inductive		All text passages that indicate that is more about presentation style than the content.	“As we are lucky to h many students from nationalities with us. the students to prese What is leadership in what leadership in N And this is obviously rich input from native then we can discuss learn from each othe (R1.2)
Inclusive learning environment	deductive		All text passages that mention characteristics of an inclusive learning environment.	“To increase inclusiv we need to be able to technology and purch the right tools e.g. he fast internet, proper l (sometimes with mul screens).” (R2.3)

SC_ barrier free technologie	inductive		All text passages that mention barrier free technologies as a feature of inclusive learning.	„Inclusive learning for giving the participant chance if they have technology.(...) This of being inclusive. If have the technology, not be included in this (R1.2)
SC_ accepts diversity	inductive		All text passages that mention accepting diversity as a specific feature of inclusive learning environments.	“Yes. It is classroom students of every ability level receive teaching same place. This means that particularly able students learn alongside those who have special educational needs, such as dyslexia, dyspraxia and attention deficit disorder etc.” (R4.2)
Impaired learners	deductive		Text passages dealing with the treatment of disabled people.	“It is also important to talk with the student about these disabilities, to allow them to interact and fill the missing learning gaps in different methods.” (R1.2)
SC_ invisible disabilities	inductive		Text passages dealing with the treatment of invisible disabled learners.	“But what you need in first interview, you tell me this is things which is invisible and happen everywhere every country. And if you are experiencing some of challenges, just tell me and we will help you in the best way we can.” (R1.2)
SC_ hearing and visual impaired	inductive		Text passages dealing with the treatment of visual and hearing-impaired learners.	“I had a group of students who were not able to hear who was very challenging because I had to adjust the way I was talking to them to be very descriptive. (R1.2) I felt that I needed more training to face such challenges again. It went well, and I absorbed the lesson. They were very positive, but it was challenging. I felt

				I was not doing the b for them." (R2.2)