**Interview Transcription: EFY Module Instructors**

**ID\_MI04\_F\_EP\_NN**

I could you please give a brief background about yourself as lecturer, your experience in engineering foundation year?

MI04 I came from China in 1986, and did my PhD then started as a postdoctoral researcher at the University of Southampton in 2001. I was then promoted in 2007 as a lecturer, so after a year I started to get involved in foundation year. So, my teaching for Engineering Principles started in 2009, so it has been six years now, so I’ve always been teaching engineering principles, that’s the only module I’ve been involved with foundation year and I do have teaching duties for the undergraduate programme as well and research and that’s me

I so, you’ve also answered the second question on what module you teach in engineering foundation year

MI04 laughs

I so, it has been Engineering Principles all this while?

MI04 yes, that’s right. So, I’ve only been teaching Engineering Principles involving, I design the experiments and the examples for workshops as well, so I don’t only lecture but support the workshop and the experiments

I so, the workshops they have the PGTAs to assist them isn’t it?

MI04 yeah

I so, they just monitor, facilitate …

MI04 the workshops are run by the PGTAs, and I think it’s Mike, it was but now I think it’s Mike Hogg, he’s in-charge of the PGTAs and the workshops so I don’t get involve too much about it, but I gave them the examples, solutions the test papers

I okay

MI04 I get feedback from the PGTAs about how the classes go and if there is any issues, in the feedback they can let me know, so I can incorporate it in the lectures as well

I okay, so ow frequent you meet them and get this feedback?

MI04 I don’t meet them regularly but I e-mail them quite regularly, so, because they’re not sort of together and I don’t manage them. Sometimes I find it hard actually to get them talk to me which I don’t like but (laughs) I think it’s how the foundation year is set up because PGTAs are managed by the foundation year and not by the lecturers.

I umm

MI04 I e-mail them every time we have a test or before anything, if there is anything changes I e- mail them asking them if there have any comments from the students or any thoughts, anything.

I umm

MI04 They, most of them are quite good, they do say okay, today it went well and some questions bad, not bad but some questions are difficult or, you know students find they struggle with something, so yeah, to get some feedback from them

I so, I think we have one student with hearing impairment in the programme

MI04 uhm

I so, how do the PGTAs and lecturers work together to support the student

MI04 I don’t get to know this actually, I suppose the student just go to class and he has a helper as well, I think

I yeah, he has one who writes notes and all that

MI04 the PGTAs are suppose would help him same as others, but I don’t know it. I’m not too involve in that. When we have tests, people with disabilities, would have the, like dyslexic they get extra times, so Mike organise a room for them to do the test with extra times. That’s the only thing I new

I because some of the feedback I received from this particular student, he was interested and participated in my research. So, when I asked him about his student experience in the engineering foundation year, he mentioned he feels very lonely and he wished that he could join the rest in the lecture. His disability is not that severe, he can do lip reading

MI04 oh!

I so, he said when he join the lectures, because the room is big isn’t it?

MI04 yeah

I so, he said he wished he could have video recording of the lectures with subtitles which he said could help him greatly

MI04 okay, does anyone do that?

I so far no, yeah. So, that’s why sometimes he feel lonely, in fact most of the times he said he feels lonely, depress, has anxiety, triggers insomnia, couldn’t sleep, so he wants to be included, so, that’s why I asked the question about if there’s any specific arrangements to …

MI04 I think the help he gets obviously he has someone to write notes for him is to help him to be able to read afterwards

I right

MI04 we are not required or, you know to do the video recording. I think some lecturers are doing the voice recording

I okay

MI04 but not video recording. It’s not that we don’t want to do, its just takes a lot of time to set everything up and I was not required by anyone in anyways, so if he had said to me at beginning of the term saying would it be possible to set this up, we could have done that. But, because most students you know would be enough to just have the slides and come to the lectures

I yes

MI04 so, I wasn't aware of you know, he had the request, or he had the desire to do that. May be you know, if he initially want that help he should have mentioned at the reception, you know at the beginning of the year and to the foundation year

I right

MI04 it not just obvious for EP it could be for all the modules he’s attending, so I’m sure the university can support, can help setting up because we could get help to set up the voice recording. It’s quite easy to set up

I right.

MI04 but, I did think about using them but then I thought, you know I got quite detailed notes and also detailed slides, so if students comes to the lectures and then, you know listen to lectures and they have the backup slides anyway. So, I don’t think, you know it’s absolutely essential. I’m sure some people would like it and it’s nice to have, but I don’t think it’s essential for this module

I so, most of the detailed resources are available on the Blackboard?

MI04 yes

I so, this particular student, because students have different learning style isn’t it, and this student is very visual

MI04 okay

I so, he learns things when he watches things, that’s why he likes to look at the lecturer’s face

MI04 to read it

I yes, that’s his preference

MI04 okay

I lets move on to the next question, so this question will be based on critical skills

MI04 yeah

I so, based on your observations and experience teaching in the programme so far which are the students lack critical thinking skills?

MI04 like?

I no, lack. I wouldn’t say lack, they struggle sometimes

MI04 I think for engineering principles, the critical skills they need is to understand the basics about engineering, so they have to like engineering as a pre-required, if they’re not interested in any machines, any you know, physics they are not going to able to cope, they are not going to like the module. But, I suppose most of the students choose to do engineering they would have that sort of desire or real ambition wanted to do well in engineering

I umm

MI04 the critical skills for this module is probably maths, you know some students didn’t have that level of maths required so they find, I was working through on the board and students will struggle to follow. I found that because, students came up and ask you know, how do you do this and how do you did that. I think some students do, you know some insufficient skills in that area. Others, like you know, they don’t understand some very common machines or terms or concepts they don’t understand, which they should be able to, because for a lecturer you can’t really cover everything

I umm

MI04 but, you don’t know who, you think this is very common but, you don’t know one student may came from totally different background they just don’t know what it is. ‘dynamometer’, you know some people just don’t know what ‘dynamometer’, is, but the problem is I think most students will go back and check and ask anyone or search and find out what it is. So, but they don’t, that is not so critical part of, you know to understand the principles, so, sorry your questions was which student…

I yeah, struggle with the critical skills

MI04 most of the students? I don’ think so. I don’t think most of them are. Some students do struggle you know, when they can’t understand the principles because, I think one of the big issue is EP, is we have four major topics in there, so students probably find difficult to switch heat to say light, you know. It is quite big wide area of learning. But you know, you think about it you know, they are trying to capture in one year, the A Level students probably will be doing for four or five years. So, what can you do? You can’t just say, okay we only cover one area, is not possible. They are going to go on to degree programme, which would require all skills

I umm

MI04 so, it is difficult to you know, to balance the level you deliver and the level they can actually master. So, I think for the student who are ambitious and wanted to go on to a degree programme they can cope, is not that they can’t do that, but it’s just that perhaps some students just sets the aim actually want to reach the end

I right. just now you mentioned about two things. The first one if students can’t cope with maths they will have difficulties excelling in EP as well

MI04 yep, definitely

I does that correlate?

MI04 well, I, not really, because I have not looked at the Maths marks with EP, I haven’t. But, for engineering students maths is just essential. You know you can’t do engineering without good Maths background. It’s just required, I mean for the entry requirement for engineering courses, the minimum requirement for Maths is A, so you can see how important it is. They do a lot of calculations, and you know when you design you need to be very accurate and know how to work with geometries, trigonometry and everything. It is quite important, but some students didn’t have enough, some students probably you know, been working for a long time and just forgot all about it

I umm, okay. So, the second issue is you mentioned about A Levels’ students

MI04 umm

I students who already done A Levels, do you think they, just now you mentioned about students who’ve studied for A Levels, would have studied for this for many years, is that what you mean?

MI04 no. No, I mean students who haven’t been you know, doing studies they’ve been working for long time so they are not very familiar with you know, the level of study, they probably would not expect the, some of the mature students have been away from education for a long time

I umm

MI04 and they found it’s difficult to cope with the pressure, you know studying all these modules, all these contents, so, I don’t know. I don’t talk to the students as much as I wish to because I don’t just work for foundation year. I do have majority work actually in faculty, so foundation year Engineering Principles is just a small part of my duty. I mean you probably find that John Mills and Mike you know, they work full time in foundation year they have time to speak to the students, they understand exactly what is happening, but unfortunately, I don’t have that luxury (laughs) to do that

I so, you also mentioned about the important of accuracies

MI04 oh, yes

I does this involve details?

MI04 not for this module actually, so the accuracy requirements for, because we don’t design anything and experiments is just teaching experiments, so the accuracy is not critical. So, when they go on you know, on to the degree course and be an engineer, accuracy is very important, it’s a skill that engineering student should have you know, to work towards the right level of accuracy and knowing where is it coming from is very important, yeah

I and you mentioned about attitude

MI04 attitude?

I attitude really helps, if they have positive attitude towards the programme, so they do well?

MI04 yeah, definitely

I is it part of a critical skill, you think?

MI04 oh yeah, definitely. I think student have the right attitude you know, what they wanted to achieve from foundation year, whether you know, they are very strong ambition to get on to the degree programme is very important. Because, what I’ve found out was some students they don’t do, they don’t come to lectures, they do examples, they don’t attend any tests that they, you know they fail at the end, so, it’s no surprise really

I umm

MI04 so, obviously, they’re not interested, or maybe they started at the very beginning and find it too difficult, I don’t know. I don’t speak to them, but I found quite large fraction of students postdoc students actually don’t make enough effort to, because compared to, because I do work with the undergraduate students and postgraduate students as well, so their attitudes, their general attitudes are different

I so, is it to do with intrinsic motivation

MI04 I think it’s a combination really

I umm

MI04 because, students before they come on to the foundation they probably, they expected it much easier, you know, they thought they can do it. But, once they start it, they find okay, they had to attend lectures nine to six and they have to do all the experiments, they have to all these course works. So, I think it might be overwhelming to some of the students just didn’t expect it to be so difficult, and you know, in combination with you know, whether the degree is actually what they wanted to do or not that make ( \_ )

I uncertain?

MI04 yeah, I don’t know really. It’s just my thoughts you know. I, my personal thought about it, I don’t really know, I don’t have any number or figures or stats to prove it

I umm, right. do you think maturity is important for students to acquire critical thinking skills, that means age is important?

MI04 oh, you think age? I don’t think age is important at all, no. I, you know we have mature students did really well because they have more understanding of why they’re doing this and we have younger students who, you know very immature but they are very bright they know, you know they wanted to do engineering, and they do very well to. I don’t think it’s essential you know, either younger or older. But, what I’ve found is that younger students who, in education you know, more close to what happening at universities, they probably cope better, but mature students because of the more complicated background they maybe married or have family you know, this may affect their studies more than the younger ones. They just come here to study, but it is not so critical that you have to be at certain age, I don’t think that's, because I’ve seen mature students did really well, and because they have the experience of working they know now that the opportunity to study is quite , you know important to them. They actually work very hard and get to what they set to get to achieve

I uhm. So, if it’s not age, if they’re mature students if they’ve worked before in a similar area, then that helps?

MI04 well, it does. It does but I don’t think it’s essential

I not essential?

MI04 umm, I think you know if the students had the experience in engineering before and they know how important of getting a degree or know more about some principles and they do well. But, on the other hand some mature students you know, have the work load or family and troubles, you know, problems it actually take a lot of time out from studies so, they can’t cope with it, and so, it’s difficult to, depends on who the person background, I think

I so, the next question will be something to do with your lectures

MI04 uhm

I how do you run your lectures, for example you give in-put and then you have Q & A session, or you give in-put and you have classroom practice as well, so how do you …

MI04 lectures are delivering you know materials, that’s the main purpose of it. We don’t do practice in lectures, we have workshops to do practical, examples and that. In lectures I do give examples while I introduce a new theory or principle, I give them examples for, to help students to understand. I do ask questions but there’s no Q & A you know, in the form of Q & A sessions. So, I do give them little breaks at times if it’s too, you know dense or tense, and ask them questions, give them more examples to give them lots examples or just the application examples. I also, how you work through in the classroom, and on board, so I don’t think it’s enough to be honest, because we are not, I was talking to my daughter you know, she finds this is really different because what they do in classroom is the teacher teach, give them, teach them something very, you know small thing, and that give them more time to do examples, so the students can follow. But, that’s not how university runs, so we have one lecture forty five minutes putting a lot of materials. In there students find probably some students who has little background may find it really hard to follow forty minutes of teaching. But some, on the other hand for foundation year it’s really strange because some students have very strong background and they find it boring

I umm

MI04 because you know, some, majority of them the theory they already have learnt at schools, so it is quite hard to cope with both ends. So, you can only choose a mid-ground saying it, you know student with less background have to work harder and student, you know with better background should be more you know, kept interest with something more probably higher level

I umm

MI04 so, yeah that’s how I run. I run just give lectures, give exercise and work on board with examples, that’s how I do it. Typically, I would just stay in the classroom for after lecture to answer student questions. Student who have a question will come up and ask question, but it’s not ideal because some students would have questions during the teaching, and they wouldn’t like to put their hand up, and they just think, ‘okay I just go back and check myself’, but you can’t really

I so, basically yours is on the in-put

MI04 yeah

I and, whatever Q and A session they can come and see you after the class, right?

MI04 that’s right

I now, the question is related to language

MI04 uhm

I so, how important do you think language is in applying critical skills, like…

MI04 extremely important, yes (laughs). Well, you can, I think it is almost clear that the English students, you know students with English language background would definitely take more in during the classroom, then obviously students who didn’t have, you know, if is enough English background. Because, you know it’s just they have a barrier whether it’s a very big barrier or small barrier, they feel some of the things we talked about in the lecture room they don’t understand, and they have to make a note and go back to check. But, we do try everything to help them. We have the lecture notes published in the Blackboard before the lectures

I umm

MI04 they could, if they wanted to read the lecture notes and come to the lecture they would be more prepared. But, I doubt every students doing that, so, yeah, I mean obviously language is important if you’re going to another country to study. If you don’t understand the language, although you can see the equations and the you know the (alphabets? 26:25.0), if don’t understand is not going to help you to move from one situation to another, it’s quite a struggle, yeah

I there is a some sort of query involving language and critical skills, for example if a student lack the skills is it to do with thinking problem or language problem?

MI04 thinking problem I would say, because if the student is curious and wanted to do well, they would overcome the language problem to do it

I umm

MI04 but, if the student have very good language but can’t think he’s not going to do very well, I think. You know, thinking is more critical than language because we have students from China and from other countries and they doing really well. And they, I’m not saying their language is bad, but, they you know they obviously cope much better than even most of the English students not because you know, not because of language problem because they are, you know, more interested or you know, they have better engineering background they can do very well. But, I think the condition is they do have sufficient English skill. So, if they below the threshold, you know however background, good background engineering they already have, they still struggle, but as long they have sufficient English background they able to cope just as well

I ok. This question is about your preference to with, incorporating critical skills in your lectures or in your teaching. Because, students are different, they come with different profiles?

MI04 uhm

I so knowing that, is there any specific skills that you feel, ‘oh! They already know so I’m gonna exclude this or is there some skill that you realised they lack this, so I’m gonna reinforce this?

MI04 No, I don’t really consider that much. I thought to the other parts of the module, the course, the programme would deal with this. For example, English courses and the Routes to Success, those modules are dealing with specific problems with students, you know what they lack. Because, I don’t have way to find out, I wouldn’t know what critical skills, what students don’t have

I umm

MI04 so, no. I just deliver lectures or you know, my module. I don’t think, you know particularly consider those (laughs) in my lectures

I umm

MI04 I don’t know, what are the skills I should consider. English is taken care of by the English lectures. Maths we have Maths module to look at Maths, we do obviously tell the module Lead. Maths you know, students particularly in that course, say trigometry this year, put some effort and so on. But, we don't’, I don’t personally add the extra lectures to do that

I what I mean by skill is critical skills, is there anything you exclude, include in your lectures?

MI04 what sort of critical skills are we talking about?

I engineering critical skills, like for example you have some sessions you have, you go through a question and then you get some feedback from them?

MI04 uhm

I is it your way of making students to think about a situation, or, I remember there was one session where

MI04 I’m not sure what you mean (smiles)

I (laughs) I have an example here, when I joined one of your sessions

MI04 is it knowledge?

I no, not knowledge, EP itself is a content knowledge isn’t it?

MI04 yeah

I so, what I’m trying to ask you is that using the knowledge how do you test them?

MI04 oh! How I test whether they know or not?

I is not about knowing, how do they apply them, it’s more on the application? Critical skills are more about applying the skills. Because, content could be, certain things you can memorise, but it’s important how they apply it?

MI04 how they solve problems?

I yes, it could be solve problem, or

MI04 in, during lectures I don’t have too much opportunities to actually to check how well they have learnt

I umm

MI04 we do that through say tests

I the surprise tests?

MI04 yes, the surprise tests during the term and also through the final exam. So basically, if they don’t do very well in the sessions, but, I don’t know

I like for example, if I may refresh you?

MI04 yeah

I of what I’ve observed in one of your sessions, there was a question about, ‘why the sea water is blue?’

MI04 alright, yes

I and then students were responding to that question

MI04 yes

I which actually is a critical question

MI04 yeah

I and there was one student asked, ‘why the sky is blue is it because the sea is blue?’

MI04 yeah, yes (laughs)

I so, those kind of questions which make them think about it, so do you deliberately use in the class to think about a question

MI04 yes of course, I mean I tend to ask questions before I introduce the principles, so they could think about it first and then you explain how it actually happened. I think, I don’t know. I think that’s just a method of that make sure that students pay attention and you know they realised that there are things that can be explained and just not just happened

I umm

MI04 and also, I tend to test them things that already been covered to see how well they using it in the following lectures. So, I don’t know how that helps with that question, I don’t really (laughs)

I so, for example just now you mentioned about you try recall their understanding

MI04 and see how they apply in a different way as well

I that’s part of critical skills as well

CULTURE

MI04 oh, okay (laughs)

I yeah (laughs), there are lot of, from the basic to a much higher level, because when I joined your sessions, the questions were very critical

MI04 oh, okay, right

I yeah. If I’m a student in that class I wish I have more time for that kind of…

MI04 okay, interactions

I yeah, but that’s just my personal preference (laughs)

MI04 well, the classroom tend to be like you know, there’s always a few students scattered in the classroom. They always try to answer question and majority of them sit quietly, unless you actually point to them, ‘so, what do you think’

I umm

MI04 but then you think student would say, ‘I don’t want to be identified and asked’. So, it’s very difficult for us, what should you do? If we ask a question to a class, it’s always those students answering, but I would like more students to get involved but then students don’t do that

I umm

MI04 I would actually personally like to say, ‘okay so and so can you tell us, what you think’, but then the student might say, I have student doing that saying, ‘I don’t know’, you know, and very bluntly and don’t say anything. You just think they’re not happy for you actually to ask them directly

I umm

MI04 so, there is a difficulty between the two methods, you know

I umm

MI04 how do you deal with it? So, some students are all willing to answer, and they are very quiet, when you actually ask them they speak out. But, you don't know who’s going to be that

I umm

MI04 so, you may get a blank reply saying, ‘why me?’ so, I understand, I mean if it’s in China all students would be quite polite. If you ask them, they would try to answer and they wouldn’t say anything rude, but here the culture, especially some English students, you asked them, they don’t know, they can be very rude as well, so, which can be a very embarrassing situation

I yeah

MI04 so, I understand the culture is different because people don’t like to be put you know under the spotlight. So, I tend not to do that to, most of the time I would just let the class who wants to answer, but again that is not ideal because you always get those people, yeah

I so as a last question, so, as a lecturer teaching Engineering Principles, so how would you define critical skills for engineering? What are the essential skills?

MI04 what essential? I think they always have to set their mind to think about how things work, that is important, they just don’t accept it. Looking at engines, looking at gas, or does, you know how was pressure generated, how does light interact with surfaces? So, they have to have that curios mind to want to know these things. So, that’s quite important and also they need to read a lot of books to understand the different systems, different terms of definitions of you know different, because we cover very wide range of topics and physical mechanisms. If they don’t have that background they would feel you know, coming from a country or another very non engineering background find it hard to corporate you know, comprehend the techniques, the terminologies

I umm

MI04 obviously, English is very important, so, especially for this overseas students they didn’t have sufficient English background they need to, you know get prepared before the …

I coming to the programme

MI04 that’s right, and also drawing is important

I drawing?

MI04 yeah, drawing because we have lots of you know graphs and drawing systems, so students should practice those skills learn how to, not you know, not to the standard of engineering drawing at computer level, but at least that they can draw systems freely so, that’s quite important

I umm

MI04 and practical skills like problem solving is very important

I umm

MI04 I can’t think anything else, obvious team work, you know they always able to work with others and talking, communication skills and if they don’t understand, they always be able to find help. That, probably go to all studies or learning, yeah

I so, can I say, correct me if I’m wrong. So, for you critical skills is about having an curious mind, problems solving

MI04 umm, yeah

I team work and ability to communicate, communication skills

MI04 yeah

I thank you very much

MI04 you’re welcome, hope it’ll be useful

I it is very useful