**STAGE 1**

**File ID\_SS11**

**STAGE 2**

CT + ASSESSMENT

LANGUAGE

SS11 I think there’s a quite large proportion…I don’t know more complex questions…they did say that this year exams may test on knowledge more like understanding…so they wanted answers like worded answers explaining like the definition of something or explaining how something works…longer questions were harder than I expected…lot of written questions in, like explain how a transistor works and stuffs…I’m not fan of words (laughs)…you sort explain how something works, I’m not great at expressing myself (laughs)…that’s why I’m more comfortable with maths, Oh! I’ve an equation I’m gonna put some numbers in it and I figure it out

CT skills in XM

SS11 In term of critical kills…yes definitely…I did preparation with papers questions I think I got quite confident like…completing a question when I had my notes and everything but I don’t think I understood the logics behind it, like the methods behind it. So, I when I went into the exam with a different situations it was much harder…I think adapting to difference to questions I think it quite important, sort of analysing the basics of what they’re asking and seeing sort of how you’d solve that…so if it’s about heat transfer, so how I solve that question…which may worded differently but sort of needs sort of similar skills that’s required

**STAGE 3**

**ATTITUDE**

**I** has it changed or the same since you started you FY?

**LANGUAGE**

SS11 I think mine has changed because…if you sort of researching for course work you’re looking at proper published papers and because obviously I’m not at the same level as those who’ve published the papers it’s really had to understand it and figure out what they’re actually saying and sort of applies to what you want to know. Because obviously a PhD student who’ve published a paper gonna know more than a first year engineering student, so I try to look at it and make sense of it and apply to my coursework is which is quite difficult actually, sometimes trying to find something in advanced English that you’re not taught and try to figure out what you want from it

CT PERCEPTION + ATTITUDE + DEVELOPMENT

UNCERTAINTIES

SS11 I think critical thinking skills when I first started foundation year was just sort of what I learnt from school, like look at the text find the key points and then use them, where else now you got to think more of like whether the source is reliable and sort of how to use, how to find different source for you and sort of comparing as well…a lot more detail…I’m much more aware now that I’m applying critical thinking skills. Obviously, I’m like give them a thought like in the past year…now I’m more aware when actually using them…I’m just more conscious that I’m using them, that I’m using what I learn

SS11 we’ve a question about a field of technology that we’ve never ever learnt before and to sort of write an essay on it in group work, and so because it’s something that I’ve never learnt about I had to look at all these resources and trying to relate to the questions and trying to answer. Where else before I would only really used my skills for topics that I know about so I could apply my own knowledge to know whether like figure it out wright or not. When I know nothing about the topic, when I’m looking at it

PERCEPTION + ATTITUDE FRUSTRATION

SS06 I think theoretical my perception hasn’t changed…but apply more details. My idea of critical thinking is about the same but the way I apply more in-depth, so I also find it a bit difficult to apply the skills in many cases…may be something is added, which I believe have changed…I just used it in-depth generally…my critical thinking is examining why something is true or not based on logic…I’m starting doubting everything in more in-depth than what I was doing back then…it reaches a point that like a bit annoying, I’m losing a point of reference in general…like Maths, I’m trying to prove something that way, something else expresses the other way, I’m trying to combine the definition, then the third thing comes up I’m like where does this come from and that adds more and more never ends…sometimes I found myself saying okay now we need blind belief not critical thinking, no more…just believe what you see or told, otherwise you’re gonna lose it (laughs)

DEFINITION

SS06 critical thinking is about learning how to learn and thinking about how to think

PRACTICE + INDEPENDENT + DEVELOP

SS11 yeah, I say so, we sort of have lab report writing and essay writing I’ve used pretty much the basic same structure that I learnt in my foundation year to do now…I’m more of an independent learner or may be prioritise work than more fun (laughs)

SS11 I think the critical thinking skills we’re very equipped with them, like the skills that we’ve learnt last year have helped me this year. It helped me a lot sort of figuring out and try to piece information together. If I’m trying to learn something, say I’ve missed a week of lectures…are we reading from lecture seven and then, oh! I had to go back and understand this and to link it together like quite critical thinking

SS06 I think there is enough practice in critical thinking skills…I’ve applied a lot of it

DEFINITION + DEVELOP

SS11 part of critical thinking is sort of learning where to get the information from like if you tackling a problem, learning sort of understand it and where to find that information is like, that’s what we learnt last year with worksheet and stuffs. If you’re given a worksheet and look back in our own notes and sort of go to the tutors and ask for help, so this year that helped me a lot because if I don’t know how to solve a problem I look like example answers, and I go back to lecture notes if there’s example. I think that’s the main skill that I’m using this year, like sourcing

ATTITUDE

SS06 critical thinking skill is important because it’s the basis for science anything scientifical

PRACTICE

I effective ways of for students to learn

SS11 I would say it’s integrated in every module, I think that’s the best way to learn it, because you gonna use it within that modules you might as well learn it like as you’re going along. Where else I think if you sort of spoon-fed how to think critically but you actually don’t apply it in daily basis you may not think about it again. Where else when all put together you’re really away what you’re doing is helping you, I say you would more likely to use it again…may be they give question and go through the solution how to do it and how to approach it…like watch someone do it…I think most engineering problem…so once you learn the techniques to one kind of questions you can apply to every questions like that

SS06 maybe they should teach you the basic like how you should use it, but they shouldn’t tell you oh! You should it like that, give you food for thought…because if they did not dictate how to do it, but taught just some basic features what critical thinking includes may not explicitly…may be through questions…for some reasons I like the maths technique…while at many times when I’m doing critical thinking of my own I went back to lecture slides…I connect it to some tasks and use it in my critical thinking process

SS11 I don’t really learn much by listening to someone talking for forty minutes, it’s quite nice in the lectures to go through a problem together and then if you can’t work it out immediately ask to find out why, and rather than try to absorb lots of information for forty minutes and go home try a questions but not a clue on how to approach it. Like you may have a list of facts but that won’t help you to answer the problem…I think if a lecturer runs through one or two problems it helps a lot

CT AND ASSESSMENT

SS11 the test is to link to what you’ve already learn, so I do think they kind of test it…but I think a test of its own, I’m not sure how well it could test you

SS06 I don’t think they should be assessed more explicitly, because after that it’s just memorising, if they ask you what critical thinking skills are, that’s just getting memorising losing the point of critical thinking

LANGUAGE

SS11 I’m quite bias because I’m a native speaker of English, so I never like had any language barriers to overcome to start learning all those skills…but published piece of work it’s written in such way that’s different to how you speak, so understanding that kind of language is important…I suppose struggle sometimes if there’s proper piece of study or something that you’ve not background reading some information on. So when I find like a web paper (laughs), you have to first understand the language and understand the difficult words they’re using and then understand the content…I find if I don’t understand a sentence I try to read the whole text and like figure it out where they’re coming from and what they’re trying to say. But, if you don’t understand it any of it you can’t really go on with critical thinking skills because you’re stuck at that stage

SS06 critical thinking I think can make academic English much easier, for example when I came here I’ve no clue about the terminologies in Maths and Physics not even in my language but after one month I was acquainted with everything. I think the more you can apply critical thinking skills the faster that you’re gonna acquainted with academic English and the terminologies…it’s true you have to understand the words, I do it, even now if I don’t understand it I google the translation…but the only way not knowing perfect academic English can affect your skills it delays you in applying them, but if you have the skills you eventually you are going to find the way out

SS11 I think as education as I moved up I went from senior school to different college to university at every stage they require something different from you, like written…like when I joined college I couldn’t write my exam it the same way as I did it in school, so kind of have to learn, like it is critical thinking skills like. You have to learn how they want you to give answers and to write essays and things, and that’s different to uni again. You see that it’s not the knowledge that changed but the actual way they want you to present it’s like lab reports are lot different to GCSEs to now…it’s the approach that has changed…so I kind of sort write long worded answers in a quite a professional way. I think if I hadn’t learn English to a higher level might not be able to sort of express myself in quite professional way because you do say things differently

CULTURE

SS11 my dad always thinks through things to absolute max before he does anything, like he’ll read an instruction booklets five times over before he puts things together a pack of shelves (laughs) so I think maybe I caught a little bit of that where I want to fully understand something before I sort of embark on it, and I think that’s sort of skills that I brought with me to here…so I say that’s from my culture, it’s like watching my dad…inherited that streak! (laughs)

PREVIOUS LEARNING

SS11 No, I think the whole way moving on to college, but in school they did do classes on some critical thinking skills…not a heavy part of our curriculum, maybe a couple of lessons a month or something that fit so many skills which is really useful, especially like sourcing like evaluating references and stuffs…but in College we sort of memorise like our teachers will give us sort of typical questions and tell us to memorise the answers and then in exams pretty much the same questions come up…like my school is just like private all-girls school, they fix on other skills as critical thinking skills but then at college it was very much just memorise information given for exams…it’s like there was a big difference in the way they were taught, it’s also depend on education and what type of school that you had

SS06 I think it got more to do about the family environment than the rest of the society because the society you interpret based on the logics that you got it from you family…even in school, my educational system I think doesn’t support critical thinking so much but still was getting good grades just by memorising and having to go through it again and again…the education system doesn’t support, even the science didn’t support critical thinking as much, you just have to learn that and solve the formula…also the syllabus is so huge you’ve not time to apply critical thinking questions

LANGUAGE

SS06 because it’s Greek there’s so many technical terms that I wouldn’t know in English…I know them just because they are Greek words, so I know what they mean…but at the end of the day being a foreigner can help anyway because if you know a word both in English and your language you have an extra clue what it could mean, so I don’t know because it’s Greek generally (laughs), because as foreigner it helps to have a second idea of what that means…however nowadays Greeks are not like philosophers…the ways that was taught by our ancestors, they like don’t do almost anything, like ‘ass-holes’, they call it a place of Socrates…people don’t question on anything

ATTITUDE

SS06 I realised how critical thinking is more and more important in life and I find it hard to find a basic tool on which I can base my critical thinking, and I think that’s the hard part

SS06 that’s the basic methods of thinking in science, scientific way of thinking, what’s the save way of thinking, like it life as well

SS11 I think half engineering you got to have critical thinking skills like whatever you do, I’m sort of far more away of how important they are, like much I do use them, but I may have done something in the same ways but I’m more aware I’m using critical thinking skills and why I need to do that

**STAGE 1**

**File ID\_SS07\_M\_Poland**

**Pawel (Poland)**

* Age: 19yrs
* Studied all subjects in Polish but took private English classes

EFY ss experience

I How do you feel about being an EFY student?

P I find myself quite confident,

I confident, what made you confident?

P experience that I gained in my high school,

I high school?

P because I learnt a lot from my high school, my high school is really good, it gave me this preparation for further education

I and, how about being here, in the foundation here, anything new you learn here?

LANGUAGE

P there were a few concepts I learn here, but, I managed start speaking English fluently, which is for me is a great achievement, I think, because this is the main purpose I come here to study in English. This was my conscious decision that I’m going to foundation, despite, the knowledge that I have to learn, despite the engineering programme, my only purpose is to start speaking fluently. That in the next year, in the first year I want be able to, will be able to understand terminologies, engineering terminologies, and other concepts that I will required it to know

I So, now you say you’re more confident to communicate to others?

P Yes

I So, what created that opportunity?

P I’m accepted here

I Ok, you feel you’ve been accepted?

P No, I mean, again the question?

I You know when you speak, is it because you always try to speak in English even though with people from the same 1st language background, or is it like a conscious decision you know, that I’m here, I want to learn I want to speak, therefore I want to go out and mix with everybody?

LANGUAGE

P Yes, this is my approach, I do everything I can to practise in English, so, whenever I have opportunity to go and speak to people, even it’s like a casual conversation in halls, in the university halls when I’m speaking with friends like casual things or is like a conversation like in this moment, right? We can speak about more sophisticated topics let’s say, it’s for me opportunity for me to practise my English, and here this university gives me the opportunity to practise because we have for example we have English classes, English for Academic classes, I took part in those classes. So, I’m trying to take as much from the foundation year, this year I can

I So, you interestingly mentioned about EAP course, did you take speaking course, or…

P Yes, I took the speaking course

KNOWLEDGE - CTS

I So, what do you understand about critical thinking skills? What is your understanding if you want to define it in your own words?

P I think, because, we read the definition from Wikipedia [laugh]

I Wikipedia? [laugh]

P because we’re curious about this, we’re having a conversation about this

I yes?

P because I don’t want to speak about something that I don’t really know, so I don’t know from the perspective, how to define right? So…

I what do you think it is, if you’re to make a wild guess?

P wild guess, I think it’s like being able to make like clear judgement about decision, about the problems, about things that you have to deal with, the problem that you encounter and how to solve them, and not to solve them in the way to get the answer correct, but to know why this answer is correct in the term of every part of the answer is it clear or concise

I so, can I say, please correct ok? For you can I say critical thinking is about making clear judgment?

PREVIOUS LEARNING

I So, did have any experience learning critical thinking skills, if yes, how, if not why you hadn’t have the chance to learn critical thinking skills?

P May be I learn sub-consciously, because we didn’t have a lesson like critical thinking in my high school, so how they could learn us, is to think clearly, critically, but not in a direct way, maybe by directing to explaining how to properly solve for example Maths or Physics problem, or in a other way, but it wasn’t done in a direct way

PRACTICE + PROMOTE INDEPENDENT LEARNING

I As a FY ss in what aspect do you think you had opportunity to learn and practise critical thinking skills? Now, for example you have lectured, workshops, you have lab works, assignments, individual and group work, you’ve individual assignments, you worksheets to do, yes?

P I think individual assignment

I individual assignment, you’ve worksheets to do, yes? You’ve lots of things to do, and which one actually challenged you?

P individual assignment, why? Because I could like, let’s say I can bring my own approach to a problem, I could solve and do it in my own way…and also writing for formal report because you go beyond the experiment and learn a little bit more because of this…it was Routes to Success…to write a reflective report, it was good to have that

I Right, we’ve come to the end of our session, how would define critical thinking skills now?

P Making clear judgement

PRACTICE

SS07 for sure I can say I learn a lot from Routes to Success, I would say it’s partly critical thinking, it’s not about the engineering knowledge but about university life…I would say second semester, because in in the first semester they introduce everything…from second semester we directly started all things very deeply

SS07 I would say Electricity and Electronics, again it was not the direct way…during the lectures…for example visualisation…but I’m talking about for example waves how you can explain some concepts

SS07 the workshop didn’t help with critical thinking but help to consolidate the knowledge on engineering the subjects that we were studying