**STAGE 1**

**EUROPEAN EFY STUDENT**

File ID: SS08\_M\_EU

File Name: REC016-M-I-Latvia

**Keys:**

I - Interviewer

SS08 - Interview Participant ID

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**Interview:**

**PART 1 - BACKGROUND**

I **Would you like to introduce yourself?**

SS08 I’m doing foundation year in … University, planning to progress in Civil Engineering. I’m from Latvia a country in north Eastern Europe

I umm

SS08 I'm currently twenty one, so basically after I finished high school which was at the age of nineteen, because we start high school at age of seven back in my country

I at age seven?

SS08 we start school at age of seven

I right

SS08 so, therefore, some of the people already finish when they're nineteen

I umm

SS08 so, after that I worked for one year to basically fund myself to come to the UK because, even though I’m able to take a loan it’s still quite expensive to (transition?) from life my country to here

I umm

SS08 because I couldn’t rely fully on my parents

I umm

SS08 so, given the fact that the salary in Latvia is much lower at least four times lower on average, I end up earning only like three sounds pounds

I umm

SS08 and I had to also take IELTS exam plus I had some extra expenses but that doesn’t matter really, so…

I so, you mentioned earlier you worked for a year, what type of job, is it something to do with engineering?

SS08 no, not at all. I was self-employed private tutor and I was focusing on language. Even though I focused myself helping out younger students with chemistry and biology

I umm

SS08 it was high school level, it was middle to high school level

I umm

SS08 so, pretty simple

I umm, right. So, now we’re gonna move on to the research topic

SS08 yes

**PART B – EFY EXPERIENCE + PRE-EXISTING KNOWLEDGE ON CRIITCAL THINKING SKILLS**

I so **how do you find yourself as an engineering student so far?**

SS08 so far it seems it’s going fine for me. I might have put an extra effort in this, but at the same time I don’t fine any strong sort of incentive for me to get the highest possible result because in the end it won’t matter that much

I umm

SS08 in contrast with what I’ll get next year because next year I will actually focus on the specific types of engineering and that will matter more on my results

I umm

SS08 at the end of the day that will matter a lot to me than what I do now. At the same time, I do understand that if I hope to achieve a decent result in the future

I umm

SS08 my performance now is like an indicator

I uhm

SS08 so, I’m already having problems at this point then it’s, it I indicates I might have serious problems in the future

I umm

SS08 at the moment I don’t feel that I’m failing at all

I umm

SS08 I feel I’ll all these exams, although I’m not sure if I would get ninety percent in all of them because I’ve realised that I’ve to change my study patterns

I umm

SS08 basically do everything in advance

I umm

SS08 plus, what else I’ve notice? What’s the most important things to do is to do things in advance

I umm, so you’re happy on the whole or you’re…

SS08 I think it’s fine, it’s necessary in my situation, I think even though this is the only university that asked me to have foundation year, I think. Somehow I’m glad that did, because one thing that they did was they did not teach calculus in my high school

I umm

SS08 which is rather interesting knowing at least in most foreign countries they teach basic calculus, basic integration and differentiation so you at least have the knowledge of such

existence of such concepts and what’s that for. Where else in my high school we didn’t have that plus, the maths was quite decent

I umm

SS08 in my high school but the physics was quite weak

I umm, so you feel you didn’t have good foundation on calculus

SS08 well, this is the reason why I had to take foundation year

I umm

SS08 because the syllabus of physics and maths for me was not sufficient for me to apply directly into my intended course

I umm, okay

SS08 the maths part I find don’t actually find difficult it’s probably due to the fact that I never had problems with maths throughout my high school and middle school

I umm

SS08 where else I physics, even though I did participate in the physics competition when I was in grade eight or nine, I don’t feel that I was that proficient in it as in maths

I umm

SS08 maths is much more understandable even though, like at the very beginning I had no idea about these concepts. Now at the end of it, when I actually go in depth about this actually (recollection of notes?), I’ve some examples, they become rather simple to me

I umm

SS08 just a matter of how much attention you put on your problem solving, because I tend to make stupid mistakes let’s say when I derive to the results or something like I might get a wrong results or something

I umm

SS08 so, it’s more matter of how carefully you follow your course of action when you’re dealing with problems rather than whether you understand what’s happening

I umm

SS08 or in physics it’s little bit more complicated because, for example when comes to (statics?), something like that, everything is very straight forward and very intuitive, basically you’re just working with vectors, while when you’re working with something more dynamics and with circular motions, something like that

I umm

SS08 it’s less intuitive, and there’s more things that you might not take into account what’s happening there, so you need more practise in it. As one of my previous adviser told me, it’s mostly matters how practice you had in these kinds of tests because it lots of subjects you can let’s say from the base knowledge you can derive what would happen here, but in some of these physics tests it’s easier if you’ve gone through these kind of examples before

I umm

SS08 and then by your memory you intuitively know what you should take account on it to get the end results, or something like that

I umm, so basically the foundation year has mainly help you in physics and the part on the calculus, the maths

SS08 yes, I think so, also I did learn programming, I learnt I think Pascal, but they did not teach programming to me at all. So, I had to learn programming again, I had to make a fresh start when I was learning python

I umm

SS08 and now, as much I had read python it’s probably one of the easiest types of languages for beginner

I umm

SS08 so, I should not feel like I’ve achieved something great by grading my own individual application in python

I umm

SS08 but at least it gives me a sense that I understand what’s happening there, even though I’ve acquired a very small fraction of what programming software engineering would require

I umm

SS08 but, I’m not going into that field so, at least it gives me some base understanding of programming logics and use of syntaxes

**PRE-EXISTING KNOWLEDGE ON CRITICAL THINKING SKILLS**

I umm, right. So, now coming back to critical skills, so **what do you understand about critical thinking skills?**

SS08 critical thinking skills?

I in general…

SS08 well, that’s the thing, when I’m thinking about a concept like this usually it would be in a certain context

I context, yep…

SS08 ya, because umm, critical skills can be defined as being critically evaluating somebody’s opinion based on how much merit that person has and, so for example let’s say he has an essay on certain topic and you evaluate what kind of references he has, and if he’s arguments make sense, and if he has data for that, something like that. Or, I say usually I don’t like that much on data, but, let’s say some kind of study, for example like the one that you’re doing now. Or, can be something like when you’re looking at a problem which you want to solve being able to indicate the factors are, indicating the things on which this problem depends and knowing how to deal with it in a feasible manner. There’s some interpretation to that, it depends to the context.

I so, interestingly, you mentioned two things, one is critically evaluating based on certain merits?

SS08 yeah

I and the second is about problem solving in a feasible manner?

SS08 yeah, in the last year of two I have developed appreciation for scientific method because I actually because, most people who don’t study engineering or sciences, they see sciences as something that you can easily distinguish from your everyday life. While all the technology that we’re using, even the basic, everything is based on our knowledge on basic mechanics, Newtonian physics or beyond, it’s all based on researched and critical thinking. Because, without the rigour and critical thinking involved in the scientific method, we wouldn’t have any of that

I umm right, so you also developed some kind of appreciation towards scientific method, you said?

SS08 yeah

I yeah

DEFINITION

SS08 yeah, because for example a lot of people, they, like this orally goes into a full (realm?) that most people just evaluate everything from their emotional state and how they perceive it from their own perspective, and the scientific method doesn’t rely on that. It’s always self-correcting, it always forced to how do, it’s very difficult to phrase that. By using scientific method, the person is evaluating all the available information, and then trying to disprove it in every possible way to see how much merit it has, and keeping that information as a, let’s say axiom or something like that until new data comes along that would disprove it. So, therefore, it’s always revolving and it’s a non-stop process, and I don’t think humanities has had anything better than that in the last five centuries, obviously, so…

I ok, right, that’s interesting. So, I’ll just repeat what you’ve said, but correct me if I’m wrong.

SS08 yeah

I so, critical skills for you is about critically evaluating for example an argument based on certain merits, and secondly problem solving

SS08 yeah

I in a feasible manner, third appreciation towards scientific methods, which involve research and critical thinking skills

SS08 yeah

I and, you talked about **self-correcting**, yeah?

SS08 yeah

I which is using scientific methods as well, and the purpose is to improve a possible way, for example you mentioned data, until new data comes in to challenge the existing one, yeah?

SS08 yeah, I think so

I is there anything you would like to add to critical skills?

SS08 no, I don’t think there’s anything much

**PREVIOUS LEARNING**

I so right, this is the third question. **Did you have experience in critical thinking skills in your previous education? If yes, how? If no, why you hadn’t have the chance to learn critical thinking skills?**

SS08 partially, but I’m already starting to forget my school experience at this point

I umm

SS08 to be honest, because…

I yeah, so, did you learn the skills explicitly in school?

SS08 we didn’t have separate subject on that, we probably have some problem solving tasks integrated in on the subjects, but not in many of them, maybe a few of them

I umm, example?

SS08 umm, let’s say, yes, maths had some of those, because I also participated in lots of maths competitions

I umm

SS08 therefore, you had to

I umm

SS08 some of those tasks were more advanced and they were, they required a little more of abstract thinking because a lot of this mathematical challenges did not involve numbers

I umm

SS08 they were just involved like understanding of mathematical concepts trying to apply in a new way

I uhm

SS08 but, I feel that I was very average at that

I umm

SS08 not one of the top students

I uhm

SS08 because you have to understand my country is pretty small and if you want to be considered by UK standard would be very good at something then you have to be one of the top people in the country I suppose

I umm

SS08 at top 1 percentile I suppose for it to be feasible to be called as proficient in maths in UK

I umm

SS08 is not that the average standard is much lower in my country than in the UK, I think the average standard in some subjects are even higher than in UK

I umm

SS08 but, in high school we don’t have a chance like to take, well in most high schools we don’t have the opportunities to like take most advanced classes

I umm

SS08 unless you find a tutor that Is going to individually work with you

I umm

SS08 and I did not pursue it in high school, therefore I did not learn the differentiation and integration or even something like dividing (equation?) and partial fraction something like that

I umm

SS08 and now it seems so simple and trivial to me

I so, what you’re basically saying is that you did not learn critical thinking skills as a subject…

SS08 as a separate subject no, definitely not

I no, but it’s integrated for example you mentioned, yes? Is there any subject…

SS08 it was periodically, not every single sums that we had to solve in that way. Any problems that we had never done before obviously those will come around mostly when I would participate in some maths competition where we would have some kinds of tests that require a little but different type of thinking

I umm, so it’s only maths that you can think of which is partially you think…

SS08 because I feel in physics we did not study enough to like solve advanced problems because I think I can tell you only at the end of high school

I umm

SS08 the physics exams are optional

I umm

SS08 and there were I think eighty people graduating and only three people including me actually took the physics exam

I umm

SS08 only three people from eighty people including me, so if I had gone let’s say to the city centre high school that would have been different

I umm

SS08 yes, I suppose so and I did not have that much interest in physics until age seventeen or eighteen to be honest

I umm

SS08 because I was also interested in architecture and I decided to be civil engineering only at the end of 2013

I umm

SS08 so I think it’s rather recent, plus I don’t have any practical experience because some people even though have not studied engineering before at least they have some practical experience in the constructions

I umm

SS08 because in civil engineering everything is about experience

I yes

SS08 because once you actually gone into the industry it will not matter if you are able to, if you’re better at let say doing advanced calculus

I umm

SS08 it will matter if you able to actually manage a product

I uhm, right. So now, **how important do you think critical skills are for engineering foundation year, just for foundation year?**

SS08 for foundation year?

I yes

SS08 they are quite important once you actually try to solve old but more advanced problems, I wouldn’t say that you cannot pass without minimal use of critical thinking skills because I think an average student can actually pay attention to content that he’s studying. He would not be required to use too much of his critical skills because by repetition, and let’s take an example even the end of the year exam, because it’s divided into two parts. And the first part most of the questions they are based on the problems that the person has been in contact with throughout the whole year, therefore there’s a lot of repetition

I uhm

SS08 and also we have booklets with all these formulas that we don’t have to memorise

I umm

SS08 you just need information and some basic knowledge and experience with previous tests that you had throughout the whole year

I uhm

SS08 therefore you’re not going to use that much of a critical skills but once you start to do a little bit more non-standard tests

I uhm

SS08 then you are required to use critical thinking skills otherwise you just gonna be able to do that because that’s something that you’re not done before

I umm

SS08 but with critical thinking skills with knowledge that you have had before

I umm

SS08 you might be able to derive a result from a problem which you have done that before, so

I umm

SS08 there are partially useful but not it’s not say that a person who is very good at repetition and paying attention could pass without the use of very minimal use of critical skills

I umm, so it’s partially important…

SS08 yeah, but after this sure, you cannot survive without critical thinking skills otherwise you’re not going to be any good

I umm, right let’s move on to the next part on critical thinking skills specifically for engineering, okay

SS08 okay

**PART C**

**PRACTICE**

I now**, in semester one or two you think you had more opportunities to learn and acquire critical thinking skills? Is it in semester one, two, none or both?**

SS08 I would say it’s almost equal to me personally

I umm

SS08 because at the first semester, well to be honest, in general I would say the second semester does more

I umm

SS08 but in the first semester as you’re requiring new knowledge and for somebody who doesn’t have (physics?) background you probably will have the largest progression in the first semester

I umm

SS08 while second semester even though provides the more opportunities the progression is not as high as in the first semester

I umm

SS08 so let me think about it ( \_ ) I don’t know whenever somebody ask me a serious question it’s takes ages for me to actually give…

I you mentioned something interesting just now, you said in semester two there’s more knowledge in-put, therefore do you need more critical skills?

SS08 since in semester two you had two, there are instances where you have to implement the previously learnt knowledge because you can look at problems that only involve certain sector of physics that you’ve learnt

I umm

SS08 and then there are problems that implement let’s say two or three sectors for example (harmonic?) motions you can also implement you know both (harmonic?) motions plus, let’s say understanding of concepts of (inertia?) or yeah, they are very similar to one of the lab experience that we had which involved moments of (inertia?)

I umm

SS08 objects plus harmonic motions, and they are more related to frequency so (thrice?) integrate more of the knowledge that come from physics

I umm

SS08 because they are some very focused problems that just are based on one or two formulas and can just easily do that

I umm

SS08 I think in second semester they are more opportunities for you to use your previously learnt knowledge to solve more elaborate problems

I right

SS08 I wouldn’t say they come very often but from time to time they do

I so when it came often, semester one or two?

SS08 in semester two I suppose, also for example in maths

I umm

SS08 I was not used to use trigometry identities within equation to solve them

I umm

SS08 so, in the second semester we started doing that and now I just had to look for patterns of what's happening there

**PRACTICE - MODULE**

I umm right. It’s the next question now. **In your personal opinion which module in engineering foundation year programme provided more opportunities to learn and practise critical thinking skills and why this module was better than the other, now this can be more than one or none?**

SS08 that’s really interesting because I think it in way that I take some specific parts in each module that I find valuable

I yeah, for example?

SS08 for example? Yes, I would say that even though I feel that I am very confident in Maths I also don’t feel, I also feel at the same time the reason why I feel confident in maths it doesn’t challenge me as much as other modules

I alright

SS08 so saying that, that would be the most would be wrong

I uhm

SS08 the ones which challenge me the most would the most helpful, and I think that Mechanical Science has probably has been really helpful in some certain aspects

I umm

SS08 computer applications I would say that the group project was quite valuable

I umm

SS08 but I’m not sure if I would evaluate that as being better than Mechanical Science module

I umm

SS08 Engineering Principle is quite good sometimes, but I don’t think they challenge me as much as Mechanical Science, because Mechanical Science tends to enhance me on my understanding of certain situations of what’s happening in there

I umm

SS08 but, Engineering Principle is that there are lots of information that you must remember and just be careful of what you have to take into account and it’ll just work out somehow

I umm

SS08 but, in Mechanical Science is you need to actually understand everything that’s happening fully to get what you need

**PRACTICE – WORKSHOPS/SUPPORT SESSIONS/WORKSHEET**

I umm, okay. Now, it’s another question, every student in the engineering foundation year are given opportunities to use the workshops for any extra supports. Have you attended these workshops? If not why or if yes do these workshops provide opportunities for you to practise your critical thinking skills?

SS08 yes, I do attend workshops, but ( \_ )

I which workshops that you usually go?

SS08 I try to go to all of them

I do you have any preferences, or you try to go?

SS08 yes, I do try to in ninety five percent situations

I umm

SS08 only recently I’ve not attended Engineering Principles workshops, one of the reason is that it’s in the morning and recently I had to revise during the nights

I umm

SS08 so I finish late, and I also feel that, yeah, it’s very specific situation to why I am not attending Engineering Principle workshops, I think it will not matter in this conversation, but yes I tend to attend all of them

I umm

SS08 but I think in maths quite often is that most students only attend because they’re gonna know there’s going to be a surprise test or something like that

I umm

SS08 and what I did is that, beginning of the year I did stay for the whole duration of the, but as I progress I think at the second half of the first semester it became rather simple because in first semester most of the stuffs we learnt were rather simple. Most of them I’ve already learnt in high school, so there’s not much incentive for me to actually pay too much attention to it, because all I basically did was doing repetitive examples one after the other

I umm

SS08 so, all you basically have to do is to find a very convenient time to yourself

I umm

SS08 let’s say at your home or in the library or something, you just need to do it by yourself because you wouldn’t need anybody’s help

I umm

SS08 to explain what is actually wrong or something like that because it was so simple at that point

I umm

SS08 where else in second semester after studying calculus I did, I tend to get more in-put from the post graduates on whether there can be like et two ways to get solution for certain equation or something like that

I umm

SS08 and I attended Engineering Principles mostly because of surprise test and did not have in-put from other graduates that often and I usually just try to find that solution by myself

I umm

SS08 and in Mechanical Science, yes since Mechanical Science was most challenging for me throughout first and second semester I did attend mostly due to the in-put that I get

I umm

SS08 I didn’t get there just to do surprise test because I really need it but usually at least in the past month or two I only stay first one hour or half and just leave

I umm, so it does help in a way?

SS08 yes of course

I okay so mostly you try to attend Mechanical Science workshop because…

SS08 because actually the help that I require and the help that I able to receive is that the post graduates were able to quickly give you the clues to which you need to follow

I right

SS08 without even giving like the full explanation like very often is simply the problem I don’t know from which way I need to approach the problem because to be honest sometimes I’m too lazy to go through all the examples. For example, I haven’t had dealt with this problem before and I have some certain ideas of how I could approach it say two or three ways

I umm

SS08 that I would know that it would be a lengthy process and I’m not even sure if my approach is correct

I umm

SS08 so I need some input from some a post graduate to indicate what he would use to solve the problem

I umm

SS08 and that give me a direction and then, even though I don’t know the exact solutions to this at least I know specifically with what kinds of solution that I would work here

I umm

SS08 and then by the end when I actually found the solution that would enhance my understanding of the things that’s happening there because very often I feel that before I do the problem and even though I think I take everything in account I don’t really understand

I umm

SS08 everything happening there, but once I go through equation, I solve it and it gives you some kinds of understanding, it’s something like reverse engineering if you look at something complex and you try to emulate it by going from up to below instead of the other directions

I umm

SS08 sometimes it works for me, like for example, yesterday the moment of (inertias?). I initially when I learnt about it I didn’t grasps the concept and let’s say how to solve the problem

I you mentioned about reverse engineering?

SS08 yes, for example the, because usually people will try to learn the basics and then from the basics they would try to, they would be able to understand a problem by learning the fundamentals and by learning what’s happening in a certain physical model before they actually resolve a problem involving this

I uhm

SS08 so, for me I sometimes look at a problem that I don’t know the exact solution

I umm

SS08 so, let’s say I’ve numerical solution for this, and I look at the formulas that I would be able to potentially implement and what I do is for example you have a certain body that rotating around an axis that is ( ? : 36:54.3) and I would have no idea how to solve it, but then in the formulas is given, let’s say there’s moment of (inertia?) for (in diffidently?) ten rods. So, what I can do is that and, also I look at another equation which is parallel ( ?: 37:12.1), and then I try to see how I can combine them, and then basically what I did was that, they basically are sets of rods because a (plane?) is basically (in diffidently?) ten rods is basically if you stake them they would be like (in diffidently?) ten (plane?)

I umm

SS08 and if I can get the moment of (inertia?) for that one small object, then I can get the moment of (inertia?) by the ‘Y’ and ‘X’es and then I get moment of (inertia?) around the (37:54:5 ?), and then I compare the results and if they match

I umm

SS08 and I see what’s happening there and I actually start to understand what has been going on there the whole time

I umm

SS08 because before that I didn’t even read the lecture notes on parallel X (theorem?), but now I actually understand how it’s implemented

I umm, okay

SS08 by doing something that I didn’t do before

I umm, very interesting. **Now, apart from workshop sessions you also have support classes which are run by lecturers like for the EE, EP and all that?**

SS08 yeah

I and you have workshop sessions run by the PGTAs?

SS08 yeah

I have you attended these sessions? If no why and if yes, do they provide opportunities to practice your critical thinking skills?

SS08 yes they do…

I because just now you mentioned that when you sometimes have a problem, they gave you immediate feedback, sort of they give you the answer without actually showing you how you derive to that answer

SS08 yeah

I so that doesn’t help yeah? So…

SS08 what do you mean?

I you mentioned just now, that sometimes when you have a problem, so you seek for help, you want some support on that…

SS08 yeah

I they sort of give you the answer without explaining how you come to that answer, THAT doesn’t help?

SS08 umm ( \_ )

I so, is that the case during the…

SS08 I think there’s only one situation when there was a more complex task that I in the end did not do because, I actually think that one specific task was the most difficult task that was given throughout the whole year

I umm

SS08 which was about a rotating body that has linear velocity but at the same time a (friction?) is working against it so…

I umm

SS08 I had to find a point when it start rotating

I umm

SS08 because, and I couldn’t find the specific point so…

I umm

SS08 even though I did ask the postgraduates present there, they did elude me to what I need to take an account, like for example I have like write different equation for the angler velocity and the linear velocity. And then, later on I could then derive to the result

I uhm

SS08 but, I still did not finish it and now just a week ago I asked the solution from one of my course mates

I uhm

SS08 and, basically what they did show was two full pages of written equations and I’m actually learning from that

I alright

SS08 so, in this specific situation I don’t have a choice, I have to actually look through the whole process of deriving the results, because

I umm

SS08 I would not able to just guess it

I umm

SS08 and that kind of way, that works for simple problems

I not with the complex ones. Right, just now you mentioned that they sort of eluded you to take into account what you need to look into before coming to the answer. So, do you think that’s sort of challenging your thinking, encouraging to be more critical or just some kinds of evasion to give you the answer? What is it?

SS08 I ( \_ )

I do you think they’re challenging you to be more critical to come to the answer?

SS08 I think they try

I umm

SS08 because they are not going to give you the full solution unless it’s completely necessary

I umm

SS08 obviously, they are obviously trying

**PRACTICE – OVER ALL**

I okay, good. Now, this is the last question. As an engineering foundation year student in what aspect do you think you had the opportunity to practise and learn the critical thinking skills? For example you’ve attended lectures, you’ve attended workshops, and you had course work like computer application individual and group work?

SS08 yeah

I like Engineering Principles and EE you have task to do every week independently

SS08 yeah

I so taking into account these, which you think gave you the opportunity to practise the skills you think as a student?

SS08 I would say ( \_ ) probably problem sheet I suppose

I and for which module is that?

SS08 ( \_ ) on average I suppose Mechanical Science

I umm

SS08 on average

I so when you try to do it…

SS08 because, there’s certain, I mean all problem sheets regardless of the, Maths or Engineering Principles or Mechanics and Electronics also, ah, actually I haven’t talk much about Electronics I think it’s pretty useful to me personally

I umm

SS08 but, let me think ( \_ ) but I do not think…

I you…

SS08 I think it sets some specific parts in Electronics most of it. It’s more or less straight forward

I umm

SS08 as long as you read the lecture notes, because for example initially I haven’t learnt about (43:56.0?) at all

I umm

SS08 but, after actually, especially after going through work examples it becomes trivial to me

I umm

SS08 like the (44:08.7), once you take into account all the rules which work within the system it become very straight forward

I umm

SS08 so, it’s valuable module but it doesn’t challenge me as much as in Mechanical Science, because ah, by challenging myself, I mean that even when I’m investing lot of my time to understand it will still cause me problems

I umm

SS08 ah, to fully grasp what’s happening there

I umm

SS08 so that happens more often in Mechanical Science than in Electronics. In most of other subjects it depends mostly on how much time you actually investing in it

I umm

SS08 so, the biggest problem for me is laziness when come to other modules

I umm, so, problem sheet why is it you think it gives you more opportunity to practise, give me an example when you’re doing the problem sheet you realise, ‘oh I have to apply all these skills to come to this answer or solve a problem’, or to challenge a theory or something?

SS08 like starting from a simple level task or even medium, one, for example they give you a certain situation, let’s say you have a pulley and an object that is going down…

I and that’s Mechanical Science is it?

SS08 yes, that’s Mechanical Science, and for example you need to get the, you need to prove that this equation which show the velocity of that object given, if let’s say you’re given the (mass?) of the pulley and the radius of the (mass?) of the object itself

I umm

SS08 and then you’re not given the information that you need to, let’s say implement the conservation of kinetic energy

I umm

SS08 ah ( \_ ) you have to basically come to that conclusion by yourself and once you do you’re pretty much set to be able to derive to the equation instead of the large and I’ve used the small and I’ve wasted half an hour just on that small stupid mistake

I umm

SS08 but in the end, obviously you’re going to get the result. But also, in lot of other Mechanical Science questions and problems you have to write like two sets of equations then you have to integrate the results from one set of question into another one to actually get the result and without critical thinking skills you’re not going to get to that

I umm

SS08 you might just have one set of equation that you can derive and you don’t know what to do after that, so

I umm, great. So, it’s more of you got to justify whatever steps on why you’re doing that yeah?

SS08 yeah

I right, that about it I think. Now before we end, coming back to your definition of critical skills, how would you define it simply now? For you what is critical skills now after you’ve explained all these things here?

SS08 umm, objectively evaluating, ah ( \_ ) objective evaluation of surrounding and environment I suppose

I objective evaluation…

SS08 of information

I right. Thank you very much