**Context**

The research methods for this project were reviewed by, and received a favourable opinion from, the Open University Human Research Ethics Committee (reference number 3842), and the Open University’s Student Research Project Panel (reference number 2021/1752).

This project addressed three research questions:

1. To what extent can an alternative fieldtrip be a shared experience?

2. What is the role of fieldwork in building learning communities?

3. What is the role of different technologies in shaping analogues of traditional fieldwork?

To explore the research questions from the perspective of lecturers, students and other stakeholders, we conducted three strands of research:

1. evaluation of two fieldwork experiences selected to represent different learning community experiences:

i. an environmental science ‘fieldcast’, as experienced in a dispersed community of OU students:

a. observation of the fieldcast

b. online survey of randomly-selected student participants

c. semi-structured interviews with staff involved in the fieldcasts

ii. observation of a Fieldwork Live course run by the Field Studies Council as experienced by a home-based participant

2. semi-structured interviews with eight stakeholders

3. a literature review relating to fieldwork and analogous fieldwork experiences

This file contains the transcribed data from interviews with Open University tutors and support staff for the ‘fieldcasts’.

The consent forms and information sheets for participants included the information that de-identified data would be archived in an online repository. Participants were allowed to opt out of this if they wished.

**T1**

Interviewer: This will be anonymous in the report, so we might use some of the comments that you make. But obviously not with your name. So let me just to start off do you have any kind of experiences with in person fieldwork? Either participating in it or leading it, and what have they been like?

T1: Well during my undergraduate and masters degrees I did fieldwork along similar lines doing quadrats and doing ecological surveys … I think I’ve done four field courses that would be a week or two weeks we’d go off in the UK and study something and write up a project in small groups so I guess that’s kind of analogous to the kind of work that was being done in the fieldcast. And otherwise I have done fieldwork for my PhD and other projects as well, but that was more just my own projects, just myself doing it … I haven't really done any teaching before.

Interviewer: Ok so it's a nice way to start isn’t it. What purposes did you see the field work fulfilling specifically in teaching I guess?

T1: So I think it's really important to get outside and see how things work in person when you’re learning anything especially ecology and environmental science it's really important to go out and … but if you can’t do that in person then being able to actually do it and see it, visually see the landscape through video is really important. And also it's important for learning research skills really, so being able to actually think about how you’re planning an experiment, having a hypothesis and testing it in the natural environment is really important too, that’s what it does really. You can learn lots of ecological theory but to go out and actually access it and use that theory that you might have learned in lectures and know how it's actually applied in experiments in the research that you sort of learn about and hear about.

Interviewer: So did you often have quite a bit of leeway in how to design your own experiments and things?

T1: Yeah I think the sort of longer dissertation style projects that I done have a lot of the time … even for my PhD as well, the title has been sort of established and the primary investigators or the supervisor might have decided but then you yourself have to think about what it is you’re testing, exactly what sort of methods you want to use and even in shorter field work trips you’ll decide as a group of students what exactly you want to do and how to do it. And you get guidance from supervisors, that is really important … but that’s part and parcel of the fieldwork experience really, thinking about experimental design and think about what you really want to work on.

Interviewer: Ok so do you think that there are maybe skills that you wouldn't be getting elsewhere in the course or was it more a kind of practice of what you had already learned elsewhere?

T1: I think a lot of the time when you're doing a course you will learn about the theory and you will learn about what's been done but you might not necessarily learn about the practicalities of it, so yeah you will actually gain a lot of those skills through actually doing the fieldwork, putting into practice. For example whenever you read a paper you look at the methodology section but you might not read it so closely as the introduction and the discussion of the results. But when you're doing it yourself you need to think really carefully about ok how has this been done in the past, how am I going to do it, what's practicable in this situation.

Interviewer: Yeah I noticed that when I was watching the fieldcast that there's all these things that I would not have thought about unless I had to do it in person, like what do you do if there's a tree exactly at the site you have picked to take the sample and so on.

T1: Exactly, there are always difficulties, it could be the weather, it could be the site it could be as you say a tree getting in the way, it's problem solving really and that's part and parcel of the skills that you are trying to gain through doing a degree in environmental science or ecology or at whatever stage you’re trying to get the skills that let you apply whatever you have learnt.

Interviewer: Ok so what would you say are some of the other benefits of doing fieldwork, traditional fieldwork let's say?

[indecipherable]

T1: The main thing is that it's fun, you're doing something that interests you, it is a degree so maybe you're wanting to learn to progress in your career. It depends on how much you enjoy it but getting out and doing some practical work is great really.

Interviewer: So do you feel it gives you a better taste of what it would actually be like to an environmental scientist?

T1: Oh yes absolutely, I mean yes a lot of environmental science is desk-based as well and some people really enjoy any kind of statistics and mapping and that kind of thing but you’re going to be an actual ecologist .. an ecological consultant or for a consultancy or a council or something a large part of that will be going out and doing the surveys

Interviewer: So was there anything you did like so much when you were doing it that you thought this is maybe not as much fun as it looks?

T1: I mean it can be challenging certainly, when I was doing my undergraduate research project I have sat in the rain in Norfolk for days on end watching birds. I mean it can be risky as well, when going to places you certainly have to think about where you are and safety in various sites. It's expensive … all of the field work I’ve done for my PhD is in the UK, some research projects do take you abroad, obviously it's expensive staying anywhere and it takes a lot of time as well I mean you're out there for at least a week if not two.. I mean a lot of people can’t just drop everything to go somewhere. It's tiring being out all day.

Interviewer: So you mentioned it's not so easy for some people to be away for a week do you think that there's any particular communities that might struggle to access field work or to get as much out of it as others?

T1: At the moment yeah I’ve got two kids and I find it difficult to get away from the day job, anyone who studies part-time or has caring commitments it’s really hard to access, or people who are studying part-time and working part-time it wouldn't do to just take two weeks off work just like that or anyone with disabilities of course.

Interviewer: Just checking that we covered everything related to field work, so yeah if we move on now to fieldcasts I guess to begin with … so you were doing a great job of dealing with the chat box all these questions flying in from all sides, how was your experience with running it?

T1: It was challenging as you say with having all the questions coming in really quickly I mean it was really interesting it was great to engage with the students and make sure they were thinking along the right lines. I think it was a really useful part of the fieldcast, I mean it was good fun trying to answer all their questions … I made sure to make notes to relay back to the teachers at the end… part of it was I was able to participate in lots of the rehearsals as well so I was able to think about what are they saying then, what kinds of things do we want students to be thinking about and discussing those points and thinking about what kind of questions they might ask, like the troubleshooting answers like what to do it you can’t see the screen properly, or any other kind of notes that the teacher leaders were talking about at that time so I made a few notes of things I might want to include so I could just copy and paste them into the chat box. So that really helped to think about what people were really saying and how to respond to that to think fast and respond automatically.

Interviewer: I suppose you have to when you don’t know exactly what experiment you are going to be doing or exactly how it's going to go?

T1: so yeah the rehearsals really helped

Interviewer: So how many rehearsals did how did you rehearse it did you have like a small group of students you practised it on?

T1: No just the tutors, we all got together along with the people who were doing the technical side to make sure everything could run smoothly, so I think we had a couple of longish rehearsals, and I think they had had a couple of rehearsals in the past and obviously they could relate back to the other fieldcasts that they had done that were well slightly more in person because they had done it on site whereas they only had one person on site this time, all of the others of this were remote whereas before a small group of them would have been on site talking to the remote students, so it was slightly different this year but we have had the experience of previous years to fall back on.

Interviewer: ah so in previous years was it a mix then some students came on site?

T1: All the students were remote but more of the tutors were on site, could actually talk to each other and do a bit more of the actual filming, yes I think in previous years more of the filming was live where as this year there were more recordings.

Interviewer: Yeah ok because it was only one person that could go, and did it go in the end as you had expected it from the rehearsals?

T1: Yeah I think so, I mean there was the element of chance really in what the students would choose to study so in previous years they had looked at recording the species and that would have been a bit more of a challenge for just one person to do so. I mean I guess we did sort of guide them a little bit but ultimately it was the students responding to the polls and saying exactly what they wanted to record this year, so we didn't know we were going to look at pH in particular, and actually being able to design the study you have a few options available for what you could do but you have an idea for how to do it. But then that might change when you actually get out into the field but I think that went all to plan and it started being a really neat study this year and the results seem to be there, interesting and significant results along the lines of what we would expect it to say, that was really good.

Interviewer: Oh that was good, so sometimes do you get more problematic choices of experiments?

T1: It would have been more of a challenge to look at species this year because there was only one person doing the study because it does take quite a while to look if you’ve got about 20 quadrats of each species and you might have a dozen species in each quadrat so that might take you twenty minutes for each one and that was quite challenging whereas this time you could just take the soil sample and that's not too much of an issue

Interviewer: So I guess do you see advantages of these fieldcasts over in person fieldwork?

T1: Um well as I said the main advantages are in accessibility so just being able to do it at all, be able to think about how plant ecological research is done is really important and if you can’t get on site being able to do it remotely is fantastic really especially if it's somewhere you might not even be able to go, it could be anywhere across the country or across the entire globe that you’re trying to work on, to be able to see that to decide what you’re working on and decide what you’re studying remotely is fantastic yeah I think the main advantages really are the time and the accessibility of the site, the other advantage I guess is that you can have a lot more students. I think we had over 200 students and for an in person fieldwork you wouldn’t have more than 20, 20 or 30 I think in a group so you wouldn't be able to engage with all of those students at the same time but having the chat box, having the forums, having them respond to polls and every single person even though it's a massive group every single person gets their view has the opportunity to engage so that's really important.

Interviewer: Did you feel that for some students it might have been easier to engage than say if they could come on an in person field course, do you think that there would be students who would find it easier to engage through the chat and the voting instead of ?

T1: Yeah potentially I mean a lot of people these days find it easier to talk online rather than in person, they might be anxious about going away or … they might just not be able to go … because everyone else is talking you can have that chat box alongside there, in terms of asking questions as well so people might be so watching a lecture and they might not have the confidence to ask to stand up and ask at the end about particular problems but they can just easily write something in the chat box, immediacy of response as well I mean you wouldn't want to interrupt a video or a lecture with a minor question but you can just have a chat box there and have a … and the other students are able to respond as well so you have a bit more dialogue going. But it doesn't interrupt the main video point

Interviewer: Yes I suppose you're not whispering away to your neighbour while … did you see a lot of that then the kind of thing of the students helping each other or you think it was mainly the students directing questions and you and the other leaders answering?

T1: They weren't mainly directing at the leaders and anything but there was a lot of other students responding … for example in the first one they could kind of discuss what they had done in previous units of S206 as well and discuss [name] and there was a lot of responding, people would say this is how you troubleshoot such and such or I remember seeing that.

Interviewer: Oh that's really good, and in the forums how was it what kind of things were?

T1: I think the, so I was not so involved in the forums because I was not as involved in the teaching side … from what I could see the forums seemed to be more technical things to do with their TMAS and their assignments … I mean there was a bit of discussion as well but from what I saw it was more focused on timing of what and where and how exactly they should approach the write up.

Interviewer: I mean I guess it was nice to see them chatting together in the chat box I mean I guess that's something would have in an in person as well kind of community building how do you feel that, I mean do you feel that's an important part of field work and if so how do you feel it carried across into the fieldcast?

T1: I think that's a really important point, I think community building is a really important aspect, I used to work for a charity called the Field Studies Council as well I did their marketing and communications and I would help with the logistics of the field schools so although I didn't meet any of the students then because I was in the head office .. I was involved in organising field courses for adults mainly but we would have school children and university students and things like that. And I mean it is a really important part of any education, those field courses, those residential days are what you remember from your degree or your school work. If you go away to study something you're bound to remember it a bit more so it is important in learning and it is important in your life journey, you remember those points. So having it remotely yeah you might not engage quite as much, as you say you don’t have the sense of community … you make friends on those kind of community courses as you say it's difficult being a community when you're remote. But having said that I don’t know how much people engage with the Open University, with their fellow students, they might be able to email people in the little tutor group or set up a WhatsApp group or something and have an ongoing conversation about how their assignments are going. It is possible isn’t it especially in this day and age where you can’t go anywhere, virtual communities that you can rely on, to check on see how people are going on assignments etc

Interviewer: This year did you see in the chat any kind of I don’t know if you get the feeling people were trying to be friendly to each other and fill those relationships or was it mainly kind of quite academic?

T1: It was kind of quite difficult to tell from the chat from the fieldcasts really because it was quite specific to that event really … there was a bit of camaraderie people saying it was their birthdays and people being able to respond to that and wish them happy birthday but it's difficult to tell if they kind of knew each other beforehand or

Interviewer: So um tell me if you’re the wrong person to ask because I don’t know how much of the teaching you are doing, how much does this compare to what you would do in a normal year if there was no pandemic, apart from the fact that there would not just be [name] going on his own into the wood on his own going into the wilderness, there would be more people, in terms of how long it took the timings of the content is it broadly similar?

T1: I mean I think the fieldcast, I mean I don’t really know because I haven’t done much teaching in previous, but as far as I know they do kind of do the fieldcasts in a similar way at a similar time of year and they have done for at least the last three years. In the past as you say it would be having three tutors on site along with the technical team and they would work together and be able to talk to each other on screen , and be able to do it a bit more live, essentially to be able to go around the wood with a camera during the fieldcast and relay that, whereas this year they did a bit of drone footage, they did a bit of other filming, I think someone took photos the week before and they used footage from the year before just because that made sense of time, so they used photos to show how things were different this year just the weather and that… I think we had more participants because of the pandemic I think we’ve got a lot more students enrolled in the Open University courses this year, I don’t know if that necessarily affected how things were broadcast it was great to have more people and a bit more response in polls maybe it meant people were more chatty because there were more people there or a wider range of participants

Interviewer: So how many people would your normally have I say normally in the previous years?

T1: I don’t really know I just know that there were more this year, I’m not sure how many people they had in previous years. The other thing that is different is so you have the fieldcast at that time but around now you would also be going away to field schools so go away to Field Studies Council sites and actually go and you would have I don’t know maybe up to 20 in each small group and they would go out and do field work in person at a location, I don’t know that it's essential to go away and do the field school, but you’ve got the kind of fieldcast and the learning that you have got remotely and then you go out and put that into practice in field school

Interviewer: Forgive my ignorance here but what is the Field Studies Council exactly?

T1: They're an environmental education charity and they run these residential sites … what are they a bit like just sort of residential places where you can go and study and you can stay in maybe it's an old country house or a study centre that has the correct environment, where you can go and do ecological studies, so they have lots of university students going and staying for a week or so, or university students come and they have well not necessarily older but adult learners doing courses in identification of beetles and plants and all sorts of, and they have schoolchildren as well so those kind of sites. There are other providers as well, I think the Open University tends to use the Field Studies Council sites

Interviewer: So everyone who is doing this course at the Open University they would normally they’d be able to go and do that?

T1: Yeah I don’t know about everyone but I think you have the opportunity to

Interviewer: You have the option, but it probably wouldn't be part of a TMA or anything like that?

T1: I don’t know, no I don’t know

Interviewer: I’ll ask the others as well, do you know if this year they will be whether they will be doing something specific to replace that?

T1: Yeah I think they’re doing more sort of fieldcast type things so I know they’re doing a lot of recording for it and I think they’re not doing it in person this year

Interviewer: I guess so from your experience of this year do you think that even once the pandemic is over there will be kind of more virtual field work going on compared to previously?

T1: Yeah, I mean this year has really shown that things can be done remotely right? So despite the fact that the fieldcast had been going on pre-pandemic as well and largely along the same lines with people maybe looking at it remotely and the tutor doing something on site so that will certainly continue but I think people are a lot more competent with the technology now so we get a lot of people maybe have more time as well so if they maybe want to learn things remotely, yes just being a lot more confident in being able to engage and learn sort of how things work it has really shown the importance of remote learning

Interviewer: So something that occurred to me earlier actually oh yeah it was when we were talking about doing the fieldcast when there were more people on site and you were doing the kind of walk through videos did the students have any ... did the input from the students kind of change what you performed, could someone ask oh what's that tree over there and you would go and kind of film it or was the pre-recorded as well?

T1: … previously when they have done the chat box so I think in previous years [name] would be sitting there answering the questions so he would be sitting their beavering away on the laptop a bit like I was at home really and then asking those questions after they had done a walkaround of the site so you might not be able to go back to the site to respond to the questions if that makes sense because they would never really be time to run back and go it's that tree

Interviewer: Oh so someone was filming [indecipherable]?

T1: So yes someone would be filming but I don’t think that the person doing the filming would have had, would have been able to monitor the chat box at exactly the same time unless there was something that went wrong, if the camera suddenly went blank or if they had their finger over the screen you might be able to like quickly phone them or tell them that, but it is certainly something that would be possible but I think logistically I think it made sense to respond to the chat as things were going on and ask questions at the end in terms of timing, but yeah they could certainly go back because there are three sessions you could go back in the second session and be able to film exactly what they were asking about if there was a specific question

Interviewer: So it was three sessions of about 45 minutes right?

T1: Yeah

Interviewer: OK … one of the things that struck me about them was how kind of rich they are you know with the backgrounds and things, I mean there was always something on the screen is that new for the pandemic or is that's something that has always sort of been ?

T1: In the past they, it would have been similar but … in the past because everyone was on site, because everything was done live it might have felt spontaneous, but certainly this time there have been technological improvements this year that have meant you can have more richness to the backgrounds like the background I have got today and everyone has kind of similar woodland backgrounds and we tried to keep it visually quite engaging

Interviewer: Yes I think it really helps … How long have you been involved in these fieldcast sorry?

T1: This is the first time I have done it

Interviewer: So you don’t know about the other ones … I found it somehow when you see them doing the walk through and you can see them picking up the soil and stuff you get a bit of this kind of sensory feel about what's going on but do you think there are kind of I guess sensory things that you need to have I don’t know how things should feel or how things should smell or that kind of things do you think there are any kind of sensations that you really need to get out of field work in that direction?

T1: Well it is better to be in person, to be able to you know dig the soil yourself, and certainly in terms of plant identification there are certain things that you can’t really get from just looking at a screen … but that said if you’ve got that many people you wouldn't be able to each have a look at a certain thing yes if you’re teaching personally you might pass something around but you could only maybe do that for maybe a dozen participants, I have done lots of training courses in the past and it kind of has to be a small group for everyone to be able to see what the tutor is talking about but because it's on screen the camera can show you the salient bits that you want to describe so that everyone can see exactly what a certain species should look like or what the piece of equipment being used should look like, and yes it's good to be able to do it yourself but you wouldn't be able to have that, to be able to do it yourself in a group … so it does mean it's more accessible for more people

Interviewer: I suppose you're never at the back behind someone taller and you can’t see what's going on … So in the in person fieldwork are there ever I don’t know problems caused by the environment like being able to hear people properly or anything like this and do you think they’re easier or harder to deal with in the fieldcasts?

T1: Yeah I mean as I say if you’ve got more than a dozen people you can’t really hear a tutor from the back or if you're walking around... I have been on one field course where someone got lost … it just happens you know

Interviewer: How did that happen?

T1: Oh you know we were looking at various things and someone just wandered off to look at something else and we were oh where's that person. The tutor had to go off and find her, spend about twenty minutes of our having lunch going to find her … and obviously with bigger groups you would have more of that issue, you wouldn't be able to look at quite so many things you would have to be really aware of your surroundings and make sure everyone’s keeping up and everyone’s able to hear as well especially outside, if it's windy you’re not going to be able to hear someone who’s maybe a couple of metres away

Interviewer: So I guess how much in person fieldwork do you think the fieldcast replaces because I imagine some things are more efficient because as you said you don’t need to wait for some people to catch up and so on?

T1: So the field work covers coming up with a hypothesis, going out and collecting the data and then analysing it so that it does take a significant amount of time, so if you’re on a week-long field course you may have a couple of other things that are either side that bulk that up but essentially that is about what you would do if you’re away for four days say because you have to have your introduction, you have to have your orientation around the site and settle in on the first day and then you might think about your hypothesis testing on the first day and that would take at least a half day of getting out there, data collection would probably take you a whole day if not two just because as a student you would not necessarily know what you were doing so yes it can only take me couple of hours to go and collect 20 samples but for a student to go and collect 20 samples having never done it before it would take a significant amount of time and you get a lot of learning and fun doing it but it would take you longer and then you would maybe spend an evening typing up all your data and then maybe the whole of the next day thinking about analysis so yeah it I think it would probably take a good four days really and that is a significant amount of time

Interviewer: Yeah it is I suppose because you’re doing a lot of the leg work yourself?

T1: And yes you might actually learn a lot more because you're actually doing it yourself but it would take an awful lot longer to do, and some of those things that take the time are quite repetitive and maybe not that useful

Interviewer: Ah I see so I suppose you learn a lot from the first time you [indecipherable] and then on the next one you [indecipherable]?

Interviewer: Well I guess yes on this thing of repetition then normally when 20 people went on a field work course together would they kind of each design their own experiment or would they do it in groups or would it be like the fieldcasts and they all decide on something together?

T1: Uh yes usually split up into smaller groups so of the things I’ve done in the past say, so the S206 is like an undergraduate degree right I don’t really know from what I’ve done

Interviewer: I think it's part of one yes?

T1: so it's that kind of level so thinking about the little ... the kind of fieldwork you might go and do in an undergraduate degree, you might go out in big groups to go and look at particular things and that kind of equates to a lecture I guess but then you would split up into smaller groups of say five or six people to go and study something in a bit more detail maybe come up with your own small thing to test in a small group and collect some data maybe collect some samples and take them back to a lab and analyse them and yeah it would probably take a couple of days, two or three days to do

Interviewer: and was it normally easy to decide as a group on what to you were going to do?

T1: You get a lot of guidance from your tutor really so maybe the tutor would come up with a series of potential projects, sort of mini projects, you can work on and you as a group say oh I want to do that one and then they can sort of advise on how you might want to approach it or you can just come up with your own thing but then you would still get a lot of guidance from a tutor in how to do it

Interviewer: Ok but you didn't often find that people were upset because I don’t know this person wanted to do pH and another one wanted to look at, oh a rare species?

T1: Yeah you might get that sort I think I mean you could just join a different group if you didn't want to study that particular thing and it does mean that different groups can study different things as well whereas here everyone was studying the same thing but if everyone was studying the same in a real life field course then wouldn't be enough equipment there wouldn't be enough of that particular habitat to access you would get a bit more competition between groups

Interviewer: Again so if everyone was doing different things would you kind of see the result of the other experiments after or was the was the focus mainly on the process?

T1: yeah you would have to present back at the end and that would be part of the learning process really having to present it

Interviewer: So I suppose a bit like people are doing in their TMAs now with their results from the

T1: Yeah

Interviewer: Just having a look at my questions ... I think we have covered nearly everything yeah everything else that I have written down. Was there anything else that was particularly striking to you about the fieldcast or that you particularly enjoyed or thought was great or thought was not great or anything?

T1: I mean we have covered a lot of aspects of it really, I mean yes I just thought it was a really good way of engaging with a large number of people, yes I think it was kind of what I expected in terms of yeah how much dialogue there was in the chat box and having had those rehearsals we kind of see how everything was going to go throughout each of the sessions .. it’s difficult to tell but it seemed like the students during the exercises I don’t know if there was any sort of how people feel about how it went

Interviewer: Yes I suppose while you’re here I don’t know if you have done any other tutorials with the Open University if you could compare the engagements the students would have in this to what they would have in a tutorial but I don’t really know if you’re doing those?

T1: No I haven't really done any of those … other modules with them so I wouldn't know

Interviewer: Yeah no worries, so just one last thing and don’t worry it's definitely the last if you had a student who was wondering whether to come or not because it would be difficult for them due to scheduling or what, what would you say to them about why they should come about what they would get out of it?

T1: Doing a fieldcast?

Interviewer: Of the fieldcast yes

T1: … I would say it's a really good learning way of … learning opportunity of gaining research skills really and being able to do it live and being able to respond to the polls and be involved in the decision making process is really important, I mean yes you can watch can watch hundreds of YouTube videos on how to do an ecological assessment and you can do all the reading and that learning but actually being able to ask questions live and being able to respond to the polls and think in real time and think along the same lines as an ecologist to do those assessment is really valuable

Interviewer: Yes I mean I feel a lot more like an ecologist since I have watched it and I wasn't even really there.

**T2**

Int: Ok so basically the main thing I would like to get out of the interview is your experiences with <?> and virtual fieldwork and the sort of benefits and disadvantages of each one so maybe we could start off with maybe a little about what your experiences, if you have had any experience either with the OU or in other places and what you think the benefits of that are for the students

T2: Yes, you broke up a bit in the question could you repeat it please?

Int: Oh sorry

T2: That’s Ok

Int: Not having a good day internet wise, it was if you could let me know what your experiences are with in-person fieldwork either with the OU or elsewhere and what you think the benefits of that are to students

T2: So in person fieldwork

Int: Yes

T2: For in person fieldwork I have done quite a lot of in person fieldwork, teaching at two universities in Australia sort of dating back 15 years I guess, first as an undergraduate tutor when I was an honours student, I taught on field courses and things and then as an academic designing or leading delivering field tutorials and teaching either on campus or on residential field schools, and then I have taught in person at the OU on the FSX206 field schools as well. They’re always probably one of my favourite parts of teaching, certainly the students always enjoy being out in the field, and it's obviously very real because you’re measuring real things in real ecosystems, with real ecosystems with all their complexity and things always go wrong and you fix them, find ways of measuring them and unexpected things happen and all of those things and so it's brilliant to have gone from you know text book examples where things are always neat and clear to seeing how they play out in reality but I think students like getting their hands dirty you know putting into practice what they have learnt and you learn so much because it's not just what’s in a book because that has been selected and curated, when you’re out in the field you have chosen that particular field site for a reason to teach particular points it comes with all the other things that are around so you always end up teaching much more than you need to, I don’t mean that you pack too much in but that there's so much else to say because there's all these other influencing factors that are so obvious when they are actually influencing everything

Int: I see are these things like the fieldcasts, like what do you do if there's a tree exactly at the point you were going to sample for, this kind of things that come up that you wouldn't see if you saw a diagram in the text book

T2: Yes exactly … I think there’s so many decisions you make as a researcher and it's learning to make those decisions, I often think that when you’re doing research nothing is particularly difficult on its own but there will be a whole sequence … of these thing put together become a really quite complicated and complex experiment or piece of research but it's just a whole sequence of decision making points essentially and knowing how to make a good decision and what decisions need to be made and when is sort of what makes a scientist

Int: I see and so would you say that the fieldwork is a key part of developing the ability to make those decisions?

T2: Yes I think a key part is right <siren noises> … I think it is a very valuable part and I think for a long time we would have said essential … but now I think that it's very valuable but perhaps I think essential would be taking it too far, it doesn't necessarily need to be in the field but authentic is probably essential

Int: Ok, could you expand a little bit on authentic?

T2: Well I think there are so many different types of science and scientists involved in environmental science now so it's … if you wanted to be a field biologist then having field experience would be extremely desirable and useful but you could be an environmental data scientist and while having field experience would be enormously useful to understand the field data you work with having an understanding of messy data sets … would be more valuable I suppose, so I think field experience is great but is not necessary for everybody perhaps in the way that <indecipherable> might have put it

Int: I see what you mean ok, I so I guess yes you mentioned that some people might get more benefit from looking at messy data sets

T2: yes

Int: Is there any kind of communities of students that you think fieldwork is particularly important or unimportant or particularly difficult for?

T2: … I don’t know … I mean environmental scientists and ecologists generally fieldwork is particularly important because of the complexity of ecosystems and environments … well it's almost impossible to describe the complexity in a text book or in teaching or interactive or … or in a simulation, if you’re in an ecosystem that has taken however many millions of years to evolve and is subject to all these changing environmental conditions you can only experience it you cannot recreate in the same complexity ever

Int: Of course yes and I guess the unexpected things that you mentioned play a role in that … when you select a site for fieldwork would you deliberately go somewhere where you expect to find more of these unexpected things?

T2: No I think you would always select a field site … to do research you would select a field site that had the attributes that you needed to answer your question, you would be looking for specific things that allow you to collect the data that you needed for teaching, you would have a different purpose whether it was … you know we sometimes teach in places that have lots of ecosystems in a small area so that students can see the differences easily, so you look for somewhere where there's two soil types or multiple soil types in a set area or multiple vegetation types so that students can see those, or you might choose somewhere with neat contrasts or that’s very accessible or … that had the process that you have been learning about so that you can show them to the student those processes

Int: So was it like in the fieldcast where you have the deciduous and the evergreen stand together?

T2: So that was selected for very specific reasons, because we don’t give the students a lot of time to get to know the locations before they start making decisions about what they would like to study and how, so if we took them say to the middle of an Amazonian rain forest and said look at all this stuff what do you want to study it would be unfair on the students, they would be utterly overwhelmed and even … a very high biodiversity meadow in the UK might be the same so we chose this site because there’s a very clear, you know there is the evergreen section and the deciduous section it's quite a simple thing to get their head around to start asking questions so that we can focus on the questions rather than … sort of the students going I haven’t had a look at everything yet, I don’t know what's going on yet … there’s too much there, so there's a lot to look at in that area but it's just a bit structured and we chose it for that reason. So previously we did the fieldcasts from a ridge and furrow meadow and there were clear obvious ridge and furrows, a clear thing for the students to sort of attach to, given the short time that we gave them. In a residential field school where students sort of spent a week in that area we could tackle something more complex perhaps, but given we give them sort of 10 minutes to look around we wanted to limit the variation

Int: and I suppose it gives them a clear focus when they’re selecting their questions?

T2: … I mean we had 100 students joining … we have to come up with a hypothesis that they all sort of agree on, if it's just super complicated and they’re all going off in different directions it's hard, you feel like you can come up with something that matches what they’re thinking about whereas if we have this sort of structure in there hopefully they’re thinking more along the same lines and a sort of democratic decision representing their thinking

Int: I see what you mean, so if they were doing a residential field school would they have similar kind of freedom of choice over the question that they look at or would they be kind of describing that in smaller groups?

T2: Mainly in smaller groups … I have been involved in both where they are given sort of a question and an area and then the freedom of choice is how to answer that question in that given area or where they have had lots more choice once they have got to know an area and come up with their own question, their own field site, their own thing that they are going to study and a lot more choice, but that usually depends on the year of study so in the 2nd year some of it is sort of student-initiated but there are more prompts, there’s sort of more structure and support where as in 3rd levels they’re usually coming up with their own questions so this sort of fits in 2nd year level

Int: I see what you mean, I guess and then how does that then relate to the practical side of it deciding where to sample and so … does the weighting of the hypothesis side versus the practical side sort of change as they go through the degree?

T2: Yes usually because hypothesis development is not easy and so often in 1st year you might give them a hypothesis and a way to test the hypothesis and it's going through the way to … through the steps sort of, this is what a hypothesis is, this is what a method that address the hypothesis looks like and you’re sort of carrying that out, and in 2nd year … you might have support in developing a hypothesis and methods or a hypothesis is given and then you develop the methods to address that hypothesis … depending on what either of those seem appropriate and 3rd is more sort of students should be able to do all components with support, I mean every university I have been to there is always a checking stage where students will come up with their plan and it's run past somebody to … because they are still in training very much so still in training you don’t want students to go and collect large amounts of data that isn’t going to address their question or that you know is going to take them more time than they can possibly have so there’s always sort of that checking stage to help them ensure they have got a manageable and achievable project

Int: OK, how often would you say it happens that students come up with something that you hadn't imagined that they would come up with or?

T2: Always

Int: Oh really ok

T2: Yes I think, do you mean in the fieldcast or in face to face teaching in other places?

Int: I would be really interested to hear about both

T2: So in the fieldcasts it's about 50/50 actually so when we’re doing the rehearsals we try and come up with things we think the students might want to look at so we can be ready, so we think oh they might want to look at that so we should make sure we have equipment to look at that or something, and sometimes they have come up with things that are scenarios that we have rehearsed or not exactly the same but similar but I would say about half the time they choose something that we really hadn't considered and I think that’s the most fun

Int: That’s pretty exciting(?)

T2: Yes I mean sometimes it makes it hard because we … we want to do what they ask but we might not quite have the right equipment … but then they really do get to see us managing that, when you suddenly go oh right we’re going to measure this, ok what do we know about this, what information can we pull together, what information do we need … for the student to make the decisions they need and how can we consider this research question or this method and things, so they really do see us .. it is very genuine … in the field in face to face teaching there’s always surprises I guess because different people will notice different things, I mean I’m a plant biologist so usually I’m having a good look at the vegetation and there will be a student who is just really interested in soils … so that group will go down a soil … be really focused on the soils or even … or someone will be fascinated by method and sampling designs and so they come up with this really innovative way of sampling that uncovers something new.. Students always bring surprises

Int: Are they able, well you mentioned someone was particularly interested in soils would they then be able form a group with other people who are interested in soils and then do they group up like that or?

T2: In SFX206 I think they could, I’m trying to think yes they could or they could persuade the rest of their group to be interested in soils perhaps … or make sure that’s something they are recording to add to their report … I think that the way SFX is organised is we don’t tend to move the groups around much so once the groups are established we let the students you know build those groups, establish the relationships, because they see each other so rarely that rather than every day chopping and changing and moving them around we do sort of keep the group so I guess if there are diverse interests in the group I guess it stays that way.

Int: ok

T2: I mean everything’s usually connected anyway so if someone is very interested in soils and someone is very interested in plants then the soils are going to drive what plants are there and plants are going to impact soils so it's all sort of related anyway.

Int: So that … so would the students be able to stay in the same group for whole module?

T2: Just for the field school

Int: It must be great for them to develop a sense of community then, it can be quite challenging for OU students to feel that they’re part of something, so what role would you say I guess the fieldcasts and the in person field schools play in building that kind of community?

T2: Yes I think they're both really important. I really enjoy the field schools because teaching at a distance education university you can feel very disconnected from the students … so I love to see the students in person and sometimes there are names I have recognised as a module team leader I will have seen those names and then to finally meet them is brilliant but even if I don’t meet them you realise how diverse OU students are … there’s enough time to get to know people, you eat together, you work together, you spend all day together, and so you start to understand motivations and beyond how you get to know people in a formal classroom or online. I guess we sort of tried to recreate that a bit with the fieldcasts in that … the presenters we all get along pretty well we always have a bit of a joke and we put funny things in the voting stuff and you know the camera crew and the technical people who make it happen they’re always really funny so we always make it do silly stuff that encourages banter and discussion and try to build that sort of sense of we’re all in this together and we are taking it seriously because it's a proper research project but we’re not taking ourselves too seriously … but hopefully there’s that sort of support too where if I forget to say something one of the other presenters will come in with weren’t you [name] going to say something really important about that, and I go oh yes we do need that, and so it's very collegial

Int: So I guess that’s much nicer for the tutor and then you also think, at least for me it gave me much more of a sense of oh we’re all doing something together that makes it seem a bit more collegial I guess

T2: I hope, that’s what we hoped to do was really make it … I mean we use the term a student-led investigation in a tutor-provided structure I suppose, so they should have a feeling that their voting is changing the direction each time, well not changing the direction but setting the direction about what’s going to happen next.

Int: I imagine, I mean I shouldn't imagine because you’re the one that would know … I mean what your thoughts are about the value that the students get out of having seen you deal with unexpected things that they bring up, when they see it's not something you prepared earlier but see you processing how you deal with that?

T2: And yes I think that that's really important because the process of doing a scientific investigation, indeed going into the field and going into the place that you haven’t been before and you don’t know quite what it's going to be like is really daunting ... for people who are very familiar with fieldwork or being in the field they still might feel daunted but for someone who is not very familiar with going in the field or being outside in somewhat remote places it might be really sort of challenging, so sort of what we’re trying to show is how to deal with that and how to deal with the unexpected … and that it's not a one person problem is a team thing and to try to break it down into that sort of series of steps, you know when you go somewhere, look around, what can you see, what can you observe, what can you bring that you already know about that you can apply there … what might you want to learn more about, how would you do that, all of those sorts of things and yes we hope that we make mistakes or we find that there's a tree in the way and we get to find a solution and how you do that, and then there's a discussion and you come up with the best thing you can think of to do at the time was something we were very keen to demonstrate

Int: Something broke up then what did you say just before you said demonstrate?

T2: Something like I think we hope to demonstrate that sort of problem-solving dealing with new scenarios as a kind of a skill or something that was ok <indecipherable>

Int: OK so to help people be able to build their confidence I guess in dealing with the unknown?

T2: Yes absolutely

Int: Do you find that with the students that confidence is a big hurdle?

T2: Yes very much so ... in a range of places to ... it’s like anything really, students have a very different range of personalities and things that they are confident and not confident in. So they might feel very comfortable about … being outside and working through a protocol but then it's about plant identification and they can’t recognise one plant from another and how are they going to handle that or … they might be worried about time management or … working as part of a team, you know if they haven’t met the group before and they’re starting, there’s lots of things that students can be worried about … yes I guess we try to show, that we have put ourselves into a situation that we don’t know what’s going to happen and then we manage it and enjoy managing it

Int: and they get to see you live to tell the tale and I guess it seems less ….

T2: Yes exactly that, when things go wrong it’s part of learning it's not really a problem it’s just something we will learn more from

Int: So thinking about this confidence building so if there was no pandemic would the students normally have seen a fieldcast before they go on the residential school?

T2: I think so, I think that's the way it was setup, it wasn’t originally but it is now … and we’re usually in the field doing the fieldcasts

Int: Not just dispatching [name] on [pronoun] own

T2: There’s always the cold weather backup that [name] and I will be in the warm lab and just send [name] out into the horrific weather … and I think it makes a difference to the fieldcasts, to the students when you see them on the field schools. I know the first few years I was teaching field schools I would catch the bus from the station to the field with the students and because they were all ages I just looked the same as them I would just get on the bus and we would start talking and things and only when we sort of got to teaching and I would stand up at the front would they realise I was one of the tutors … and they would look at me in horror and think what did I just say and I would just smile and we really are just you know all the same … whereas now when I’m teaching on fieldcasts the students know who I am

Int: Oh because they have seen you on all the fieldcasts already?

T2: And that’s really nice because they’re often genuinely pleased to see you, I recognise you, I know one of my teachers and that’s nice, I enjoy that feeling and I think they quite like having seen you, feel like they have got to know you a little bit too, then when you turn up to teach them they’re like oh I have got some idea of what this person is like

Int: Yes I guess they can arrive at the field school and see a friendly face.

T2: Yes hopefully

Int: Do you think, well I guess there's a whole range of them but how would you say do you think the students normally feel about the field school I mean do they see it kind of as daunting or just kind of excited about it?

T2: Yes very much a range … from some students who … a big range … so I have had students, particularly students with additional needs and things where it is an enormous challenge for them but they are just so determined to have the experience and the learning and the experience and they’re almost always the best students to work with, they will always come and see you and say this is what I find really hard and this is what is going to be a really huge challenge for me and I might need this and I might need this and I might need this but I really want to be here, where you can help them through the week and … and for example they might just get overwhelmed each day and you can see for the afternoon session and sort of thing they’re sort of done for the day, they have switched off reached their limit and they’re still sitting their but they just can’t do any more and you know I’m just not going to ask that person a question because it's better to ask one in the morning and I will just make sure that they have got some space and some time in the evening but they get to the end of the week and they’re just so proud of themselves and rightly so, they have just done a momentous job that week, others you know they might not have been away from home much and they don’t know what food they’re going to get and they’re really apprehensive that they’re going … and they might not like the food and how things like that might go, some students you know, going to the bathroom in the field is a big deal, all sort of things. But I think they all want, maybe not all but overwhelmingly really enjoy the chance to see some of their teachers and some of their peers and get to know them and realise that they have got loads in common and have the chance to talk about all of that.

<connection issues>

Int: No I heard everything ….. I mean it sounds wonderful. Is the residential schools, is it mandatory to pass the course or is it optional?

T2: Probably best to check that with someone on the module team but I think is so there's two strands so there’s S206 and SFX206 and for SFX206 it is mandatory to do the field component but S206 is essentially the same content for the module but with a non-field component, the field component is not on the residential fields school so there's options to do virtual alternatives and things … so yes there’s the two kind of parallel modules

Int: I see what you mean ok … in what ways has the structure then of the fieldwork changed since the pandemic, I mean am I right in thinking the fieldcasts existed pre-pandemic?

T2: Yes the fieldcasts have been going for maybe five years I think, so all the recordings are there somewhere you can watch hours and hours of us if you really want to

Int: Oh great

T2: I don’t know where the recordings are now but I’m sure [name] would help you get to them, um the fieldcasts have been going for a number of years, I can’t remember what your question was sorry

Int: If the kind of … how the delivery of the fieldwork has been affected by the pandemic essentially, if there have been extra fieldcasts for example to replace residential schools or

T2: Yes there have been quite a few changes, but I’m not a good person to ask about that because I wasn’t really involved in the changes so I don’t know who else you’re talking to but people like [names] I think they were involved in the alternatives for residential field schools so I won’t try to talk about things I don’t know

Int: I will be talking to [name] later but I will ask [name] then, I mean did you see any differences really in the students’ engagement with the fieldcasts this year compared to the other years?

T2: Yes so I guess if you have watched this year’s fieldcast and none of the others is that right?

Int: Yes

T2: So usually we’re all standing in the field and showing them around live rather than using the recordings so it's quite different. This year we did have more students attending live I think simply just because there were more people at home so people on furlough or who were doing things with their kids could watch it because they were at home with their kids rather than doing school pickup or whatever they might have been doing before, we had more attendance more live attendance … I don’t think there were any other differences, I mean each cohort has got its own you know nice peculiarities but nothing sort of stands out beyond just more this year

Int: Yes I can imagine that there are a lot of barriers to attending the fieldcasts or the field schools well no one’s going to the field school now but the barriers to attending the fieldcasts it must have dropped, I mean I guess it has just rebalanced because there must have been people, I mean did you feel there were students who weren't able to attend the field schools because of their other commitments?

T2: Yes and no … I mean I guess they must know that the field schools are part of their module and a compulsory part … and they’re booked well in advance … and there are sort of seven or eight different times when people go, there's some in school holidays and some not and all those sort of things so it is sort of spread out as much as possible for people to find time to come, people come from overseas to attend them all sorts of things … but there's always going to be barriers when it's any commitment to time and place … and staying in designated places and all sorts of things … the fieldcasts I mean there's never a perfect time, I mean we have tried various evening, weekends, putting them close together, spreading them out, each combination suits some people and not others… but we did enjoy feedback from students … or we were, what's the word I want … glad to hear from students then even if they couldn't participate in it live because it was their peer group would have made decisions and things they still felt involved and enjoyed watching them because it was specific to their cohort and it was part of it was their year so even if they couldn't be there … I don’t think watching the recording was awful

Int: That’s really interesting actually so if you know it's your group you feel more involved even if it's not live, I hadn't really thought of that like that

T2: So we always want to do them again each year so otherwise we could record them once and play them every year and that’s not but it's engagement for those people that can engage live but it's also about your group I guess

Int: Yes I see so that community aspect does come in really strongly there

T2: Yes, hopefully

Int: … How do you feel, I mean we talked earlier about learning to make decisions and … <indecipherable> and how do you feel I guess that knowing it's your cohort making the decision how do you think that affects people, how much people get from it in terms of people being able to cope with unexpected things as they come along?

T2: Sorry you broke up at the beginning of that

Int: … So we talked earlier about how students get to know how you dealt with unexpected situations and lived to tell the tale ... but even for the students who don’t attend live do you think that when they see their cohort making the decisions and they know that it is something that happened recently then it has a stronger impact in terms of that?

T2: I mean I hope so … I mean it's hard to know as sort of the deliverer of the teaching rather than the receiver, but I guess on the recordings we edit the recordings very slightly for technical issues so if someone’s microphone breaks in the middle we will try to replace it with the recording from another microphone after the fact … or if it's really windy or something they’ll try and dampen down the wind sound but there's no other editing it's not polished in any way … the editing is about making it more accessible and making it clearer to hear and things but there’s no editing so … so if I fall in a patch of nettles then that’s what everybody sees and [name] puts the post in the wrong place and it works out that we have to move it it's in the recording, so I hope that all of those sort of errors and discussion and things are still feel authentic in replays

Int: Ok … apart from the falling in patches of nettles for posterity, how do you find as leader now what are the main differences that you find in the experience of leading a group that’s there in person and doing it on camera

T2: Do you mean the ones where we were at home versus in the field?

Int: … No I mean when you’re in the field but filming on the camera for a fieldcast versus when you’re leading the residential school and you have your students actually there in person in front of you

T2: … it doesn't feel that different I don’t think … the focus is on delivering what you’re trying to teach as well as you can in both situations and then there’s you know trying to check that your audience is able to receive what you’re teaching as well as they can … so you know in the field I would be checking that everyone can hear and no one looks like they’re too cold or I haven't lost anyone because they’re bored or … that I have kept them out too long in the sun or something … the same thing happens with the fieldcast but in a slightly different way, we’re conscious that if it pops up in the chat box that more than one person has lost the signal or something then we need to stop it and get the technical glitch fixed and move on or if a few students think we have said something a confusing way and we'll need to say it more clearly, or if one of the camera people that is physically there if one of them is looking uncomfortable and we need to move so that they’re not having to film us at such a difficult angle or something, you’re aware of what you’re trying to say and then presenting that very clearly and then your concern is also for your audience all the time so in that way it feels similar.

Int: Interesting so you're getting feedback kind of live from the chat then as you’re presenting or in the break between the little scenes

T2: So yeah when we’re not directly speaking to camera we can be watching the chat on iPads or whatever in the field and so obviously we can see the results of votes, sort of things, the responses to the widgets as well, so yes we can keep up how the students are going and we have sort of built in into our structure time to hear back from the chat box so we can look across to whoever is monitoring the chat box and say is there anything we really need to address and they might say yes everyone’s confused about the pH scale or something, and we’ll go great ok let’s go over that again just as you would teaching face to face in the field, you’re sort of moving around students and if more than a couple are struggling with the same things then you can address the whole class and if it's just sort of one or two you can speak to them individually in person or maybe follow it up in the forums

Int: Oh I didn't realise it was possible to get that much feedback as you were presenting actually, but yes when you have the chat box and you have someone to tell you what is happening

T2: It's one of the reasons for having multiple presenters too is that there is a lot going on … I think we could manage with two presenters but certainly not one because yes, it is very interactive and you want to be … I think something I have seen a little bit in some of the sort of online live delivery is people will start saying something and then they get distracted by the chat box and then they start either waiting for someone to stop typing or start answering questions there and they feel like they are addressing what people want but their actual delivery of the teaching content has disappeared entirely and has lost any kind of structure and flow so I think we try to make that … yeah we really try to avoid that sort of situation so whoever is speaking on camera is only focused on talking to the students and other people are looking at the students’ response so it's important that we have multiple presenters there.

Int: Yes especially with so many people tying into one chat box the volume of chat

T2: Yes I guess that the implications of that the widgets are great it's a simple vote, which methods you’re going to use to do this, there’s 3 or 4 or 2 or however many choices and then it's simply a number game, the more people who vote for something is the decision that we make … that is a bit clunky perhaps, whereas if you have a smaller group and more scope for discussion you can come up with something that is a bit more nuanced and inclusive perhaps but with these numbers we just can’t… but at the same time you couldn't teach the same number of students in the field that way

Int: No that's true, there would always be someone at the back who couldn't hear or

T2: Yes absolutely, or about 50 people at the back who can’t hear, so it's extraordinary that we can deliver this to such a large number of students. We couldn't do … you would have to have you know five times the staff in the field probably

Int: Right. Ok, so do you think then that translates to the students getting more field time than they could otherwise have?

T2: … I guess it's swings and roundabouts isn’t it, that if you have a group of you know 20 students in the field then individually they get more of your attention whereas when you have got 100 you don’t but … if they’re voting on a decision 100 is going to give a better representation of what the course wants than 20, so it's just different I guess

Int: yes and I guess they can always discuss it in the chat as the voting is happening, with the widget they have quite a lot of time to choose.

T2: Yes … some of them work out that they can change their vote … which usually doesn't happen in the initial stages but towards the end when we’re doing the statistics and things, because at the beginning there’s no right or wrong answers but what they choose drives the direction of the investigation, but in the statistical analysis there are right and wrong answers so if they select the wrong statistical method for that type of data then we sort of have to say no that's the wrong thing this is the right one and why and you often see students suddenly jump ship and change their vote and you think well why not good for you, to me that suggests that they are engaged in the decision that they made, they didn't just push a button and go oh well I don’t care, they choose the answer and then when they realise they got it wrong they choose the right answer … they wanted to change it … to me that always suggests that they you know clearly remember what decision that they made and acknowledge it wasn’t the right one

Int: Yes I guess even that act of pressing the button will help hammer it home they’re probably more likely to remember when they have done that little … yeah interacting

T2: Yes I think you never learn more than when you have made a mistake … so probably learn more by choosing the wrong than choosing the right one perhaps

Int: … Yes I was wondering about when there was the question about how <cut off> just the highest number would go because to just make them do it but then

T2: Sorry what was that I missed the beginning again

Int: … sort of about how many samples [name] should collect I wondered if everyone would just choose the highest one to give them plenty of work to do

T2: Yes that actually an interesting one because often they choose not the highest but the second highest … so they want the most samples because they know that is going to be the most statistically robust but they actually feel some sort of … they want to actually acknowledge our time and effort is involved and they rarely choose the highest number they often choose the sort of the one below which I think is very common.

Int:...It's just occurred to me … do you think that’s one of the advantages of the fieldcast, that you see the real life repercussions of what you decide?

T2: … I mean yes that’s what happens when you’re <indecipherable> if you choose to take you know six samples and then that’s not enough to fit a line to but if you choose to take 50 samples and then you’re up to midnight processing all the samples because it’s ridiculously large number, you do see the implications of your decisions and I hope that’s what we show too … and I hope too that students get to the end and they’re not high stakes decisions they might get to the end and think actually if I was going to do that again to answer the same question I would do all of these things differently, I’d make different decisions … that’s fantastic … I think that would be a great outcome because you have seen what the implications are for the decisions that they made. We don’t let students, well they sort of can’t, go too wrong

Int: Ah yes I see because they always choose from 4 reasonable options and we sort of make sure that a data set that allows them to complete the assessment is available and those sort of things … so they need to think about the decisions they are making … it's not going to cost them grades or anything like that, it's about … I don’t know how to explain it well, yeah their important decisions so that they’re doing good investigation but they can sit back and see the whole process and they don’t think oh if I pick the wrong one now does that mean I can’t get an HD I mean it doesn't work like that

Int: I’m just mindful of the time so I think we should wrap up soon so that we don’t run over it has been really fascinating learning about … is there anything else that’s occurred to you that you think I should know?

T2: … No … it's probably worth, I don’t know how involved in the project you are it's probably worth watching some that were not filmed in the pandemic

Int: Oh yes some real live ones

T2: so they might inform your questions a bit differently …

Int: Oh so I should ask [name] about that

T2: I yes I mean they used to all be on the open science lab but I don’t know where they are now … no I don’t know where they are now … but anything else … but no I just hope they’re a nice stepping stone between doing something virtual sort of theoretically designing and experiment or something like that versus being in the field I hope it's some sort of intermediate step, it certainly wasn’t designed to replace face to face fieldwork that was never the aim

Int: Yes it felt from watching it that I was always seeing the site on the screen, I mean there was the picture in the site background and then everyone had their zoom backgrounds on and you know there was video and went right close up into the soil so for me at least it always felt kind of quite sensory even if they’re not there, which I found really nice

T2: … yes that’s good to know, we found the zoom not the zoom the drone footage really helpful as students often ask for a map so we would show them around the site but they would often say you know which was is north, where is it relative to the OU, can you show us where this is on a map because the sense of place, of where it was in a larger landscape doesn't come across on the camera and although we’re standing in it and we’re experiencing it that sort of 360 feeling we can see and sense that the trees are towering over us and all that … that doesn't always come across over a live stream camera and we found adding the drone footage really seemed to help students get a feel for the place and that sort of setting in the landscape I mean we learned pretty quickly after the first one when six or seven students said could we have a map we then started providing a map but I think the drone gave a sort of sense that we couldn't give from the ground but that you would feel if you were there

Int: Yes I guess it replaces the journey there in a way, because if you had actually got the bus there and then walked to this band of trees then you would have that … on the walk there

T2: Yeah, and in that 5 minutes where everyone is sort of gathered around when waiting to start everyone sort of looks around them and they don’t get that opportunity because as soon as it starts it starts

[closing thanks and goodbyes]

**T3**

Int: Ok so maybe to start off with have you had any experience of leading real in person fieldwork with the OU or anywhere else?

T3: I have but it was about 20 years ago … not anything recent … it may be better if I just fill you in a little bit on the background … just trying to think where to start it ... so about 25 years ago I had a lectureship with the OU … and one of my first tasks essentially was to contribute to the science foundation course … the science component of that ... my background is geology … at that time there was also a face to face residential school that students could go to and there was a piece of fieldwork there so I needed to sort of prepare them for that so I designed a virtual field trip in long died software and … hopefully to teach them not about the geology necessarily although it was there but more about the behaviour … the skills that they needed to approach an outcrop in the this case cliffs, sea cliffs … because students are … it's quite a facer to turn up in an old quarry and say ok you work out what's going on here … so the idea of a virtual trip and I have got some screen grabs if you’re interested

Int: Yes absolutely

T3: So yes I’ve got an number of things open actually and I don’t know whether you recording precludes my sharing my screen or not …

Int: I’m not sure I think you could share them and then if they don’t show up in the recording, because I won’t be able to store the recording with them in there, maybe if you could share them with me afterwards maybe, but if you want to show them to now just so I can see so I can understand that fine

T3: …

Int: So I was wondering if you might have taught my mum actually as she did geology with the OU about 20 years ago

T3: Did she oh … well it's entirely possible, but I will come to that, so the idea here this is … this is this was actually a re-version I did about 20 years so the idea was to give them a sense of what outcrops look like and that you stand back to start off with and then you get in closer so the next slide is a little bit closer zoomed in and then you actually start looking at the rock itself, pick up a hand specimen and look very closely … get your nose up to it as we always said and then finally look at what the rock is actually made of and I had some interactive very very sort of basic interactive sort of … little quizzes to try and get them to think about making notes, because it's not just about observation skills it's about how you record things, it’s actually all very straightforward stuff … the knowledge, the content knowledge is something you have to pick up bit by bit but I wanted to emphasis the other aspects of it because those would be the ones that would be applicable and then there was also a kind of sketching tutorial and the end … then although I don’t have that here, I’ll just stop sharing for a moment and see if I can find it … So then when we met up face to face in the field in a chalk quarry, an old chalk quarry, they were still just as baffled as one would expect … I designed an activity a couple of activities for them so that had them in a book, and one page was pretty much a blank page with like a little sketch there of a ground line and sky line and the idea was that they had to fill it in and they were terribly worried about that ‘oh I can’t draw’, and I was don’t worry about that for the moment have a look, talk with your partner, that was magic you know always pair them with somebody with others and describe what you see, so the first part was actually just the text with notes, you know what do you actually see, it was about learning to re-train your eye, your mind, so that you know what you’re observing, without any sort of geological terminology or anything like that just oh there are some black bits, yes good good write that down, where are they and just get them to think about what they’re seeing … and then they had a go at the sketch and they did about what I would expect them to do for that level ... it was level one … by now they’re curious and they want to know what is actually happening and in one particular group were absolutely intrigued once they realised what the stuff was and you could see … that their minds had been opened to something completely new that they thought was very banal … and we had quite an interesting session with this particular group where instead of giving them the answers and saying explain how chalk and the flint were related and about the chemistry and things like that I asked them a series of questions, so they would ask me a question and I would ask one back, not throw back completely but kind of rephrase so that it was something they could answer but always going back to their observations and to the knowledge that they had already gathered from their learning … and gradually they put together the story for themselves, you follow me?

Int: So based on their own observations

T3: Yes from their own observations and my directed questions you know, directed questions when they kind of got it they kind of looked around and said wow that's amazing and when one person said yes we worked it out for ourselves and I thought that was really a good session that worked really well .. yes and I did some other future fieldwork as well on the 2nd level geology course at Durham which is probably where your mother went that was rather more complicated and diverse and I didn't write that particular material I was just taking on someone else’s materials which is not quite the same ..that was much more hard core geology and learning about the particular rocks that are in that part of the country and where they fit into the developmental story of the United Kingdom so that was a rather more serious field trip and a I suppose in a way was in a slightly older style of field trips …. so there’s that and many years later with lots of other things and changes in between … in terms of my role at the university … the team the S206 team came to me and said we would like to do a field trip, a sort of a fieldcast in fact they had already been doing it for a while but they invited me to come along … and I was rather pleasantly surprised to find they were using a very similar technique to the one I had been using in the field all those years ago and actually on reflection I suspect this is the way I was taught and it was the way that I learnt best when I was taught geology I did a lot of fieldwork some of it very successful some of it less so … and it wasn’t just the weather, it was the teaching so this sort of approach where you engaged the students in the learning in one way or another is absolutely crucial and this is what their script, their approach does, they set the scene … through various techniques which we can go into if you want to and then almost immediately throw it back to students, you know what is it you’re interested in what do you want to study use those voting polls to give your response and we will go with the majority vote obviously, and so each time each step is explained, this is what we do next, vote on which direction it is going to go in, so the investigation is gradually focussed increasingly down until they have defined what they are going to do, the hypothesis has been set etc … all that remains is to collect the data which is something that obviously we have to do for them and then in another event we present them with the data and discuss the result which they then write up, so the whole thing the whole arc is actually really nice it's engaging it’s really valuable teaching it teaches them how to think scientifically, the standard sort of investigative procedures that they will be able to transfer to all sorts of areas of their study and life … but there’s another aspect to this which you may or may not be aware of … is that I’m not actually a lecturer any more I’m a producer so I’m actually on the technical side of all this, in this particular series of live events I’m actually a camera person slash producer

Int: Does that mean you do the mixing and so on behind the scenes

T3: I Don’t actually do the mixing on this occasion we have a whole programme of lab casts actually and I do do some … quite a bit of mixing … before Covid … for those events … doing it outside is much more complex it's not as easy to plug something in plug a camera in, the technology the tech is much more complicated so it's a much bigger crew … a colleague [name] does all the mixing for that … I’m one of the team in a sense that I help things along … It’s interesting I have also been doing some fieldwork for the same module actually about … to replace a residential school this is not 206 this is something a bit different with the same academics we went out into the field for a couple of days and did some filming and I was very struck then about something that we do for fieldcasts too which is very field trip-like which is we don’t have a lot of closeups … when you’re doing regular filming you might do a lot of close up shots of people’s faces all the sort of things like that … to kind of enhance the experience but in a sense in the field you have yourself and the environment and your teacher and nothing else, you might have a few tools with you, a hammer if it's geology or a hand lens or so on but you go yourself you move yourself in a sense … and when somebody is presenting something too you are stood there with your fellow students listening yes … and it's somewhat struck me that the fieldcasts and the filming that I did were very like that, they are remote they can’t get there so they are standing there in a group a virtual group in a sense particularly the live event or sitting there perhaps watching, listening, but still engaging … that's the fieldcasts anyway … I think it’s … it does replicate the experience quite nicely, there's a group of presenters and there’s a big group of other students all there at the same time … and so there is that kind of … … there are all sorts of jargon words for this … gives it a sense of presence, your presence and a sense of presence of other students, I mean we find this with the other live events we do as well, that when you look at the recording it's not that different on the face of it than if you did a video a pre-recorded video but the way it feels when it's actually going on, how it feels to watch and even to be presenting I think is that it feels much more immediate and alive … because of the components that we have. I mean I don’t know how familiar you are with the system … I mean there's a chat box they can use … we try really to … with the fieldcasts this is the case always to have somebody monitoring the chat box as a moderator

<talking over>

And we have the widgets of course which are for the fieldcasts the key driver of the developing investigation and although there aren't very many widget styles you can actually just through slightly … through careful wording you can use those mould those into all sort of different kinds of directions and very very flexible

Int: So yes you have the ones for putting short words in and also the ones for multiple choice and

T3: Yes that’s right

Int: So I guess you can speed through quite a lot of decisions that way

T3: They do, I don’t know if you have seen any of the widgets

Int: So I have seen the recordings of the fieldcasts, so I get to see the widget results but because I wasn’t watching it live I couldn't see what the students see when they’re putting in their information in

T3: One of the important things is that when they open a widget when an individual student opens a widget they can’t see anybody else’s responses ... so it's not like show of hands sort of thing where you can sort of see everyone says that so I shall do the same thing you have to make it yourself

Int: So students won’t see the results until a presenter puts them up to the screen in the broadcast

T3: So they don’t see the results until they put their vote in

Int: Oh ok

T3: So they can immediately see their response, and they can change their minds if they want to … sometimes in live events you can see something moving all over the place … people have decided that it's one thing and then as the presenter talks about the results you can see it switching back the other way, oh we got it wrong so I will change my mind sort of thing you know … but I don’t think that has particularly happened with the fieldcasts because it is very focussed … that’s much more about … that happens much more with very simple straightforward questions about simple knowledge and where people have misunderstood something or didn’t know something and they have just guessed … so no it's quite important that students don’t see anything when they open the widget so that they can make their own decision as to what they think the answer is and then in due course after a couple of minutes the presenter will bring up the finished widget and discuss the results … so I have kind of run out of steam a little bit there, so if you want to ask …

Int: I’ve got a few things I have noted down as you were passing and I guess that one of them is you mentioned the idea of presence … do you have any thoughts on what it does for making the students feel like they’re part of a learning community either with each other or with the lecturers?

T3: Sorry could you just phrase the question again

Int: If you have any thoughts on how it contributes to building communities with the students either as a community amongst themselves or between part of the course with the lecturers

T3: … … how to answer that, I think to a certain extent it depends on the cohort so there is definitely a cohort effect, some years people are very chatty on events and other years it's more restrained it depends on all sort of things I guess on how they feel that day, how much they feel they understand what’s going on and so on … but in general I think, I mean students have actually said it helps them feel like they are part of you know a wider group of people, they’re not hearing each other’s voices which is something you would think would contribute a lot but they are hearing each other thoughts, I think when they join I think they’re feeling very social, because a significant proportion of the chat message is just hello, or variations of hello or what the weather is like where they are or where they live and even what they’re studying. I’m doing another study for some of the other lab casts I did and one of the things I looked at was the chat messages and there were lots of goodbyes as well, not quite as many goodbyes as there were hellos … so they are going into it feeling very … engaged in that sense they sort of want to identify who else is out there, I mean they will know some of the people already you get, sometimes people say oh hi sorry to bother you or somebody’s called <X> and they know through the tutor and they’re Hi <X> how are you <X> … … there was something else I was thinking about oh yes one other thing they do is particularly once they have got warmed up a little bit, not immediately generally but when it's either technical problems or someone has proposed a question students not always but sometimes come in and answer the question, oh and sorry to bother you but the answer to that was this … or sometimes it is very informal … there's definitely some evidence that some of them know each other already … I don’t know quite how but tutorial groups presumably, and although I haven't studied the chat on S206 … I think that’s certainly one way of looking at the community aspect of their behaviour and the other thing about the widgets that’s important and this would seem to be the absolute opposite of community but I think it helps with their confidence is that they’re anonymous, their responses are completely anonymous, whereas the chat is less anonymous because the default is to have their name up before each message, have you seen any of the chat?

Int: Yes I have a log of the chat messages

<indecipherable>

T3: Names taken … I think that makes it a little bit harder actually because you can’t see the sort of to-ing and fro-ing between different individuals

Int: You can a little because I had them numbered so I know that participant 37 is having this exchange with participant 46 or whatever it might be

T3: Ok so you can yes … so it is in the chat that they have most freedom to identify themselves, they are able if they want to and if they have explored the entry page fully change their chat name if they want to, their persona, but a lot of students don’t know about that and they don’t seem terribly worried … … they don’t seem terribly worried quite often about that, there are definitely people who don’t use the chat who … we always have people who sit and watch it all go past them .. I don't think … we very rarely get 100% participation in widgets … so there are always some people sitting back but that's very normal anyway even in a face to face situation, in fact I think you probably get more engagement this way, it's fairer, the voting system is actually really good because you can engage anonymously if you make a mistake then you only have yourself to worry about no one is going say oh you didn't know that I knew that there’s none of that at all … which would help with their confidence I think … I don’t know you would obviously need to survey the students to really find out how they felt about a sense of community but I think they feel they are joining a group of people for an event … I think another thing that would be worth doing that I have not thought about is that since we have two events on the same day is to look at the chat in the second event, what I don't know what you won’t be able to find out unless they have been very careful with the numbering of participants is if they are the same participants as the first one

Int: that's true, because I kind of looked at the two and tried to compare the proportion of messages that were hello and so on compared to how many of them were about oh I don’t know just saying my video has frozen or saying kind of academic things … and there wasn’t a huge difference but yeah it would be nice to know if was the same people, but I think what I saw was that it was actually a really high percentage of the people, so there were people who attended live and people who watched the recording … obviously only the people who attended live can be in the chat box but quite a high proportion of them contributed even if it's just hi or hello or a goodbye at the end although I think that probably most of them would have done it in both sessions … oh yes you mentioned confidence do you feel that … doing the fieldcast is important for students to develop their confidence … for going on fieldwork in the future for example or do you see it as a mire separate thing?

T3: I think there are all sort of different aspects to that, their handling of the technology and the engagement with the platform … successfully ... I think compared to adobe connect it is a relatively straightforward platform although it is different and they do struggle with that a bit to start off with, once they have got the hang of it we get very few problems sometimes there are technical issues they’re using the wrong browser or they haven't pressed play on the video that is another common mistake ... so yes there’s confidence in that sense there is also confidence in terms of learning and feeling able to … have a go at things knowing you’re probably going to or you have a higher chance of getting it right because you understand what’s going on you understand the content and a willingness to do it as well, we can’t get any further without your engagement we’re stuck here in the rain or whatever … and we are waiting for your response

<indecipherable>

that’s the other things the presenters on the fieldcast are without a doubt engaging personalities they’re quite a mixed bunch and they’re really enthusiastic and interested and very experienced too at doing fieldwork, face to face fieldwork … and they have done plenty of fieldwork themselves they’re research people so they’re very experienced and there is no sense of hesitancy on their part .. they’re totally relaxed … when they’re going off into the shrubbery and they get stung by a nettle, you get argh nettles you know sort of thing or something like that it's totally as if you were there with them … I don’t know if you have noticed that watching the events but they are very relaxed

Ints: yes definitely

T3: and that’s it's not just to put people at ease it's just the way they are it's their fieldwork persona … so in a sense it's saying don’t worry about it don’t have any hang ups have a go, we’re really interested in this, we’re going to get some proper data at the end which you’re going to have to write up … but you know we can’t do this without doing this we have to do this step by step process and we’re waiting to see what you want to do, we’re really interested, last year we did something else and what are you going to do this year and they are genuinely interested actually because they put time in to do the proper data collection and any lab work or prep that needs doing so that it is a reasonably decent data set … it is proper fieldwork it's not just pretend … the stuff that I showed you right at the beginning is rather more pretend although it is … they are real locations and so on, but it was much more distant and there was very little audio there was just a little bit of audio mostly written and images … that was the late 90s so that’s a long time ago

Int: Yes I was amazed by it when you showed me, I hadn’t imagined that in the late 90s that you know would have been able to do something like that

T3: Well it was very early days, very very early days but it worked quite well ... your question about confidence it's a difficult one to judge without actually talking to the students and you know seeing the eyes and things but one gets the sense that it does improve the confidence

Int: Well I guess while we’re here what other main purposes do you see … like the students learning what are the main things, I mean you mentioned earlier there are field trips where it's about these specific types of rock and then other field trips that were more about the skills so where do you think the fieldcasts fit in that spectrum?

T3: Well it is definitely a bit of both it is an ecology field trip, an environmental science field trip … it's definitely about doing a sort of small analysis of … a small investigation of the area … definitely … it is heavily directed and because it had to be heavily directed I think they … because you could go two ways couldn't you, you could be very didactic about it and have a roving camera or roving cameras following them and they could just say well this is this and this is that and we could think about this and we could think about that and then we’re going to send you a data set and you have to analyse it which is <indecipherable> isn’t it. So instead they say well this is the environment and one of things I do or have done is go out and take photographs of the wood at this time of year so that that they have that resource as well so some of it gets shown live particularly this year we took quite a lot of photographs to show them you know what is close up on the ground … what the wood looks like from a distance and those sorts of things because we couldn't be there on site so we had to supplement a little bit, I can show you some of that if you’re interested

Int: Yes that would be interesting, So I saw the recordings of the fieldcasts so I have seen some of them, but I don’t know if I have seen all of them I know there were a couple of walkthroughs from last year and there was some video some photos sorry

T3: … a slide show that went through the … I think it was the first one, and as you can see it's the first one I took it from over there, it's the woodland in here … to show them that it had been very wet as you probably remember and then just to give them a sense of context for the following pictures and then to compare the different areas just to get a feel for the differences because it very different and … it was quite a challenge really to try to convey the differences … how different the ground is in the different areas … and that’s one area and then… oh this is very slow … looking up the trunks with all the ivy cover on the pine trees … I don’t know why it's so slow … and then looking down at the ground which as you see is very different than the other area … so that was something I did to … just to give them a sense of what’s what and in previous years … … … ... no I think most of the pictures I took earlier were things like that … trying to think what year it was I think this was the third year we have been using this site … ah here we go … so these are the sorts of pictures they’re very similar to the ones I have just shown you … students would have had available to them so that could get a sense of what’s there I don’t know it may not be all of these but just looking up at the sky to see the bare branches, just looking at the sticky buds … and so on whereas normally [name] would be able to go through when [pronoun] goes through the wood to show quite a lot of these things off … not just on the images

Int: Right so on the video

T3: I don’t know are you just looking at this year’s video or will you be looking at previous years’ video?

Int: So I have only seen this year’s video so far but then when I was speaking to [name], [pronoun] said [pronoun] still has the other ones from the other years so I’m going to try to get access to those so I can see what one looks like a in a non Covid year

T3: So I can just do a very quick whiz through, so you can just see I am going to do it at top speed, this is introductions the first one so there's a lot of intro in this one then there’s the thing we used this year to give them a sense of where they are in the landscape … a drone footage which we had live on site on the day or we have had and then this is the bit where [name] goes off and goes into the woodland and has a look at what’s going on … [pronoun]’s looking at the leaves what’s coming into leaf and then [pronoun] crouches down this is where the close ups come in but it's fairly brief it's just a quick introduction and if I just whiz through that and then [name] goes back and does the same thing in the other part of the woodland and in fact if I just go back there you can see … you can see [name] in the woodland and you can see two people behind [pronoun] one is the camera person and the other is helping with the cables that year we had to use a lot of cables … and they do the same thing looks at the trees and the shrubs and [pronoun] gets down on the ground and has a look at what’s down there for this year this is what the photographs were for was to replace this particular section

Int: and this would have been done live then

T3: This is all live ... and then at the end of that section they go back <indecipherable> they look at the equipment they start looking at all of the equipment they have got so that the students can decide what is available and to say what shall we look at today … this is the first widget response and clearly they’re interested in soil and pH and light which is fairly typical actually so they use this whiteboard to write out the topics … and then they have to vote on those topics which was back there actually and you see it changing? … that’s people changing their votes

Int: People changing their minds

T3: and then I’m trying to remember what the next bit is, [name] goes off and talks about something else I can’t remember what now oh yes that's it … talks about a relationship and a difference that's another decision they have to make and when they have decided that they can start thinking about hypotheses … it's a bit too difficult to get students to work this out for themselves … because asking hypothetical questions is not an easy thing to do so what they decided to do was each presenter comes up with one hypothesis … then the students have to choose from and then they choose which one they want … and that’s more or less the end of the first episode, so that's very different …

Int: Yes I just have one question … can the students engage via the chat so if I don’t know ... they want to look at the sticky bud again can they say that and

T3: They could do yes, I don’t think that we have had questions like that ... our problem is that it is only half an hour and in a sense they’ve got those photographs those resources I think they still have those every year … let me just stop sharing a minute … so I don’t think they stop the action … I don’t know what this is or can we see that again, they do ask questions sometimes we go back to [name] and say are there any questions and answer them during the event … it's a question of timing and whether there are any questions because sometimes there aren't or they're very straightforward and [name] can just answer them … [pronoun]’s got a keyboard and just stays with the computer and just answers them

Int: … I was really struck when I watched how rich it is there always seems to be something to look at even their backgrounds and their picture of the site in the background of the whole thing … I don’t know if you find that when you’re choosing what to film compared to what you point at in real life I mean does that … do you end up pointing at different things because there are some times that are easier to show to one camera than a group of 20 students

T3: Well for starters we have two cameras, there is a locked off camera which is a sort of wide view where the presenters all stand together and there are actually two roving cameras one goes up one path and one goes the other way … so there is a sense of mobility in the film work but I think when students are in a group listening to presenters like that … if it was a real field trip … the bits of presentation would be broken up rather more by you know go off for 10 minutes 15 minutes and have a look … what can you see .. and then come back and share that with us and then they do another bit so the format would be similar but it would be much protracted it would take longer in the field, I mean you don’t want to give the game away in a sense you don’t want to tell them what the answer is so you would get them to have a look first make their own observations you might do a little introduction this is where we are and it's perhaps this sort of environment

<cuts out>

studied some of it is really something very different, I mean really getting down on your hands and knees and really getting your nose up to it and trying to kind of put it all together all the bits the thing is with science there are so many different aspects you learn about separately I mean you have one lecture on this one lecture on that and you might have to write an essay on something else and out in the field it's all there and it's so intense and people either respond really enthusiastically or they just shut down because they just don’t know where to start so you have to give them something to start with … you know we want you to do this little activity and off they go and do it I mean in the field you would go around and make sure that they were … being successful that they had understood what you had asked them to do, they were making in the right direction you might I mean steer them a little bit .. and then you get them all back together again and what did you find and then that's ok and the next bit is so it's … piecemeal in a sense because you have to kind of build up the structure and that's what they’re doing here, this about this first, I mean look around us what's there, describe it first in the most general terms and then think about what you might want to investigate here and focusing it in a way which is rigorous rather than just sort of vague and wishy washy which is what people do if you’re you know trying to describe your back garden you might give a lovely description but it would be a bit biassed and wishy washy wouldn't it … very artistic you know it's whatever your preference is … doing it scientifically is much harder without help I think if you’re not experienced at that sort of thing because you just don’t know what the process is … this tackles the process as well … and the content is really an example … it's a vehicle in a way for the scientific process but because it results in some real data it's something they can actually get their teeth into and interpret which is quite an interesting thing it gives them a real insight into whole process it's a fully worked example

Int: and I guess it is great that they see all the little mishaps along the way oh what do I do if there's a tree where we decided to take the sample

T3: Yes ... we of course also film or record the sample collection as well, have you seen that?

Int: That was when [name] was going around filling the

T3: Yes that was just me, [name] and [name], it was quite fun

Int: you drew the short straw, though I suppose it was quite nice to get out to the field actually

T3: Yes it was nice

Int: This year when everyone is feeling cooped up a bit

T3: We were only allowed three people out there anyway so … I was just going to take photographs originally but then I decided I was going to start recording as well so that’s why it's a bit of a mish mash of stills and video

Int: um

T3: So yes there's a spontaneity to the whole thing … decisions taken on the fly and … I think we can do that because it has such a solid foundation you know it is a very well structured event and so there is a little bit of spontaneity to it but there’s is always a very strong focus, there are steps you have to do… does that answer your question?

Int: Yes that answers my question … are there any elements of in person fieldwork that you think it's not possible to deliver online?

T3: … there are … logistical issues so we’re very close to a building so we can run a mains cable sorry a long extension cable to a building and plug it in … we put up a big tent for the vision mix equipment and all the gear and everything … it is quite a process we start about nine o’clock in the morning or even earlier and it takes all day we leave about half past five so it is a very long day for the production team … … and very complex, are there simpler ways of doing it yes, provided you have wifi or phone signal you could do it through that … we do use wifi actually but you may not want to know about all the technical stuff but that is an issue so there are some places that would be much harder to do so if you’ve got no phone signal you can’t even get that out so top of Everest would be tricky … or deep in the jungle might be tricky but in you know many places in the first world and the UK and so on there would be potentially some way to do it, one of the things we have acquired along our way is some large portable batteries big sort of …. Just so that we can recharge camera batteries and things like that but that would enable you … that sort of technology would enable you to take it further away from the habitation so in a sense you could extend it … one of the other issues that we face is that a lot of it is … in terms of staffing is that it's a bit voluntary basis … there’s one person, the sort of lead producer is very interested in this field and is one of the ones who really got all this going so is very interested in this sort of thing and obviously has a vested interest in being there, the person who does the vision mix and a lot of the other technical work has finally been assigned some time to us to do these live events and I am a member of a team who does media and software production in the same faculty but although we are producing these events now increasingly and for new modules … we’re still …. not … trying to think how to put this, not a very big team and not hugely well supported in that sense so it feels a bit like a pilot if you see what I mean, the reason I’m saying all this is that I think if you’re going to take it further afield you need a dedicated team time to do this, because the other thing that I’ve not mentioned is the rehearsals … we don’t all just turn up on the day , if it was like that it would literally take a day a day and a half to do the three events but in fact it took about a week all told last year, less this year because obviously we weren't on site it was all virtual .. so it does take quite a lot of man hours just the preparation even going over something again that they have done before they need to refresh their minds and have a think about whether they’re going to change it and so … it takes up quite a lot time to do probably as much time as organising a proper field trip actually but the faculty hasn’t said oh this is something we are going to do so we are going to supply you with a proper team to do this it's all done a little bit on goodwill and in someone's research time and so on … I think we could do more, if we wanted to do more, we would need … a bit more of a dedicated team not dedicated in the sense of willing to do it but difficult to explain really

Int: well the guess the resources and the support to level

T3: Yes I think it would need to be properly set up and decided and was recognised as an activity that was going on in the way that residential schools were .

Int: Should it be seen as more of a very interactive tutorial I guess as does it come under the heading of tutorials then than of fieldwork … or is it a different animal?

T3: It doesn't really sit anywhere that’s part of the problem… the fieldcast is definitely fieldwork … the events that we do span fieldwork, lab work and lectures and interviews, it is the whole range that we do … they have been very successful and we intend to carry on doing them I think it is being recognised that these things are very successful but not much has been written about them or not or about how they work which is obviously why we’re talking now … so yes I think it would be very exciting to go out to other locations and to do some work but the other that of course we do is something you have mentioned also was pre-records if you’re studying living systems then it is quite useful to go and record the site in different locations, different seasons rather, so that you can get more of sense of what it's like, I mean you wouldn't be able to do that on a normal field trip so that's something you can look at as a bit of an extra really … so doing those sort of things would require more time other visits at other times of year to the locations and so on it … it would be challenging and would require quite a strong commitment on behalf of the faculty, the university, to do that

Int: So I guess then how would you see the fieldcasts in relation to in person fieldwork is it a kind of replacement or a complement or where do you think it fits?

T3: I think that depends very much on the module, I’m not hugely familiar with the rest of the module I don’t teach or anything like that ... I think in this case it is intended as a replacement because there is also a residential school that students can go it if they can afford it and/or if they have the time … some of the other filming I described earlier on that I did this year was to replace the face to face residential school … hydrology, meteorology, soil, vegetation, that sort of stuff it's much more intense than this … some people who go on the … I think the people who go on the field school face to face field school do go along to the fieldcast too so they get the double benefit whereas the people who are not doing the face to face field school this is their only live fieldwork, I don’t know you would have to find out from an academic how much other sort of field type work there is in the module I do know there are some films a set of three films which goes to the river around the university to talk about doing fieldwork, an introduction to fieldwork I shot that with them … other than that I am not terribly familiar … trying to think… no I definitely think you need to talk to the module team about that really

Int: Module team yes

T3: … It has the potential to replace quite a bit of fieldwork on paper but it is quite expensive in people time as I said and it would need to be carefully evaluated by the module team to decide if it was actually worth the time and effort

Int: So it might become more expensive then than traditional fieldwork

T3: Yes, if you could film a field trip or if we could have shot one year’s worth of this or just put a recording up every year after it's not the same

Int: So yes I guess the presence isn’t really there

T3: Yes there’s not engagement there's no sense that you are involved that you actually directed the course of the event there's none of that and that's what's so marvellous about this … it all comes down to learning outcomes

Int: I mean I guess I’m just conscious of the time so we have maybe only got time for one more question so I think I will make it … you mentioned the learning outcomes if you look kind of holistically at someone developing into an environmental scientist do you reckon that there are things, if there are any … what do you think are the things that they would need to develop … if they’re unable to go on the residential schools or to in person fieldwork

T3: … so you’re asking what would they miss out on if they couldn't go to any face to face fieldwork … well of course there is the social side … I mean I have been to some of these field schools that they go to I know the location and I know the sort of things they do, a social side in a sense of just ordinary social interactions you know getting to know your fellow students sitting down next to them but also working with them out in the field you know what's going on here and … a sort of more collaborative approach so I think that although obviously they are collaborating they’re not collaborating with an individual they can see and relate to, they’re not, the chat is great in a way but it is a bit limited isn't it …

Int: It's not the same as just having someone opposite you

T3: … and you don’t have that sort of slightly quieter time where you have been sent off to dig a soil pit and you have been given the equipment and you have to work out how to do it yourself and you’re working with a partner and you’re discussing it backwards and forwards between yourselves and you’re actually doing the physical labour … and that moment for sort of a little bit of reflection as well … the slightly quieter look around take it in at your own pace and the field schools, the FSE centre that they go to is very good they allow plenty of time for this sort of things but then there’s always somebody going around a tutor going around making sure that they understand what they are doing that they’re not digging a 10ft pit instead of a 1ft pit or whatever you know … identifying plants for them and so on so that aspect I think is missing … the more prolonged opportunity to have things explained to them I mean one of the field schools I went to was actually a biology field trip and there were quite a lot of statistics associated with the analyses and the tutor explained very very well exactly how you know the statistics worked and there was plenty of time for [name] to kind of scan around the class and make sure that you know everybody's faces were going oh yes sort of thing rather than … that they understood what [pronoun] was saying and opportunities afterwards to stop them at meal times and so oh well could you just go over that again all that side of things is missing … of course what I don’t know is to what extent things like forums make up for that you could … it's not the same it's not the same … I think the fieldcasts work because they are so focusessed their purpose is very focussed, structured, that any question that arise within that about that thing comes up fairly quickly and can be answered fairly quickly and then of course there's a second event and a third event so any questions that build up in the few days after the fieldcast can be answered in the lab cast or in the forums

Int: ah true yes

T3: So I think that it's a package in a sense that works quite well but it's not face to face teaching there's no doubt it does not have that same magic in a way you’re not getting people away from their sitting rooms from their families and for some people that’s very difficult I mean going away from home … emotionally and logistically but it does get them away from home and it's a very opening experience, a few people can’t handle it and have to go home I’ve definitely known that but most people unbend in that week in a lot of different ways they come out of their shell

Int: And do you think that comes from having a change being away from their family and their normal life?

T3: Partly that's undoubtedly true but it's … it's the fact that these events less so the SFC(?) but the old residential schools had a huge social programme alongside it and there was always something going on in the evening or you could go down the into the town into a pub with some of your fellow students it was a very intense experience but you got to know your fellow students as human beings and you realised that all the sort of problems with the learning you know finding the time all the rest of it as they were going through as well it was that shared experience you do elements of that in the lab cast, the fieldcast, particularly in the slightly longer events when they have got a bit more time people start talking about whether they have finished their TMA or what they want to do in their next module and some of these things start to surface, but you know people take time to warm up yes they’re going to an event but they’re all a bit closed off to start off with self-contained to start off with but gradually quite often there will be … what I call what did I call it a super-chatter, super social, would do lots of talking in the chat and gradually train other people as well, other people may only make one comment or ask one question throughout the whole event apart from saying hello and goodbye but they may not have done it at all if there had not been a super social person there

Int: Yes I guess maybe they don’t want to be the first to put a question in

T3: Yes that’s right. It's very obvious in the chats that I have looked at for the other project I’m looking at doing is that when you have somebody who is really chatty that quite often it can you know wake other people up and think oh well I could as a question you know, sometimes it can shut people down because it can take over so it's a fine balance this is where a moderator can really come in and help out just as if you had somebody on a face to face situation who was chatting all the time you would take them aside and sort of say this is not the place for lots of chit chat do it after class sort of thing and focus on what we’re doing right now or you’re going to miss out you know … so it is a very different experience but they do complement each other and if you can’t do face to face the fieldcasts are a very good second best, so I would be interested to know what the students said in interviews, because you know I don’t know how they feel I’m sure that they feel that it is a bit more restrictive than face to face situation of course but I think that it is a very good introduction the fieldwork and how to go about doing it

Int: It will be interesting to see … I have just noticed the time so we have over-run a bit it has been fascinating I could talk about this all afternoon actually I was wondering if you would be able to share any of those images that you showed me earlier just to you know … especially a couple of those ones from the fieldcast where you were showing the site?

T3: Yes it's a PowerPoint presentation I can send you that

Int: Oh excellent yes

T3: Is there anything else that you would like to have?

Int: Um let me think, well I would like to watch the fieldcasts from the other years but [name] said [name] could give me access to them so I should be able to get access to them from that … but I think that’s all I can think of for now

T3: Well if you think of anything let me know

**T4**

fieldcast interview T4 meeting 23.4.21

Int: So, just to start off with do you have any experience in leading input in fieldwork – either with the OU or elsewhere? And what would you say the main purposes of that is for the student?

T4: Yes, I do have some experience – so on the same module, Environmental Science, I’ve led the Hydrology, Meteorology, Vegetation and Soils field schools that we run in the UK – so places like Malham and Yorkshire and Preston Motford in Shropshire – I’m trying to think if I’ve done any others elsewhere. Oh I used to run Masters courses at De Montfort University in Environmental Management – so the field courses there were things like going to Sewage Processing Plants and landfill sites and learning about how those works – so slightly different sorts of field work – more about technology processes rather than investigating the environment. Just trying to think if there are any others – no, I think they are all that come to mind – yes, so – and the other part of the question was, sorry?

Int: Oh, what purposes did they serve the students, you know, what do they get out of field work that they wouldn’t get out of their kind of normal learning?

T4: Well there is a whole load of technical, physical stuff about actually investigating the environment – looking at plants and soils and water with tutors and other students – so there is the physical aspect of actually practicing the techniques of observing the environment in person and learning how to do that, and then there is a whole lot of stuff about interacting with other students and developing confidence in their interaction within the environment and other people, so you are very often observed students starting the beginning of a weeks field courses being quite unsure about being there, about the environment, about being able to identify species or whatever the task is. And then through the week they interact with us as tutors, and with other students and with the environment and definitely see people becoming more confident over time in their technical skills but also in their questioning of what’s going on in the environment – you know, being prepared to interact with others more - so a whole range of things.

Int: Wow. That’s a real variety. Ok – so say we look at the interaction with other students, do you think it’s an important part of building the community of students with each other and with the tutors – or would you see it more as an individual levels of people’s confidence improving?

T4: Yeah. I think it’s more of a mixture, I mean as distance learning students they don’t get much time with others – I mean if they do get face to face tutorials not everyone can get to them, they are not very frequent so, you know, maybe a one day tutorial or some online teaching - and I think being able to interact with others – well I think it gives – it helps them develop as students and sort of take part in that student community so yes, as well as learning to be – learning to do these activities (whatever activities they are) I think that they also learn to be a student in a student community – so they learn to question us as tutors, they learn to interact with other students - so I feel that they are – that part of it is really quite important and, I’m not quite sure how students see it but almost always they seem to enjoy it and appreciate all the different sorts of interaction – you know, I mean obviously students are very, very different and some will be more extravert, some will be away from home for the first time, so you’ve got quite a range of types of people, and attitudes and social skills and levels of interaction that are going on but I think that that sort of process of learning to become part of that community is really quite important in a field course.

Int: Yes, for sure. It’s interesting what you said about some people being away from home for the first time – do you think that they are kind of a certain people, there are sort of barriers to taking part in the fieldwork due to that, or is it a kind of mandatory part of the course that they all do?

T4: Yeah I mean it is mandatory for if you are on the Environmental Science Degree, we try to give options for students who are doing a Natural Sciences Degree but we can’t always fit them on – you know – because we have to hold places for the Environmental Science students. But even those that signed up originally and said yes I want to do Environmental Science Degree they might have a range of issues that make it difficult for them to attend and I have had students leave part-way through if they could cope, either with health problems or mental health problems – you know, they couldn’t cope with the social situation of being in that fairly pressured environment for them – we try and make it relaxed, and it’s fun and, you know if you do have anxiety or different issues then it can become quite stressful.

Int: Yeah. I suppose there is a lot of new stuff happening and you can’t be sure before you go exactly how it’s going to be!

T4: Yes. Absolutely, and you know some people are early risers and some people like to stay up late so it’s just the whole, sort of, you know, mish-mash of social relationships that they’ve got to negotiate so yes!

Int: Mmm so when they are on the Degree - at what is their first field work then, like first input to fieldwork?

T4: Now it will be at Level 2 – we used to have a module where they would do some of it at Level 1, but now this will be – this might not be the first experience as there are other Level 2 modules where they could go on a field course, and in this module they also get an AL or tutor led optional field day – so a couple of tutors will buddy-up and they will take a group of students out and you can sign-up or not sign-up its optional , so they might have a day before they come to the full-on experience as it were.

Int: Ok. So would that be closer to home then like a different reason? You would have the buddying up?

T4: Yes. Yeah – although it sort of depends on timing for the students so if the timings not good for you, you might find yourself travelling across country to get to something because you don’t have any other opportunity – but the aim is to be a little bit closer to them yes!

Int: Right, ok. Ok so you kind of ramp up to it? Oh we do say that the fieldcast and everyone does virtual field work happening in first you think that plays a role in getting people ready to go on the residential thing or do you see it as a separate kind of strand?

T4: No, it’s definitely – the aim is to, one of the aims is to introduce students to this way of working in the field and that, you know, field investigation is important part of Environmental Science and this is the sort of method that we are going through and yes, to the whole – partly to the whole like, do a science investigation in the field and write it up, so that once you’ve practiced that before you go and do it in a group with people in the field live, but also its to sort of give them some connection or some idea of what it might be like to go on a Field School. So we give them – we’ve always given them a pre-field school tutorial where, you know, we say oh you’re going to go to Malham or whatever and this is what it’s like – here are some photos, this is what you will be doing and you know you might like to get in touch with all the people that are going on your particular Field School – these are the dates everyone’s going, you know, sign up – and all that sort of stuff - so to socialise there a little bit into it..

Int: Right.

T4: But I do kind of hope that the fieldcast has that feeling as well because although they don’t see each other because its – you know – they only see us on screen and they are doing text-chat, they do get to interact with us and interact by chat with other people and the aim is as well – it’s sort of like a very low-pressure environment, so although they’ve got – we ask them to make decisions but it’s all anonymous and, you know, it doesn’t matter what they say, that’s what we are trying to get over anyway – just have a go, get in there and we will take them through it. So in that way, to me, they are stepping up towards an in-person Field School – although very often – yes – of course, reflecting that not all the students from their – the fieldcast go on to the Field School but the ones that don’t – if they are on the S206 rather than the SXF206 – they will go on to, they will be doing their own field project so, you know, in their own time they will do their own project instead.

Int: Ok. But they will have had this introduction then into the overall methods and everything, - ok excellent. So you reckoned that was one of the aims of the fieldcast – what was the other one? Maybe they are a bit different with the two streams of students – I’m not sure, but

T4: No, I think they are pretty similar. I think one of the things is about making an observation of the environment and then being able to ask a question about – oh that’s interesting, and what’s happening – and then take that on to make it into a scientific testable question, so ok, this is interesting, a hypothesis would be – you know – there is a difference between this and that or is there a relationship between this and that, and then test that then gather data to test that statistically, so this is fairly step-by-step – you know – but simple scientific method and then understand that they could then take that themselves. Now we’ve walked them through it they could take that themselves and apply it. And yes, show them some of the decision points along the way, so like – how many samples do you need to take? what statistical test might you use? Think about how you are taking your samples? A whole range of stuff like that!

Int: Mmm I have to say when I watched it I really enjoyed that kind of feeling that you can affect what’s happening – yes it was really good. Do you find that the students tend to surprise you with the investigations that they choose to do, or do you normally – that they usually chose something that you’ve kind of prepared or…

T4: No they usually surprise us ha-ha!

Int: Wow.

T4: Yeah, it is quite thinking on your feet – and obviously we’re on – we are in a set environment and we have thought through a few different scenarios but yes, they often come up with something a bit different. So yes, that’s quite good fun.

Int: Um – I’m trying to remember what we were talking about – or was it something from before that they surprise you with? Maybe it will come back. Oh we were talking about the surprise – I mean, how is the experience for you, as a leader still doing the fieldcast as compared to leading a group in real life?

T4: I think in the fieldcast because it’s quite pressured because you only have a couple of set periods in the field so you have you know two sessions in the field where you set up what they are doing, you set up the environment and ask them to make choices and you gather the data – and you do that in two sets, and then you analyse the data later in the lab. It’s quite, sort of, focused and you need to get certain decisions and certain information between you and the students, so we practice it to get the timings right and all that sort of stuff, whereas, if you are in the field with the students its much free, they get to talk to you individually, you get a feeling of what they are like as people, you know, how they are operating in groups whether some are having problems or not, or you can see from body language and questions whether they are getting it or whether they’re just totally lost and you have to go over everything again, or whether people are tired, you know, because it’s a longer – you know, you are doing it over a few days so it’s a longer session

Int: Yeah, ok.

T4: So there’s much more of a connection with them as people.

Int: Right. Yeah

T4: The only thing I was going to say was about the live, sort of, nature of the fieldcasts – so that this is something that we designed in specifically because, as you know, at the OU we’ve sort of taught by text and by videos and we can do all that kind of stuff, but stepping between that and an experience of students actually doing stuff in the field with you we thought that this – the live nature of it – was quite important and to make that direct connection with the student. Now I know its recorded because, you know, they can’t all be there so its – in a way that could be seen to take away from it, but that’s the world that we live in, and they can’t all make it, so we have to record it. But yes, the doing it live and reacting live to what’s going on is part of the fun of it, part of the difficulty – makes life trickier but yes we thought that was quite important in keeping them engaged with what we are actually doing - showing that it is a real thing that they are doing – it’s not a virtual environment that we’ve built or it’s not a set of videos that we are showing them that they collect data from but it’s an actual environment that they are working in – or that we’re just the hands or the feet or the eyes on the ground, as it were.

Int: So I guess there they get to see things that aren’t textbook right – I guess there was the fieldcast there was one where they had to take a sample for where there was a tree and then they had to look somewhere else, to see how the Pro’s do it, right?

T4: Yeah, and its – I always find it a bit difficult to do in the time pressure, but I quite like the idea of modelling how we as lecturers or scientists are going through the process – so we are looking at the environment thing, oh look – that’s interesting I wonder why that is doing that – and then work that through into question and then a hypothesis, or yes, like you said the sampling has gone wrong so, yes we will have to adjust this or adjust that – this is what real life is like. ‘This is a picture of a soil pit – an actual soil pit – doesn’t look quite like it does in a text book but, you know, this is the reality’ so yes, trying to bring it a bit closer to them, I think.

Int: Mm – I was thinking, are there any things that are easier to show on a video on a fieldcast than there would be to a group in real life – because I was wondering when sometimes when I’ve been on a field course sometimes you are standing at the back and so on and you can’t see things and I quite like on the videos that you can see these close-ups, but, I don’t know, do you feel that there is anything like that that is easier to do online than it would in real life?

T4: Yeah I definitely think that the students get is probably clearer than it might be in the field if you’ve got a group and its wet and cold they’re not particularly paying attention because they are hungry or whatever it is but they are looking at the screen and it is laid out for them. But then there are things that they miss, like the tactile nature of soils or plants, and it can be quite difficult to show some things on screen, I think, so you know, I find particularly plants – I think if a student has a chance to actually pick up a piece of grass and look at it themselves then there is a lot more they can see, than even if you show it up right close on screen they can touch it, they can pull it apart, which is quite different from seeing it on screen, you know they can feel the texture of the soil or whether it’s wet or dry, or and that gives you more information. I mean, we can describe it to them, but they are not having that physical relationship with the environment – which is different.

Int: Mmm either for them or limited to you don’t know them rather than…?

T4: Yeah, yes. Another thing is, I’m pointing them where to look through the camera, so although - I mean the camera is following me as I’m talking saying oh look at this, look at that – but it’s not like they are there and sort of turning round and saying oh you are showing me that but what about that bit over there?

Int: Ah. Ok so there is less chance for them to be surprised almost to point out things?

T4: Yes

Int: Do you tend to find that people -so in field work do people often see something and ask oh what’s that doing there or do you know what this is or things like that?

T4: Yes, they will do that and – not always but yes sometimes they will say oh what about this or what about that and I think there is more – apart from as well as the physical environment surrounding them there is more opportunity for them to interact with that and question it. Yeah with the numbers that we have and they are just interacting through chat and widgets, they’re probably less opportunity because you try and keep it moving and as I said before it’s a concentrated piece of time – there is perhaps less thinking and questioning time for the ‘to do’ questioning of us and discussing with us or discussing with other students as well. II think timing is quite difficult but then you can’t expect them to sit for a whole day in front of a computer screen watching a screen while you wander around the countryside – it has to be quite focused!

Int: Mmm, yes I see what you mean. Something that came into my head – oh yes you mentioned being wet and cold so I would be interested to hear what you – I mean I can imagine the kind of advantages and disadvantages to missing out on the wet and cold part – do you think that’s an important part of field-work?

T4: I think from a bonding point of view with the student groups it can be really interesting to watch that because if they get wet and cold they are all talking it, or if they are enjoying the sunshine it takes them longer to do their work because they are sitting around chatting and enjoying the sunshine. I mean there are some physical practicalities like how do you take notes in the field on a notebook, you need a plastic bag to cover it because in the UK it’s going to be raining – all that sort of stuff – but yes I think bonding, most definitely there is – if they get wet feet or, you know they are all chilled and come back for a hot cup of tea and piece of cake it gives them this sort of bonding experience – and they generally enjoy it.

Int: If they’ve all got wet socks on.

T4: Yes … And even ones that have been in quite dire weather – I mean we tend to take them out until it gets too horrible -but if we’ve taken them out in snow and, you know, they’ve come back – maybe they’re not used to that or, yes it’s definitely a conversation point and they remember it!

Int: I can imagine … I remember we went on a field trip in Wales – we went on a surveying trip when I was at university, we went to Wales for a week and it was just beautiful sun the whole week and I think hardly anyone did anything we just ended up wandering around just like oh look at the sky and ha-ha!

T4: You were lucky – I went to university in Wales and I know what it’s like most of the time.

Int: Yeah, I think the lecturer said they’d never seen anything like it … I guess – do you think there are any students that would be put off by the weather or do you feel that you know the people who study environmental science are pretty much you know, up for that and being outdoor and so on?

T4: I think it’s a real, real mixture – I’m sure there are people who are put off by that and if they do come they don’t enjoy the experience, and then we have others at the end of the spectrum who would, you know, be yomping across hills and are really hardy and want to do more and more and ‘can we not go up that hill please?’ but yes I think that there are people who get tired, there are people who find it physically difficult -although for many people’s perspective we don’t actually do anything extreme and we do – we have vehicles to take people around whenever we can and make adjustment for people who are using wheelchairs or have other difficulties, but even then some will find it very very tiring to be out – well just being outside and being active in a group and for a whole day or day after day can be physically draining, but also it can be mentally draining as well. I know sometimes – sometimes I will go to the bar and meet students in the evening, but sometimes I’m like, oh I just need a bit of space from them, and I’m sure they feel the same – they just need a bit of private time – it all a bit full on as well as physical, all the mental interaction and social interaction that goes on.

Int: I think that depends on what sort of person you are – you know – some people thrive on it and some people need a bit of space from it.

T4: Yeah I notice everyone has their limit really – how much they can take of the social interaction.

Int: Yes… What kind of group size would they be in then? So when you do the field schools would you take an equivalent number of students that you had in the fieldcast and then split them up between each leader?

T4: No. we tend to take about 30 students on the Field Schools, there would be one OU person and we run them at the Field Study Council Centre so there would be a couple of Field Study Council people – so you might have three tutors and thirty students – something of that ratio.

Int: Oh ok!

T4: So they have to run these things multiple times to get all the students through!

Int: Right, ok. So would you say – I would imagine that the fieldcast is a lot more complications in a way as you have all the cameras and technical equipment and so on, so would you say – in terms of time – it’s kind of quicker to run real fieldwork for a certain number of students or virtual fieldwork or just any of the same?

T4: It’s a little bit difficult to compare really because you don’t get to do quite the same things in a fieldcast as you would with the students in the field because you would give them each an opportunity to use a piece of equipment or to use it in groups – you would allow more time for them to do things so yes I guess the fieldcast – even with our practices that we do its probably less time for the number of students that we have because we have – oh I don’t know, how many times we go out in the field but quite a number of times to get through that number of students.

Int: Sure, so I guess – do you see the fieldcast then as a replacement for field work for some of the students or it’s a kind of complement to it – or how do you see it, say, put together?

T4: Yeah as a complement. I see it as quite introductory – it’s sort of getting them into the mindset of what you might do in the field and my might expect something similar when you go out and do your own project or you go to a Field school. This is the sort of thing that we do. So to me, I think, that part of it is pretty important and obviously it is a whole study in own right so an actual investigation of a part of the field, but yes I think the sort of introductory nature of it especially to students who might not ever have been out on a field course or field experience before – I think that’s quite important.

Int: Ok. That’s really interesting. And has the fieldcast sort of evolved over time or was it kind of roughly – has it always been the same idea or have they kind of evolved over time?

T4: Yeah, I think its evolved a bit. So initially it was like an optional extra. It was just something we were trying out to see - its voluntary so come along, have a go, sort of thing, and then it evolved into being part of their assessment – so they take it more seriously and become more involved in it - but I think that a lot of the principles that we work to around the student having some control over the investigation, being able to direct it a bit, have remained the same!

Int: Right!

T4: And some of those ideas came out of other work that we’d done with a project called the named remote activity - I don’t know if anyone’s ever mentioned to you but ..

Int: Oh no!

T4: Ok, this was where – this was for students with mobility problems who had difficulty going to Field Schools in Geology and Environmental Science and what we do is we have a wireless network in the field – so they come along to Field School – we have this wireless network and we connect them from an accessible base which might be a car or a table set up in a field through the network to a remote helper who has a video camera and a camera and a headset and they communicate back and forth to the student, so they are literally there with their hands and their eyes in the field and the aim with that is to get the students as close as possible so they can take part in most things, but where they can’t, like there’s a rocky outcrop or they are very tired one day or whatever, then we would be directed by the student to gather the data that they needed to gather so they can work along with their team members in the project or whatever it is that they are doing - so the idea that the student has direction over what is going on I think sort of fed through from that project into the fieldcast stuff.

Int: Ok, so they have kind of ownership over the data really because they feel that its – yes, that’s fascinating. And so, do you still do that – the residential

T4: It is still available – we haven’t recently had any students that have needed to use it. As I said the sites that we use are pretty accessible and we can use cars when necessary or vehicles to take the students around – but sometimes you do get students that, you know, can’t cope with that but still want to come, you know, to the field school. But yea, I really enjoyed doing that and it would be good if we had some more students who would be interested in using it but – we will see.

Int: I guess yes then if you see anything in the future that you would like to do with the fieldcast you know – would you carry on doing them if there are or if you had the time and everything you needed is there something further that you would do with them?

T4: Yeah I think there is probably a few things that will be interesting to explore – hot to get students more involved in the process, and how to get more students along to the live events – I mean I can’t remember how many we topped this year – it was quite a lot, maybe 200 was it? I can’t remember. But that’s not the whole – all the students that need to see it to get the data to write their assessment, so we know that there are a lot more that don’t come along live and I don’t know whether they are missing out – I feel that they are missing out because they’re not as - from my point of view – I don’t think that they will be as involved in the decision making as in the project work so they won’t feel so much ownership of it as if they’d just watched the replays, you know, maybe that something we can investigate – do they feel as involved? But I would like to get more of them along to it and taking part, I’m not quite sure how we could do that but…

Int: Yeah, how do you, kind of, sell it to them? How do you describe it to them to make them want to come along?

T4: Mmm that’s interesting. I’m not quite sure – perhaps we don’t sell it very well.

Int: I don’t know, I’m teaching maths with the OU and I was quite amazed that you had 200 people coming along because sometimes we really struggle to get students to come along to the tutorials, and they always say oh it’s really nice that they are there but in the end they don’t come along so it seems – but yes how do they – I suppose they know that they have to do it for their TMA

T4: They know that they have to do it, yes. And they are given the times and everything, obviously, up front and are encouraged to go along by their tutors – but we could probably do more to sell it to be honest with you.

Int: What would you say to someone if they were hesitant about going live – if they say oh I don’t know I tend to be tired on those days – yes, I think I would probably tell them it’s quite good fun – there’s no pressure – you know we’re not going to put you on the spot and ask you to identify a plant or ask you any questions at all – it’s all like its anonymous voting and text chat – you don’t – but it’s fun and you get to, get to see us mucking about and getting cold and wet ha-ha!

T4: Oh I’d definitely enjoy that ha-ha - Some of them have been very cold ha-ha.

Int: I think you enjoy your heating a lot more when you are watching someone rolling around cold and…

T4: Yeah, and I think also I’d quite like to see whether we could extend it a bit more and get them more involved in looking more at the environment and interpreting it. Sometimes it seems like it’s a little bit of a quick run through – oh yes I’ll walk you through this bit, I’ll point out things and then we’ll ask you what you think is interesting – which sometimes seems to go very quickly and I’m still wondering is there any way we could get students more involved in that process – show them more, ask them more questions that they could tell us more about what they’d like to investigate or get them to think a bit more about what they are seeing and the relationships they are seeing in the environment – any interesting things that they spot!

Int: I suppose you have that trade-off between making it too long and giving them time to absorb things slowly!

T4: Yeah. Because we do the two field sessions in one day, we used to run the two field sessions on separate days so there would be three – but yes it would be the same episodes, as it were, but they would be more spread out.

Int: Ok. So they wouldn’t be the two on the same day with a lunch break

T4: Yeah there would be a couple of days between

Int: Ok.

T4: And the thought there was that, you know, it’s allowed them to go away and think about it and ask questions on the forum or chat to each other before we did the net bit which would be the data collection type of things, but then – I can’t even remember why it was put together on one day – it might have been just pragmatic consideration about how much time we are spending doing these things.

Int: I suppose you have to set it up!

T4: Yeah!

Int: Was there good use of the forums, because I’ve seen the chat messages from the replay but I haven’t seen the forums - did the students make a lot of use of those?

T4: Not a lot to be honest, I don’t think – I’m trying to think this year? No – quite a few questions around exactly how the data was collected this year – perhaps because we didn’t show that bit live – so normally we would film a couple of sequences of us actually collecting data where we are digging in a bit of soil or doing some plant identification, we would film a couple of examples of that and then say, well you don’t want to see us collect the rest of the data, so we will say goodbye now – but then we would go and collect the rest of it and someone once had a good idea that we did a time lapse of that

Int: Oh!

T4: Yeah, so if you look back at some of the old ones they … at the end they will have a time-lapse of us rushing around collecting all the data.

Int: So would you go with clips of you – show them kind of live at the beginning and then start the fieldcast and collect the rest – ok.

T4: Yes!

Int: I think it’s really impressive, you know, that you can do this live and everyone can watch you online and you are actually there with the camera!

T4: Yeah. The technical people are just amazing – love them – they are just so good. And it’s interesting actually because it’s – it feels a real team thing that they can come up with suggestions because they know how to film things but they are also thinking about the educational aspects of it – especially over time when we have the same people do it and they are saying, oh well do you think the students might like this more or get more out if we did that? So it’s definitely a team process – not just the three lecturers standing up but with the people who are doing the filming as well. I’m always thinking about, would it be better to do it this way or that way, shall we try something else?

Int: Yeah. Wow. And what do you do if it rains? I mean, do you – is it still possible to film or what? I can imagine the noise and everything is tricky, or does that sort of…

T4: Yeah we’ve been pretty lucky so far. It has rained a bit and most of the problem is the cameras getting wet ha-ha. The cameras and computers that’s what people are worried about, and if it’s very windy the sound can be tricky so those sorts of considerations, yes and you sort of learn about what can and what can’t be shown easily on video and on screen. So we have this ridge and furrow site that we used before which, you know, you have different plant communities on the top of ridges as compared to down in the furrows

Int: Right yes!

T4: And you look across the field when you are in the field and the difference is so clear – you can just see it, and you look through the camera and you think that just looks like one mass of green,

Int: Oh wow!

T4: You know so there are some things like that that are trickier to show through a screen than they would be in real life - just the ways your eyes work or the – your different perception of the colour green is different through a screen!

Int: That’s fascinating. Sorry, so it was kind of affecting your choice of sites and so on if you are doing..?

T4: A little bit, it sort of more affects how you do things, and you have to think of other methods to help students understand the differences that you can see. So with the ridge and furrow sites you can put poles - same length poles – on the ridges and in the furrows so that the students can see the difference.

Int: Ah-ha. Ok yes.

T4: You know, things like that, and discuss a lot about different viewpoints from the camera – can the students see the difference in the trees, different height of the trees, can they see whether this wood is more open, less under-story on this one has more plants in it, can they see that, you know, that choice of camera shots and that’s, again, where the technical and camera people come in and tell us no, no you can’t see that – we need to do something else.

Int: That must be so interesting to do, working with a whole different set of skills isn’t it.

T4: It is, yes. Its fascinating. And you get used – start to get used to being on camera and try and walk and talk at the same time, that sort of stuff … it’s surprisingly difficult.

Int: I can imagine. I’ve just noticed the time, I think I could sit and hear about this all afternoon, and doing it is really fascinating, but I don’t want to keep you. So I just wanted to say thank you so much for this – I mean if there is anything that has occurred to you that you think I should know afterwards then of course just email me and so on, but yes I will be really fascinated to see where this goes. I’m going to try and watch some of the previous ones – they are like the pre-pandemic ones that were recorded live to get a feel for them and I look forward to that!

T4: Oh good. Yes they are slightly different so, yes … It’s been really interesting and yes, made me think about a few things so that’s good.

Int: Oh that’s great – ok I’m glad it’s been useful for you then. Ok, thanks so much – enjoy your evening

T4: Thank you

**T5**

Int: So yea, like today it’s going to be like semi-structured, so I do have a list of questions I would like to cover, but I’m not just going to go through them in order so if anything occurs to you then obviously just say it... I am mainly interested in any experiences you’ve had with in-person fieldwork and with virtual fieldwork and kind of the advantages and disadvantages of them in terms of what you can achieve learning-wise but also in terms of building communities of learners as well...

T5: Is this the first one? Something fieldwork?

Int: Oh your experience of in-person fieldwork

T5: In person ... ok, yeah...

Int: I dont know if you do ... maybe we can start there, I mean, have you had experiences leading in-person fieldwork and what have they been like and what have the purposes of that been?

T5: Well, I’ve been developing the technology that’s used for fieldwork learning for quite a long time ... maybe since 2012, something like that, I’ve done other stuff as well, but for the Open University I’ve developed technologies to support disabled students’ participation on fieldwork, so through that I’ve done quite a lot of experience of working with fieldwork educators and students, so in geology, environmental science, biology, and quite a lot of skill groups ... so I’ve been a consultant for the Field Studies Council and things like that on how they use technology in their centres and done training sessions and stuff for their staff.

So yeah, I’ve got quite a lot of experience of the kind of fieldwork education, as an area and that sort of a specialism for my research really... So that’s kind of my background a bit... But yeah, no I wouldn’t have a clue about teaching people whatever it is that they get up to when they are there... So my background is as an engineer, I did computer engineering, and human computer systems, and then Educational Technologies, so I cannot make the technology but I sort of design it in collaboration co-search with students who are with educators.... So that’s my practice ... that’s what I do...

Int: Ok... And so what would say that then are the key things that you want to make sure the students with difficulties get ... I mean what are the things that they normally miss out on or what are the main learning points you want to help them with technology?

T5: Yeah, well of course I mean I do have a few different areas of work with all the different stuff that I do, for me, dialogue and discussion is kind of a core element of the active learning processes, so I’m always looking to see where the opportunities are for active learning, and that’s why I was interested in field work because it tends to take people out of situated learning ... their place in the field is experiential learning ... so they are putting into practice maybe ... for the OU context they are putting into practice the stuff they’ve read of or learned about online, and they are putting it into context so for me that environment is really interesting, that little context piece... So yea, just making that participation inclusive and is just enabling people to have those conversations and that’s the kind of core focus of it, always enabling discussions and conversations...

Int: Ok ... is that mainly between the students and the lecturers or amongst the students or just generally?

T5: Yeah... It can be a combination like that or any of them really as its just about learning through talk thing, which is a bit of a constant stuff for my work... So the ways I’ve done it for fieldwork ... I mean prior to the fieldcast that we’ve done, I’ve been working with [name], [name] and I started some work on this quite a long time ago, and we use mobile technology and network technology, so that for students with mobility impediments I can’t get ... they still go on the field course, they access all the field sites that they can access but if they are having a bad day or, you know, whenever there are going to be some locations where they can’t get right to the field sites, so they run a local wireless network and then they’ve got a video-feed and two-way phone calls ... you know the voice over IP phone services that we can take with us, so they’ve got sight and discussion with their group and that’s then enabling that conversation ... so they can be, between the students in the field and the students that are nearby or could be a tutor is involved as well, the tutor might be working with the student, you know, nearby to facilitate helping them or the tutor might be in the field site with the students and talking through with the student ... with the remote student and working with them there, as a sort of eyes and ears ...

Int: Ah ok, so would there would be a person kind of ... so either the tutor or someone else paired with the remote student who can have a camera or something

T5: Yes, that’s it...

Int: Ah ok...

T5: Yeah, so I particularly ... one of the ways of using [name], like the tutor they’d have a camera so whatever they can see on that the student sees, and they’ve got a little headset, like I’ve got on today, and they just talk away, yeah... and the student has the same kind of headset and yeah, sees it on the screen... I mean, it’s not as rich as being there and touching stuff, but like a lot of the tutors that we’ve work with that do this kind of stuff, they bring rock samples back ... you know the rocks and samples back from the field and plants and things ... so they still get a lot of that experience and I sort of manage it that way, so but yeah, it’s all about talk so ... and getting the students involved and getting them to participate so it’s quite ... that’s the motivator for it really...

Int: Ok.. I notice actually from the surveys we did with the students there are a lot of words to do with senses coming up... People talking about hearing things and smelling things and touching and that sort ... how do you see that, what do you think is the role of that in learning?

T5: Yeah, it’s quite a big thing ... I mean that physicality and the materiality of the stuff is sort of, the feel of the stuff and the small of the stuff ... I mean people talk about it as a way of ... I think it’s used as a little bit of a proxy ... it’s sort of, like a way of connecting with the environment, you know, if that’s the subject they are doing or ... so I think it does matter ... I think it is important and you can enable it in different ways... I mean the fact that all of our students are distance learning students, there are lots of different ways ... that doesn’t mean that they can’t do those things, and it just means that you need to kind of manage and coordinate the way that makes sense and so they are often you know doing the feeling and touching in their garden or in, you know, a local park or another environment, so there is still every opportunity to do that, you just need to think a little bit more around how you do that in your neighbourhood... So it’s a wee bit problematic at times in that the differential student experience... Some folks are lucky that on the doorstep there are all kinds of stuff and other students less so or have less opportunity, so that’s a bit of an issue... But yeah, try and encourage, try and support... I think it is important for a lot of the subjects ... a lot of the field-based subjects this thing of place and, you know, immersive is quite important...

Int: Right, so ... there was something I wanted to bring up ... oh yes the other strand you mentioned aside the experiential thing was the talking and discussing thing ... to what extent do you feel that kind of becoming a community is important to the learners and to what it makes them think, you know, as long as they have someone to discuss with while they are dong the learning that’s enough? Does that make sense?

T5: Yeah, it does yeah... I think the stuff around community and connection has become ... there has been quite a lot of interest in that and partly I think quite a lot of it is justified, I think it’s quite good in that there’s all this sense of belonging and sense of identify ... stuff that changes but the nature of who you are is, especially the role of education is to enable you to become, you know, whatever it is you’re not, from being your professional identity or whatever so I think there is a bit of an interest around that, a kind of becoming thing and sense of belonging ... so that is a useful way of thinking about it... I think in some contexts communities is a bit overused? And sometimes we are maybe using it as a broad range of things and not making that clear about it... So for some of our distance learning students it’s not a phrase that they necessarily identify with or they think of in that terms, you know, so I think we need to be a bit careful sometimes about how we use that because I think some students, especially if, you know if they are distance learning students they’ve got limited time and they’ve got the fitting stuff in and around other stuff, so the thought of having to get to know a load of people as well feels sometimes like an extra overhead ... like an expectation on them, and that can feel like a pressure so I think we need to be that careful sometimes about being overt on how we frame that, but I think it does work when those things emerge from people’s interactions, so I think if we are able to enable the students to talk to one another either online or in face to face it doesn’t matter what the context is I think ... I think if you enable people that have those connections with their peers or with their lecturers then I think these kind of connections social connections and the sense that of belonging and sense of participation kind of grows out of that so then the community happens... I feel that community is emerging with this property, so sometimes it ... when it works out its really good ... people talk about learning communities but I think it’s not something you can impose on a group or kind of bring it down and tell people to be a community, you’ve got to go there and see what’s happening ... that sort of thing...

Int: Oh so you just kind of enable it to happen if it’s going to happen, but you don’t kind of ..

T5: Yeah, the best educators I think is a little bit the environment for learning to happen and I think for some tasks and activities, especially this kind of group stuff, and that form and that sort of process lends itself to this kind of emergence of sense of community in a group... because they are working together, you know...

Int: There are an awful lot of our tasks at the OU that are done individually, you know, assessment is still individual so why ... I shouldn’t be that surprised that the community stuff doesn’t emerge because actually we are asking people and assessing people as individuals...

Int: Well that’s a good point actually... It is something that I noticed from the surveys that there was quite a big difference between some students saying it was amazing to be able to chat to everyone and some people saying oh it was quite distracting ... the chatbox was there and you know people just talking off topic and so on, so I guess ... yeah maybe it has to do with the different reasons that people come to the OU I guess...

T5: Yeah... I think it’s amazing, and I think you can ask the same people the same questions and on different sessions and it may bug them that day or may not bug them and it could be all kinds of different kinds of reasons ... I’m not disagreeing with people, I think generally some people do find it distracting, you know, but I think it varies quite a bit, and I think a bit a little bit of it is kind of where people are at, you know, so if they’ve fed into the chat and depending on how it’s used in the session ... so for some of those kind of fieldcast things or the Labcast boys ... we’ve used them in Labs as well ... some of the lecturers have encouraged the ‘hello’ bit at the beginning and they encourage people to say goodbye at the end ... but there isn’t much communication between the two... It just depends on where they direct them too... I think in the fieldcast ones they encourage some of the presenters and staff encourage people that have added stuff to the chat, to chip in with questions and things like that, so there is a bit more dialogue happening there and I think those ... that thing about being in parallel conversations is happening in the chat at the same time as the broadcast and that’s the thing I think ... you know, for some folks you can see why that’s distracting and two conversations at the same time...

Int: Yeah, I see what you mean... Yes I suppose it would be like kind of whispering to your neighbour during a lecture or something, yeah...

T5: I mean it’s a funny thing ... they are attending to the video bit, you know the sound, so it’s tricky, it’s ... I mean its educationally sort of designing the experience and quite hard for folks to know how best to do it and I think the chat stuff can be enabling for a lot of people who maybe wouldn’t necessarily speak so I mean the way which you forms and stuff and Asperger’s(?) has forms as well, it enables some people to have a voice that may not speak up and an open face to face thing so ... trade off...

Int: Do you think there are particular groups of students who might find virtual fieldwork an improvement on in-person fieldwork?

T5: Yeah, quite a lot, yeah... Quite a lot that I work with ha-ha...

Int: Which ones?

T5: Yeah, well I mean, it’s a little bit complex in that it’s ... you know on a great day and lovely weather and if you are with people who you want to be with you know fieldwork can be very pleasant and very nice experience. If it’s horrible weather and with a bunch of people you don’t know very well and you are in a strange environment ... I mean even if the education value is brilliant you are still going to have a pretty miserable time so I think it is hard, and I think it sort of affects people differently as well... There are all kinds of combinations of things, I mean part of my experience is working with students with underlying health issues and around disability stuff, and for some of those students getting to the field ... even just actually arriving there ... is a bit of an ordeal... There is all kinds of support that’s sometimes needed, so for those folks to put themselves through that is a big ask and a bit more of an ask than it is for most students... But I do think there is a whole range of things ... there’s a lot of student anxiety stuff as well ... not just physical well-being stuff but mental health stuff and leaving home and all these other stress measures that can affect people so ... I think there is elements where the online, the virtual, if you can enable similar learning in a similar kind of community ... I don’t think it’s easy to do it online, to be honest, I think there is a real value to being in the field ... but I don’t think it’s a kind of black and white, one’s better than the other, I think it’s just ways of enabling, and sometimes a blend of the two... I guess it’s a bit predictable I would say something like that being the OU... But I think people do learn from these real-world experiences but enabling them to get there and get the most out of it is maybe supported through other means. So, you know, preparation activities and doing things you can do online ... so it’s like the fieldcast thing... I mean that’s the kind of obvious bit where we are going isn’t it... The idea behind those fieldcasts was maybe to help introduce people to fieldwork and then go out and do the residential fieldwork as well you know...

Int: Ok... So they see [name] going round and collecting their samples and so on and see OK that’s what it will look like and…

T5: Yeah and they see the lecturers ... I mean not ... you see the lecturers making mistakes, and kind of dropping stuff and forgetting things and not being, you know, being just as human as the rest of us are sort of thing, so I think that reduced the barriers a little bit... Makes it feel a little bit more doable for a lot of people...

Int: Mmm yeah...

T5: The fact that the lecturers don’t always have the million answers straight away ... you know, they have to think about stuff and work things out, and there’s sometimes debate between them ... they don’t always agree... There is different interpretations of what they see in the field, and I think that’s really, really valuable to see... Because, you know, well certainly in my experience, there is always a student that lecturers know they are talking about ... and they do ... but it’s not always ... the subject isn’t simple black and white ... it’s not there’s a single right answer for any particular thing that you see in the field...

Int: And so you mentioned this is kind of like a preparation for them going into the field, so I can imagine that they see people making mistakes and so on then its good for their confidence as well, so is it something that is kind of quite heavy at the beginning and then it kind of tapers out and you only have in-person fieldwork towards the end or does it kind of follow them through?

T5: I’ve done a bit of work with different universities looking at this nationally as well because of the other projects that I’ve had around this, so there are different degree programmes around in different subjects ... I mean it’s ... each institution and each department has got their own kind of culture and weighting about fieldwork so, some institutions will campaign and be very motivated to get the students into the field every year, you know, as much as possible ... and a bit of that is driven by you know the people in the department and their own belief behind fieldwork and stuff... Others will try and wrap it up or develop it you know, in a more progressive way so that maybe students get introduced to stuff and might do local things but maybe the second or third year they will go on either the Internationally sort of bigger trips and things like that, so there’s really is a range of ways that different institutions approach it... I think the last ... yeah, certainly it’s been happening forever, but for the last ten years there’s been a noticeable pressure, financial pressure on institutions, and the costs of doing field trips, you know, physical field trips, it was really interesting ... there was a sort of growth and overseas trips when things like Easyjet and cheap air flight travel and stuff like that happened so prior to that people could go to Anglesey or go exotic like Isle of Wight or something, you know, but they wouldn’t necessarily, you know university students wouldn’t necessarily do international trips... And there was a real boom in those ... you know, real opportunities for people to go to places that are just incredible, you know, but environmentally it’s not that sustainable ... it’s not great in terms of the environmental sites having hundreds of students traipsing over them every year, it’s just nightmare in terms of maintaining the environment... So all kinds of dimensions to this ... so I do think coming out of the Covid stuff ... one of the clamping down on the fieldwork stuff that has … it’s been necessary not to do fieldwork because of the Covid stuff, but I think people will rethink it a little bit because they had to engage with some of the alternatives a little bit more and I do think ... the value of fieldwork ... I think there will be a bit of a reaction because people will want to spring back into the field because they are desperate to do that, but I think over time there will be a sort of legacy of this trying to rethink of what’s more sustainable and educationally what’s the benefits and stuff... There has been some real questions and pressure about what are the educational benefits of fieldwork for all students because I think there are those that love it and the subject because they want to get out in the field but they’re kind of strongly motivated to continue that, and that is the background of a lot of the academics that they are now working as lecturers and stuff... So, whereas there’s a higher proportion of people who aren’t necessarily the people who are anxious to just get out in the field and that are there for other career plans for other reasons so they maybe don’t get as much from it...

Int: Ok... Oh that’s really interesting...

T5: The majority of people that are doing like geosciences and stuff ... most of their work won’t be in the field, you know professional

Int: You mean doing it professionally ... right...

T5: Yeah, relative, you know there is still important work done by the EDS and Ordnance Survey and a whole range of people who are out there, they are doing stuff, and fieldwork is part of their professional work, but for the bigger proportion of people there’s all kinds of desk work ... research and stuff that’s done...

Int: Oh ok... So I mean, I guess so you’re not directly lecturing yourself but you are getting in contact with an awful lot of people who are so do you say, I mean, would you say most people see fieldwork as something that’s kind of essential to aid education in geosciences or half or very few or what?

T5: It’s a bit of a mix... A wee bit of the mixed experiences as well so that ... I think there are ... the people that continue to do and perpetuate the fieldwork stuff are the ones that love it, you know I do value that and I think they are quite right to have that view and stuff and teaching that way it’s all good... But think there are folks that didn’t have a great experience necessarily and aren’t that motivated to be ... the responsibility of taking a field group is fairly high these days, you know, and the risk and risk assessment and stuff that has to be done and you’ve got to be pretty committed behind it... So I think there are quite a lot of folks that maybe aren’t less than enamoured or enabled by that ... people sort of complain about that ...

Int: Ok... Would you say in the OU, people have a choice about whether they offer it or not ... is it something that’s kind of decided at module level and it’s up to the staff tutors of that to decide if we are offering fieldwork or are we not?

T5: It varies a bit... I mean I think there is some level of ... I think people have a choice around to what extent they engage with it and enable it, but I think a lot of it is set ... a fair bit of it is set by the subject disciplines stuff ... so there is the quality assurance agency that has the subject benchmarks ... so both them and the professional associations often set kind of subject guides and stuff around what a degree in a particular subject should include ... so I mean I had a piece of work was surveyed across the STEM disciplines of what these things were and yeah there is an increase in engagement with ethics, but in a field-based discipline quite a lot of them have a very much explicit requirement I mean around fieldwork and field experience... More progressive ones are doing it around the value of the educational outcomes that are achieved there, so they don’t just place it in terms of ... you have to spend 12 days a year on a field site, you know... Which is maybe not the best measure of learning, but, you know ... so things like that very little, but then another, those degree ... the accreditation kind of bodies and stuff, they have a huge sway on how they manage this stuff, but then the institution kind of enacts that, so ... where they take students and how they engage with them and what introduction and stuff they do to it is at the institutional kind of choice, so it does vary a little ... I mean, I’m lucky just because I’ve been doing this a while I’ve got to know and work with quite a lot of different universities and the folks that love it, you know, really love it and are very committed so it’s kind of … I think the reason why a lot of really good experience is the people have, it’s not all bad, I don’t mean to be negative about it, it’s good...

Int: Great... And you say, you mentioned the Learning Outcomes ... do you know specifically which Learning Outcomes tend to be linked to field work or do you know where I would be able to find that out?

T5: Each of the ... yeah if you’re addressing those kinds of things then if you look on some of the professional associations there will be like ... so for the geology stuff they will be the British Geological Society, for BioSciences ... there is the Royal College ... and they’ve got higher education networks so the Academics and Heads of Schools and stuff, they get together and feed into these things so there is a good process and they do often document this stuff in terms of their strategies and stuff... So you can get at these documents, but yes the professional associations -if you think of the individual subjects ... so for the environmental sciences there is a Committee for Higher Education in Environmental Sciences called CHES or something like that...

Int: Ok...

T5: And there’s a couple of different ones ... so the Environmental Science ones that might be the most relevant for the Environmental Science course because they are accredited by two different bodies, you might need to ask [name] ... but certainly that CHES group is one of them... There’s an IES and that’s I think the Institute for Environmental Science is the other one ... so there’s ... if you have a look at their stuff they’ve reviewed their stuff on fieldwork recently and I remember talking to them ... talking to some of the people from the groups when they were starting to look at that stuff again... It’s interesting how they frame it and where they position their stuff is quite important, I think, because it sort of reflects a little bit where the communities are ... so yeah, the British Geological Society, in the past they did literally have, you know, every student has to have whatever it is number of days a year in the field, but I think they recently did a study reaching a five-year plan and there’s much more considerate around what the actual benefits to the field and what the people are doing in the field rather than just how many days they are spending there, you know...

So that’s the nature of these things ... they take a long time to change these things so the language and process ... it sometimes reflects when they were last looked at... But the Environmental Science ones have been updated recently so they should be OK I think...

Int: I mean I guess they take a while to catch up with the technology that’s available ... so I guess there’s alternatives now that just didn’t exist...

T5: Yeah, and sometimes it’s good reflection of where that stuff is in terms of acceptance ... you know, so yeah when you have a look on some of these Professional Associations, the extent to which they engage with or kind of consider the value of these different approaches and stuff is reflected in their documents and stuff... So yeah, I think you’re right, there was a spell when they were putting on loads of stuff on GIS (Geographic information System) and that’s still a big thing, and it’s well established now, they don’t have a lot of choice, and there was a growth in this VR and virtual reality projects as well, I think I’m slacking off a little bit but we will see where people go with it ... you never know ... its good...

Int: I just thought, I’m loaded down and jumping a bit back, but when you talk about Easyjet and so on, I just wondered do you know kind of how these things are normally funded ... is it normally the students who would pay for it or the institution?

T5: Yeah ... well that’s a thing that’s changed ... specifically over the last few years, Easyjet is making stuff cheaper for travel, enabled more people to think about what they could do and I think some institutions who are a bit richer and have money coming through can subsidise the students’ trips or in places ... I think it’s fewer places now than it used to be ... they can pay for those through the institution, but I think that’s very rare now... I guess you’ve got to be pretty rich to be able to do that... And so I think that most have put the expenses, certainly the travel expenses and accommodation and living expenses probably on to the student so they’re trying to make it as cheap as possible, you know, where they stay and try and do it as a bulk as a booking and stuff, try and make it as economic as they can, but I think the students are paying, in most cases... With the OU it’s been done as a ... I think it’s not ... the residential courses have been done in a few different ways but sometimes they’ve been done as a separate course, a field course, that people sign up for under a theme and stuff that covers those things...

Int: Ok... And do you know if they tend to offer an alternative if someone couldn’t pay to go on fieldwork or..

T5: I think they’re supposed to, and I think it’s in some cases it can be, you know, you get to stay back for the week and look up Google Aps, you know, I think the experience varies a little bit, but I think especially in terms of access and stuff and inclusion, yeah of they are not able to take everybody on the field trip or there’s a financial burden that you know the students are not able to meet then yeah it’s recognised that they need to have an alternative...

Int: Ok... So I was thinking about the logistics of it because I can’t see that for the students, in terms of accommodation and everything, it’s much easier to do a fieldcast, but then technologically I imagine there’s a lot of set up and equipment and so on that goes into it ... so, I mean, how do you see the two of them in terms of the practicalities of it ... I don’t know how much of a residential field school ... like you say this fieldcast would replace, how do you see that kind of trade-off?

T5: Yeah, it’s always tricky when people try and ... you know ... you try and do that ... this, it’s fair enough people think does it replace, does it do the same as and they’re not quite the same and it’s hard to have all of the original social interaction stuff that you have at the residential in any other kind of environment... So it is a tricky thing, but there is, in terms like the costs and energy and stuff, I think sustainability-wise it’s a pretty strong environment ... you know, the ecological impact and travel, and access at sites and so on, I don’t think it will necessarily stop people doing that, but we do need to be aware and mindful of the kind of impact or maybe manage that in a sustainable way so, there’s an element of that, but I think the fieldcast thing can help introduce people to stuff like that, kind of help on that... There is a cost with the technical set up and the people involved in that, and the nature of it tends to be a small ... well, because we are not particularly well financed, it tends to be a small team of people that kind of developed it or have got some knowledge around how to do it so that are involved so I think in terms of costs it ... I think the fieldcast approach probably would be relatively cheap in terms of technology options in comparison to things like virtual models ... the 3D models ... to create those is quite time consuming, is quite expert ... quite a technical skill as well ... it, there’s stuff like radar scanning or taking 360 video or 360 degree images or to make up models of stuff ... that kind of 3D imaging is quite time consuming and takes time so it’s … therefore it takes staff time and therefore takes quite a bit of money... Whereas with the broadcast ... there is a bit of set up and a bit of technical preparation that has gone into creating it, but actually producing them now is a bit of preparation, a bit of rehearsal on the event, so I think you know for a summer experience it’s probably less people’s time than it might be for doing some of the other, you know, digital models and stuff...

Int: Ok...

T5: But it’s hard to compare because they are a little, different things a little bit, but if you’ve got a virtual man that you can access it’s a little bit different than a bit of video stream of somebody walking you through the sunlight...

Int: I imagine, I guess, the details you’d miss wouldn’t you on a 3D model, even if it’s just a screen thing or the sound of the wind or, you know, the small things...

T5: You know the easiest ... really it’s an interesting thing because really as I think people are exploring stuff the OU has a virtual model of Skiddaw [name] and a few other colleagues and stuff were involved in producing that and it was done with an external company who were fantastic, they were scanning, and when they made the model of the mountain they created it with quite good resolution but then for certain field sites there were particular interest ... I think they got really good detailed models... and then within those as well they embedded things like a virtual microscope and also ecological maps and things that you can see the different kind of rock formations that are underneath your feet kind of thing... They were in there using things that you couldn’t see in the real world, like you had brought this stuff with you... So I think it’s interesting in the ... sometimes with the technology you can combine things in a way ... in a way that you can’t do it in the field... when they had the virtual microscope stuff embedded in those models, you know, if you are in the field you can pick up a stone, you can pick up a rock as a sample and it gives you a handle and you get a sense of the grains and the shape and stuff on the ... you can look at a rock *in situ* ... But you couldn’t really do the microscope of that rock slide ... they had these jelly things these little thin sections where they have light that shines through the minerals and stuff in the rock to sort of reveal the structures and stuff are in there and I think educationally that’s can be really powerful in terms of showing students what the rocks are, so yes, combining that when you’re in the virtual thing is fairly straightforward or at least it was of its time. but yeah, doing that in the field isn’t so easy...

Int: I suppose that helps you make the connections a bit more easily because you don’t see it all at once, you see it in the field and then the next week you’re back at home and its oh this bit of rock in the field and then its… oh ok...

T5: That’s the point, yes... Because a ... it’s that ... I mean with geology is one of those subjects where it kind of ... you talk about geological time as a kind of thing you know, but it’s also physical space stuff as well, so they go from really, really big to you know, looking at a mountain range, kind of a massive mountain area to, right down to looking at the grains in a rock or even like a crystal structure which is inside there, you know, they’re really ... their level .. zooming in and out to where the detail is extreme, and being able to connect the small and the big together is quite a ... is the nature of the subject ... it’s quite a skill, so yeah... that’s why they developed all these tools around distance...

Int: Ok

T5: To an end place is supposed to be better ... it’s hard to show the evaluation evidence of how hard it is to really back it up but it does seem to be good...

Int: Yeah, I mean it does seem to make sense, to me, because if you’re in person you only see the kind of human scale so you don’t really see the overall shape of the mountain range you can’t really see

T5: Yeah

Int: Oh that’s really ... my mum did geology with the OU when I was a kid...

T5: Oh ok...

Int: And I remember how she had a microscope and all the little bits of…

T5: Did she get the card with all the stone in it? They used to send out an A4 card with a nail so they could scrape the stones, yeah...

Int: Oh yeah...

T5: There were all kinds of home experiment stuff which is kind of good ... yeah...

Int: So this is jumping way back, but I just wrote it down as it seemed really insightful what you said about identity and about how education is about helping you to become what it is you want to be... I just wondered what your thoughts are on kind of fieldwork’s role in that?

T5: Yeah... I think for some students it’s a kind of motivator, and that’s definitely the case... You see it in how different departments represent their degrees in images and stuff, so rugged explorer up a mountain kind of, you know, looking fantastic ... yeah... it’s an image that has been used and over-used, you know, on a little bit mono colour and stuff ... you know that ... art is not always as diverse as it should be and things like that, so you can see how the people who have come through that have said they were motivated by being outdoors and being in the environment and stuff, so they have then kind of portrayed that as that and how they want to attract them and other people in the distance... The effect is quite, you know, you’ve got a cultural narrowing and stuff you know, it’s not a list ... not great in terms of diversity, but so, yeah, just the ways in which things get represented by the stuff can have a bit of an impact ... there is that sense of opportunity ... because sometimes, you know, folks want to join in if they see themselves in it like themselves, so that can have a … bit of research around different subjects and stuff, but it is that thing of yeah, getting people to feel that the disciplines welcoming for them or the right place to be, so I think some of the field disciplines have an issue around that because the way in which they portray themselves is in the past, and maybe isn’t as open as it could be...

Int: Ok... And do you think when people do fieldwork do you think that kind of helps to break down those perceptions or does it strengthen them or…

T5: Mmm I think if they go out of their way to include a more various range in them then the impact is really massive, and you can see it quite quickly so there have been quite a few groups, like the Women in Science kind of movement and stuff, trying to promote better gender diversity within science subjects, or things like that... Particularly in Environmental Science and ecology there has been a bit of an issue about trying to attract more indigenous people or people from black backgrounds and things like that, with different cultural backgrounds, because you know almost inevitably within the UK you look at the images all middle-class white people enjoying nature, you know, but there has a been a movement in that for several hundred years at least, maybe more, so yeah the opportunities for other people to engage in the kind of field stuff haven’t always been portrayed in the same way ... so yeah I think there is an issue around how we enable that... When we do do that, when folks do have schemes to engage with people from different backgrounds, when they get out there you just see such a change because, you know, if you come from white middle class, well that’s where your parents and stuff took you to, then that’s not that different, you know, if you come from a cultural or a background where you don’t ... this is a new world to you ... so therefore starting can be a barrier because it’s ... you don’t know what you are letting yourself in for... and then also if you get it and you enjoy it, it can be really motivating and it can be very wonderful, so yes, I mean some of the most passionate field, you know, education people that I know, come from backgrounds where it’s maybe not traditional for them to go in that environment, and they are just incredibly fantastic educators because they just, they are badged and their communication just jumped through what they do... so yeah, its lovely when you see that... It’s good...

Int: You see you mentioned some schemes, can you tell me a bit more about how they work?

T5: Yeah, so well I’ve ... so in the UK there’s the British Ecological Society and they have Summer Schools where they’ve been trying to promote ecology essentially to different students and stuff, different groups... So for years and years they’ve done Summer School sessions and stuff for residentials for people in school and also through, you know, to encourage people to take a degree in Ecology and stuff, or also for Undergraduate students to try and keep people in the subject ... you know, show them pathways to careers in ecology and environmental science stuff that’s you know, appropriate for their degrees and stuff, so they’ve got a really good track record of that, but for the last few years they’ve recognised that the group of people who are coming through, you know through the school and university system weren’t that diverse, so they started a scheme where they targeted specific schools that ... particularly 16-18 year olds ... you know, towards the end of the school stuff, where they are thinking about their A levels or hopefully going towards their A levels, and are thinking about career stuff and the kind of University stuff, so they want to target those groups, so they specifically went to BAMB ... people from BAMB backgrounds (Black, Asian, Minority backgrounds) or maybe some schools in areas where there is a little more social-economic opportunity and things like that, so they’ve run a few of these schools now where people come along and do ... effectively they are doing ecology for a week in a space where they haven’t had an opportunity to do much before, but with it being the British Ecological Society they’ve got this amazing network of ecologists, like professional, incredible people, you know from Goldman policy right through to researchers at universities that are doing like DNA sequencing and stuff, all kinds of incredible stuff, so they get these folks to come in and do like a half-day session ... so these students have got this one week of stuff and anyone would be amazed at the kind of stuff you see on TV ... so yeah they have this incredible week and yeah it’s a really good way to try and promote... They seem to be having a big impact in terms of encouraging people to get into the subject but by specifically targeting the underrepresented groups the benefit is there... But just how the student respond... So I got involved in supporting one of those residentials and used to do it with [name] and interviewed them so, it was kind of great to be part of that, sort of thing, so you see the effect on the students and it’s great...

Int: That’s great...

T5: There are a couple of programmes in the US and stuff as well, so there’s an international group that look at disability inclusion in the geo-sciences stuff there, and those that I’ve have got involved with and through doing some presentations, sessions with them in the US the whole sort of, yeah, come across some of the stuff on race inclusion in environmental science and GS sciences and stuff there, and so, yeah, all these things across the programme, all the stuff that I’ve seen is very transformative in terms of people’s originality and it, you know, engages people, as long as they get it they really love it, so it’s good...

Int: And do you think there is a role there, I guess, for virtual fieldwork actually virtually, I guess it’s more scalable

T5: Yeah it’s a scalable thing yeah, enabling people to be at the access site if they can’t get to it easily … I mean there are different ways you can deliver it and stuff... I think it can be quite motivating and open it up for people... You know, so what you are saying about it’s a perceived barrier, there’s an anxiety of going to an environment you are not familiar with, you know, the students get scared about going to residential school and yeah lots of other places as well, people at summer experiences they don’t know about, but I think some of the remote access stuff and some of the virtuals can be a way in, and it sort of alleviates some of those anxieties so students when they do the fieldcast, you know, was showing people what actually happens when they go on a field course and I think it really helps alleviate some of that stuff, some of them slightly less anxious because a lot of the anxiety stuff is a fear that they don’t know, you know, and you end up being scared about …

you know what could happen and they can imagine all kinds of scary stuff until you know what it’s actually like... It’s not always fantastic and sometimes rainy days and stuff but at least they know what they are letting themselves in for... Yeah, it’s good... So I think there is way in you know sometimes through a ... we were saying about the using the fieldcast as a way in to introduce people to fieldwork ... I think it’s that kind of thing, you know... And sometimes yeah if you can target that to folks who may not have engaged with that stuff you know from other backgrounds and things it can be a good opportunity...

Int: It kinds of lifts the veil a little bit so people can get it ... I guess it ties back to what you were saying about all the lecturers are human as well, that these are real people going out and doing things so you can do it as well...

T5: Yeah... that’s it... Yeah I come back to that current presentation, seeing yourself in the discipline, you know, seeing people like you or at least so that you could potentially do this thing you know so,

Int: Yeah... I did civil engineering and it did help a lot... I think there are a lot of things around women in civil engineering where you see like pictures of people like you making things a lot more probable...

T5: Yeah, I mean people say about it and you’re kind of not always aware of it, but it is the case, if you go into a room and you are the minority ... no matter who you are or what your background is, if you are the one that’s last ... last week was one of those ... as a natural, very human and very natural guttural response kind of do I belong here, can I be welcome...

Int: Yeah... You know the issue was always like boiler suits in the right size and that sort of thing but I quite liked the hi-viz and stuff but apparently different now,

T5: Yeah, there was a big project done recently about women going through to construction in the industry of engineering, and there has been quite a lot of good stuff done, but yeah, your right it’s things like the boiler suits and everything else, it’s true...

Int: I was thinking before you mentioned … I was asking about the scalability so, I was thinking also thinking about discussions like, how do you feel about the group size in the fieldcast as I imagine it’s a lot larger than the size of the group you take on a field trip ... how do you feel that kind of impacts on people’s ability to take part in the discussions and so on...

T5: Yeah... I think it does impact... I think, you know, any kind of online kind of group discussion environment, I mean the reason the OU and everyone uses the kind of breakout room thing is to enable conversations to happen because, you know, any size ... you know, once you are in a physical room you know, so once you get over a certain size your chances of each individual speaking kind of reduces doesn’t it... So I think with the fieldcast approach it is essentially the presenters in the field and everyone else, where we have gone so far, everyone is in one group, you know, so it doesn’t matter of the size of the group, and the academic presenters are interacting with the whole group sort of thing, so the interactions between the individuals in the group, other than saying hello, it’s very difficult to have a conversations with, you know, whatever it might be... You know, 50 or 100 people and we’ve used the same kind of technology with events, you know with a couple of hundred people ... 200-300 people ... I think the biggest we’ve had is maybe 800 ... 900 in a session...

Int: Wow...

T5: But it’s designed to scale, that’s the point of the technology and how we put it together that is was intended to enable large groups, and the way in which we designed it the conversation, the kind of communications routes are, you know, the presenters can speak and the video out and so it’s lots of detail and lots of information and quite flexible going out ... but then because it’s a large number of people coming back so the communication in the other direction it’s sort of restricted to things like the chat area which is pretty pants to be honest... You know in terms of dialogue and discussion or if those widgets which the nature of them is that some or all of the responses then collate them into little charts or graphs that summarise the results, so we are purposely designing the form of communication so that it’s you know hundreds of people to one and then one location to hundreds of people, so the nature of it being the discussion between students is really (?) because that’s not well set up for it. So the dialogue bit that I go on about is that yeah the lecturers ... they can’t ask the students to do things … respond to the widgets and do the answers and things and that comes back and then you need to kind of design that as the form of conversation... so that’s the nature of it it’s a little, sort of it’s not as flowing as a two-way conversation would be... So yeah, in terms of how you think about how you would enable a better group discussions between the students ... if we were redoing things or if we had the ... without too much thought ... it wouldn’t be too hard to do the same sort of set up that we have got now but then have break-out rooms and stuff for students to do some group work stuff and come back and discuss further, you know, you could sort of potentially design that kind of stuff to be part of the session... you know, so you enable ..the widgets maybe but… Yeah, if you think about the fieldwork, it doesn’t matter about the subject matter really, typically everyone will get there in a mini-bus or whatever, and they will all kind of come together, they will all be told what they are going to do and then they will be sent out on the field site ... you know they may be working in groups and typically there may be groups of, you know whatever it might be ... the OU is often six but it could be a few or maybe a few more but six isn’t a bad number for work and thought, so you would have a group and you would be working in your group together and my maybe part of the field site so yeah the equivalent ... you wouldn’t really be working as a mass, and if you are working as a mass you tend to work as an individual, so yeah there are universities that don’t do the group work when they go to field work which surprises me, but…

Int: So they do it all individually ... Or they have everyone as a mass? Oh wow...

T5: A massive big group, everyone does individually, everyone is assessed individually and it’s yeah...

Int: Are they all kind of surprised that you get them all back at the end of the day...

T5: Well, you can understand though how much motivation there is for each individual to carry on on their own for a day or so, but anyway that’s it all... So yes it’s ... a lot of places would work in groups in stuff because they support each other and kind of peer support and so, but it would be cool to do that ... I would love to do that kind of stuff, it would be nice to be able to enable that stuff, so we are ... there is another project that I’ve got working with some colleagues in the US that I want to try to support virtual kind of fieldwork ... that you could have a group of people working in a field site and then people on the internet so it would be an asynchronous interaction between them, so like over the course of maybe a one week field course some of the people could be going in to the field each day, some of the people would be working online one day each day or working together, so it’s interesting...

Int: So it’s kind of hybrid group where some of them were ... oh ok...

T5: Some of them were home-based, yeah... We’ve done this a few times over the years, it’s the ... the technologies have improved a lot, the technology’s pretty good these days for doing a lot of this ... I mean like the call we are doing now is kind of fairly easy to have a conversation, it’s not as easy as face-to-face but pretty easy and then, so the technology side of it is good it’s the logistics ... kind of social design in stuff and how you structure a day and how you design activities so that both groups are participating in a way that’s mutually beneficial... Because if any of this stuff ... if either side feels that they are kind of second class, that they are not getting the full experience then it sucks...

Int: Yeah... So it’s the idea that like the half the team that are at home would then be like a shift in the field and then switch or would they be at home the whole time and then would be ...

T5: I mean the way that they are looking at the model this time around, and they might change it after they’ve done it, is that they are having a group of people who would be at home for the whole time and then the other group that are based at a field site centre ... a bit like the centre we’ve got here, there will be one in Arizona, I think, and they will go out into the field each day from that base and then they will bring back whatever they do, so the intention is that from the field site and from the field centre they should be able to … if we can we will do live broadcasts, so like a fieldcast ... but we will also integrate that with asynchronous activities because the students may be, you know, have different things they can work on so when somebody is taking an hour to travel to that field site the folks at home shouldn’t be ... instead of sitting looking out of the window ... you know ...

Int: Ah I guess they help see that they are all preparing things, or something like that...

T5: Yeah exactly... They will be getting stuff set up or organised or tasks and stuff ... so that’s the thing about the design is that the field is so ... you kind of plan for it but then everything changes when you get there and stuff happens that’s unpredictable so you have to have some kind of way to communicate a new task at both ends so it’s quite ... logistically it’s really hard to do ... you know ... if you can do it and hopefully that’s the nature of why we are trying, and if you can potentially do it then there is an awful lot that can be experienced because if we can crack this remote access that enables people at home to still learn from the field then it’s this argument that’s what are the field skills that our people are learning and does it matter whether where their feet are stood ... it doesn’t matter if they are stood in the Arizona desert or is it better ... is it still ok if they are doing the same work but they are doing it from home...

Int: I guess it is tricky because you don’t want it to be too streamlined I guess because you want people to come up against things not going to plan and work a way around that, but then obviously when not everyone’s there it’s a lot harder to be flexible

T5: Yeah... So the flexibility of it requires great communication you know, because the thing is that stuff will go wrong ... that’s one guarantee ... it will go not to plan, so you’ve got to be able to communicate that and then adjust and two-way communication to let groups know what’s happening all the time... So when we’ve tried this before we ... it’s those pinch-points when stuff goes wrong and if there are any technology issues, you are screwed ... I mean it’s really tough

Int: No, I know

T5: Exactly, who knows what’s happening, yeah... so you’ve got to be pretty solid on the technology side and hopefully we will be ok...

Int: Excellent... I’ve just noticed the time ... this has been fascinating, so I could talk to you all day but I don’t want to make you late... So yeah shall we wrap it up the and finish at 12, yeah...