

CHAPTER 4

FINDINGS

4.1 Introduction

This chapter presents the research findings of the data collected from the case study samples. The main source of data is the interview and is also supplemented by library research. The findings will be presented in relation to the research objectives stated in the study. The method used to analyse the data is already discussed in the methodology chapter.

4.2 Demographics of the Interviewees

Out of all respondents, a group of four students were selected that consists of two boys and two girls. Approaching women respondent was easier as they are willing to be interviewed in a short notice compared to men respondents.

Table 4.1 Category of Informants

Informants	Numbers	Age
Boy	2	14 years old
Girl	2	14 years old

Table 4.1 provides data on the categories of respondents interviewed according to gender and age.

4.3 Research Findings

4.3.1 Introduction

This part of the chapter presents the finding and analysis of the data obtained from the four interviewees on the effectiveness of A4STEM on Kolej GENIUS Insan students' interest towards Arabic language learning. The data were extracted and analysed according to the objective of the study.

4.3.2 Transcriptions and The Coding Process

Table 4.2 Transcriptions and The Coding Process

TRANSCRIPTION ELEMENTS	CONTENTS	CODING
<p>1. What motivates you to use innovative techniques in your Arabic language learning?</p>	<p>We will do another second session of our interview regarding to this module. My name is Mohammad Hazmanyazid bin Haslubis. I am a Master student and supervised by Dr Abdul Rahman. And Insha' Allah today, I would like to ask you about...</p> <p>B1: I myself would like to clearly <u>understand the Quran</u></p> <p>B2: I read <u>text that is written in the colourful box in my textbook</u>. Because the colourful boxes is. I misspoke when I read the text in the verses. <u>I can understand it easily.</u></p> <p>G1: <u>the traditional way of learning Arabic, which is that using textbooks and, you</u></p>	<ul style="list-style-type: none"> • In depth understanding • Attractive learning material • Easy to understand • Outdated learning styles • Exposure to the technology • Difficulties in learning Arabic language

	<p><u>know, learning the formulas about grammars, all of that is quite outdated for us because are the new generation, we are exposed to the technology.</u></p> <p>G2: <u>since Arabic language is quite difficult to learn.</u></p>	
<p>2. What are the strategies that you use to improve your Arabic language learning besides using this module?</p> <ul style="list-style-type: none"> • Does it work? 	<p>B1: I have study, I am studying Arabic, I study Arabic since I was in, um, since I was seven years old. So basically, <u>in my primary school actually strengthened the basis of Arabic language.</u> And when I grow up and into secondary school, <u>it actually kind of more knowledge in Arabic language.</u> So actually, the system, the <u>education system in Malaysia is one of the, um, one of the pillars for me to learn Arabic.</u></p> <ul style="list-style-type: none"> • for me, it is so, uh, effective because of from the <u>guidance of the teachers, friends, and the module itself.</u> I mean, the textbooks and the syllabus itself, it actually gives me <u>ideas so I can learn it by myself,</u> and I can get myself to improve more. <p>B2: I do <u>exercises that my lecturer gave me, because it just helps me when, when, when I want to learn Arabic and and it improves my grammar.</u></p> <p>G1: I will ensure a <u>full understanding during lectures.</u> I mean, when I am learning something, <u>I will be</u></p>	<ul style="list-style-type: none"> • Have basic knowledge of Arabic language since childhood • give ideas • self-learning • do exercise • helps in learning Arabic • improves grammar • pay full attention • ask questions for clarification • do a lot of practices

	<p>a lot of attention. And what we are learning and then I will ask a lot of <u>questions if I don't understand the topic.</u></p> <ul style="list-style-type: none"> • So far is about 70 percent working. You know, <u>we need something to complement way of learning.</u> <p>G2: When the lecturers teach in the class, I will ask a <u>lot of questions</u> when I don't understand anything. And after that, <u>I will do a lot of practice on the topic.</u></p>	
<p>3. What are the contents from the A4STEM module that has improved your Arabic language learning?</p> <ul style="list-style-type: none"> • And do you think the content has improved your Arabic language? 	<p>B1: I don't really remember the particular the particular title, but I think it is like <u>explains fi'il mudhari' and all the fi'il.</u> So basically, <u>it helps me in recalling all my past knowledge that I have forgotten.</u> And but this module strengthened me <u>with the elements of innovation and elements of futuristic.</u> So, I am more, uh, so I can think I can think brilliantly in Arabic.</p> <p>- Oh, yeah, to be concern, uh, and the module itself contains yeah, <u>contains various elements such as the all of the elements could help a student to improve their arabic,</u> such as where we have glossary. We have a particular section and title and exercises. So yeah, it actually <u>one of a revolution or a revolution of textbook</u> because it is more</p>	<ul style="list-style-type: none"> • simple and compact notes • consists of innovation and futuristic elements • recap what has been learnt • an evolution of textbook in education • face challenges in Arabic language with prepared knowledge. • Various vocabulary glossary • Improve Arabic vocabulary • Colorful box • Interesting infographic and visuals • Easy to understand • Compact Content • Content quite compelling • Nice arrangement of content • a new way for learning Arabic

	<p>futuristic. So we, as a student, we <u>can face more challenges in Arabic language with a prepared knowledge.</u> Yeah.</p> <p>B2: The content that that improvement relinquishes <u>the words glossaries at the starting page of Chapter, where I can improve my Arabic vocabulary, and this module has the colourful box to.</u></p> <p>G1: Firstly, the <u>Arabic for STEM module is the infographic and the visuals interesting too. For me, it is for me then new. The content in the module is compact, but it is easy to understand, not too wordy and not too short.</u></p> <p>Well, it's just this, you know, as I've mentioned before, this module is <u>a new way for learning Arabic to do it for us here.</u></p> <p>G2: <u>on my opinion, the content, the content is quite compelling, but it easy to understand because the arrangement is to neat, and exercise is within our knowledge and skills on to her and the easy.</u> So, it's English.</p>	
<p>4. What kind of improvement you get after engaging in this A4STEM module?</p>	<p>B1: Actually, the kind of improvements that I gain from this module is <u>basically the terms, the scientific terms,</u> the, you know, you know, innovative terms actually and all the high sciences, high selection of</p>	<ul style="list-style-type: none"> • New terms/innovative terms • New terms • Preach with the assistance of futuristic elements

	<p>sciences term that I could apply when I when I must state my Arabic, I can, you know, <u>I can preach to assist with the futuristic element</u> which which could benefit all of us. And they are they will be more understanding with what am I talking about? And I also can satisfy myself.</p> <p>B2: Hmm. I <u>improved my vocabulary</u> and I <u>understand STEM a bit better</u>. Uh.</p> <p>G1: Firstly, first and foremost, you know, we can <u>get additional knowledge about STEM fields</u> at the same time. You know, we can see the involvement of Muslim scholars in science and technology.</p> <p>G2: Additional <u>additional knowledge about STEM</u> and can see the. <u>Involvement of scientific terms in Arabic language</u>.</p>	<ul style="list-style-type: none"> • get additional knowledge about STEM fields • improved vocabulary • understand STEM a bit better • know the involvement of scientific terms in Arabic language
<p>5. What is changing about A4STEM module on your Arabic language?</p>	<p>B1: Oh, basically, it changes my actually. Honestly, <u>it changed my perspective</u> because usually, you know, when I was kid, I see Arabic, I see Arabic in this way of, you know, like religious, um, the way of the attitude. But I couldn't see that <u>Arabic is actually can be implemented in such technologies, such advanced technologies, and advanced industries</u>. So actually, with this module, a student like me can, you know, <u>can broaden our perspectives and opinions and the way of thinking</u>. So</p>	<ul style="list-style-type: none"> • Implementation of Arabic language in technology • Broaden student's perspective, opinion, and the way of thinking • New scientific terms in Arabic language

	<p>we are more prepared in facing at this.</p> <p>Um, it's perspective and taken, of course, the knowledge itself. But I didn't see my vocab on, you know, <u>some kinds of new words and new items in science that is eventually developing</u>. So this module, actually <u>it is really good because it keeps on track on the development of technologies and it defines all the English terms in Arabic</u>.</p> <p>B2: I'm. For for many ordinary Arab language that I always use, this apostate module has <u>had some scientific words</u> and I get nervous quips about saying.</p> <p>G1: Uh, definitely, I <u>get more valuable vocabulary</u> about for like this time terms, which is, I don't know, it exists in Arabic. I think, you know, Arabic only English terms, but no English also has terms for particular words, then. No, we can also improve our name and better skills.</p> <p>G2: I <u>get more, more vocabulary on the scientific terms</u> in Arabic. I think this one.</p>	
<p>6. What kind of medium do you use in developing your Arabic language proficiency?</p>	<p>B1: Oh, actually, I am a person who takes who speak on textbook. I would try to master the textbook until I must have. It is fine that my hobby is maybe is quite stable. And then I will start searching for other mediums</p>	<ul style="list-style-type: none"> • textbook • past exercises • Memorized words • Lessons taught by teachers • Internet • reference materials • online dictionary

	<p>such as all books, all Arabic books that I could understand and try to understand.</p> <p>B2: I read I <u>read my text book</u> that has words and meanings, and I [00:04:30.00] <u>revise my exercises</u> that I've done. When you use it? Um, to to. And to I use the textbook. And I <u>memorize some of the words</u> and. I [00:05:00.00] do my exercises and to improve my understanding on the Arabic language.</p> <p>G1: I agree with the <u>textbooks</u> and then <u>teachers</u> lately, this is <u>also internet</u>, because it is it <u>has a lot of reference materials</u></p> <ul style="list-style-type: none"> • The main the main websites that I use is I [00:05:00.00] <i>Al Maa'ni dictionary</i>. And then you know Youtube. The topics, you know, in grammar, the practice and the conversation in practice, speaking test <p>G1: Firstly, it is easy to use. I just have to key in the word and then right the way it works, that associate with the words also come up and then the definition Arabic. Also, the raw and then the all sorts of things [00:06:00.00] come out.</p> <p>G2: The main <u>lecturers textbooks</u> and since we are memorising the Holy Quran, [00:04:00.00]</p>	
		<ul style="list-style-type: none"> • Easy to use

<ul style="list-style-type: none"> • What characteristics of the platform that may develop your Arabic language proficiency? 	<p>G1: Firstly, <u>it is easy to use</u>. I just have to key in the word and then right the way it works, that associate with the words also come up and then the definition Arabic. Also, the raw and then the all sorts of things [00:06:00.00] come out.</p>	<ul style="list-style-type: none"> • Collocation, synonyms and thesaurus • definition • the raw and then the all sorts of things come out
<ul style="list-style-type: none"> • Do you use the internet developing your Arabic language? 	<p>B1: Uh, yeah. For the internet, I'm not usually used internet like any. I like from the Google sources because I don't really. Um, <u>ensure that the grammar, the usage of word is correct</u>, and I don't want to, you know, <u>mix it with my basic knowledge that can confuse my mind</u>. Yeah.</p> <p>G2: I also use. <u>YouTube, tutorial teaching, online</u> [00:04:30.00] teaching.</p>	<ul style="list-style-type: none"> • ensure that grammar and usage of words are correct • assist basic knowledge to avoid confusion • watch YouTube • watch online tutorials and teachings
<p>7. How do you go about assessing whether you understand the module you use?</p> <ul style="list-style-type: none"> • Probe: Do you understand the A4STEM module? 	<p>B1: Or I'll go on exercises, basically any module or textbook will provide you some exercises, so I will do exercises to observe my own capabilities in Arabic, whether it is developing or not. And if it's not, <u>I will revise back the title or the grammar subject</u> so I can improve more day by day.</p> <p>Probe: Or actually the module for me, for myself, because I'm totally just <u>exposed with the innovative terms and futuristic terms</u>. Yes, some basic Arabic I can understand, but some terms are I am not too sure the meaning, but when I see the</p>	<ul style="list-style-type: none"> • Do the exercise • Do revision • Exposure to the innovative and futuristic terms • Understand certain chapter • the assessment is doable. • the components can be used for practical usages such as debates • module must have answer schemes.

	<p><i>Jawahir Kalam?</i> Yeah, I can finally understand it. Yeah, it's.</p> <p>B2: I I understand it. I <u>understand it module deal a bit better</u> from from before I read the module. And if I, uh, if I do not understand what I read, I <u>look back to my revision books</u> that is written [00:06:00.00] in English and I <u>try to relate it to the module.</u></p> <p>Probe: Uh, uh, about. And then what did I understand most about <u>physics</u></p> <p>G1: Especially when you got when and when I got the module? You know, I <u>went through the module first</u> and then I've done the exercise and the assessments in after reading the essays and paragraphs in the module. And [00:06:30.00] then I found that <u>it is easy to understand and the assessment is doable.</u> It's not too hard. And also, we <u>can utilize the component components like the debates,</u> the the exercise, the essays as a whole. You can utilize all of them.</p> <p>G2: Yes, um, I did some a [00:05:00.00] few of questions and we do, and it seems it can be do. But for me, I think this is my opinion. And the <u>module should have on scheme answers.</u> If the module is used for self study, then it should have a scheme assessed in the module itself.</p>	
--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

	<p>But if the module is [00:05:30.00] used for teachers and students, then teachers should be provided by the scheme and answers.</p>	
<p>8. What kind of assessments in the module tell you the most about what you have learnt in Arabic language?</p> <ul style="list-style-type: none"> • Probe: What kind of assessment most accurately capture your interest in learning Arabic language? 	<p>B1: Um, um, I think, um, yeah, as I mentioned before, the <i>Jawahir Kalam</i>. <u><i>Jawahir Kalam</i> is provided by every new chapter of the book because the <i>Jawahir Kalam</i> is very for me, it's very useful because, um, it brought with me the new words and new <i>tarakib</i> new terms for me to use in the state of technology and, um, future high tech.</u></p> <p>B2: And the. In the middle, I think [00:07:00.00] it's it's <u>the colorful boxes</u> because it makes me want one to read it and understand the module more.</p> <p>G1: My [00:07:00.00] personal opinion, I. The I'rab exercise because I am quite I'm not as good in I'rab, but you know, the the <u>module helps me to enhance my understanding, understanding in I'rab and also the scientists making so answering the questions [00:07:30.00] about the materials given.</u></p> <p>G2: And for me is is right and <u>answering a question from a given paragraph.</u> Why? Because I personally like the kind of questions</p> <p>Probe: Its [00:06:30.00] own to cook based on the situation and the difficulty.</p>	<ul style="list-style-type: none"> • the <i>Jawahir Kalam</i> • exposure to the innovative and futuristic terms • new words, new <i>tarakib</i> and new terms. • Attractive design • enhance understanding in Arabic knowledge especially <i>I'rab</i>. • answering questions from a given paragraph

<p>9. What are the main factors of this module that may contribute to the development of your Arabic language?</p> <ul style="list-style-type: none"> • Probe: Why do you prefer that? Why do you like it? 	<p>B1: Or I think the main factor for me, for the module, of course, <u>the content, the idea of delivering the content</u>, which is with elements [00:11:30.00] of technology actually and the elements of the energy basically will attract youth because it is close to our hearts. So, um, and indirectly, the module will be a success module for teenagers. Us.</p> <p>Probe: Or, as I mentioned before, because we grew we grew up in the world of technology as existing, so such systems such approach such attractive, effective. It <u>actually enhances our interest in Arabic language language</u> and it <u>gives us. A new perspective in the world of Arab language.</u></p> <p>B2: Individual decisions based on [00:07:30.00] what have I learned and the access that given look doable for me, it means I think I can do it and <u>I think it can make me understand very easily.</u></p> <p>Probe: So that I can use the the new word? And try to [00:08:00.00] <u>combine it with my old words so that I can make maybe a perfect sentence.</u></p> <p>G1: Okay. Like I mentioned before, the <u>the assessment is doable.</u> Opinion is <u>not too high, and also it's not too easy.</u> It's <u>the compliance with our level of knowledge in Arabic.</u> So we actually</p>	<ul style="list-style-type: none"> • the idea of delivering the content • enhances interests in Arabic language • gives new perspective in the world of Arabic language. • Easy to understand • Can apply new vocab/word • the assessment is doable. • not too advanced, yet not too easy • suitable with level of knowledge in Arabic language. • its eye-catching visuals, the colourful and many pictures.
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	<p>understand what we are doing.</p> <p>G2: For me, I tend to read the whole paragraph because of <u>its eye catching [00:07:00.00] visuals, the colorful and many pictures,</u> so I tend to read other didn't I didn't. Then it just black and white and it's OK.</p>	
<p>10. Does the implementation of A4STEM module upgrade KGI gifted students' Arabic language proficiency?</p> <ul style="list-style-type: none"> • Probe: Can you share your thoughts or opinion based on your own experience? 	<p>B1: Yeah, for me, for gifted students. Actually, we I'm actually for me, I crave for I crave for, you know, um, in [00:13:00.00] the inside in. Language subjects such as Arabic, the Malay, English, and France. We <u>need the element of creative practice such as yeah and sciences,</u> because we are. Most of us are logic person. So this logic, the least logical [00:13:30.00] things will <u>attract us as a student to learn more about the language.</u> Because with the knowledge of the language and the technology, we <u>can benefit others</u> by and maybe teaching them and guide them with the know this. Know this performance.</p> <p>B2: In my, in my opinion, the [00:08:30.00] module? Uh, I think the <u>module can help me or some students in developing our Arabic language and stem</u> because it has, uh, most most of the module has have the objective characteristics such as color suits and understandable sentences, uh, for initiation.</p>	<ul style="list-style-type: none"> • Need the element of creative practice and science • Attract student to learn more about the language • It can benefit others • module can help students in developing their Arabic language and STEM • A4STEM can develop Arabic language proficiency for gifted and talented students • every language actually quite unsavoury • do the exercise and assessments by ourselves (Self-study) • join camp/school programme • exposure to science subjects

	<p>G1: I think yes, Arabic Arabic for STEM can <u>develop the Arabic language for gifted and talented students</u> because, you know, <u>every language is actually quite unsavoury</u> in KGI case, we are not familiar with the language we like. The module is. Are easy to understand, and <u>we can actually do the exercise and assessments by ourselves</u> while her off duty, you know, and my knee, all sorts of things, disunity</p> <p>G2: Uh, yes. Before we go before you enter the school, <u>we have to entertain this program, call Permata Insan Camp.</u> We will learn Arabic, STEM and so on. Since when we, well, in 10 years in, if that is the schedule that they do, then is all it is</p> <p>Probe: Then from there, when we learn Arabic, when we learn the Arabic subject we have, <u>the scientific system is integrated. So the biology chemistry is integrated with the Arabic language.</u> And from there we learn.</p>	
<p>11. What are some of the major challenges you face in attempting to change learning practices?</p>	<p>B1: Oh, actually, for the challenges, of course, like <u>this module is still in copyright,</u> so we are used to, you know, we are used to abstract things such as physical, physical, such as physical books and textbooks. So the challenges are not quite too much</p>	<ul style="list-style-type: none"> • Module is not printed • Need physical book or module • Only read textbook • STEM is a difficult field • the module itself is new

	<p>because I'm pretty sure that in in learning something, we need to be a reason, but simply to adapt to any challenges. So I think the challenges are is only, um, <u>we need to have a physical book or module</u> so we can, you know, you can feel it and we can let it fester.</p> <p>B2: Hmm. Before I use, before I use, before I read them what you do. The way I learn Arabic is just that <u>I only read my textbook</u> and when I was first used to the module, I'm a [00:09:30.00] bit like a bit shocked because of the active and the interesting facts.</p> <p>G1: We see <u>STEM is hard place</u>, it is a big, you know, increase the difficulty, then <u>the module itself is new to us</u>. You know, only [00:09:30.00] four of us have seen this module. And then we have <u>no reference to look</u></p> <p>G2: Since <u>the STEM itself is difficult</u> and we have to integrate it with Arabic. So it's one of the challenges. And like I say, the more do they like to have the scheme and to.</p>	<ul style="list-style-type: none"> • no reference to look
<ul style="list-style-type: none"> • Why do you use the textbooks? 	<p>B2: For me, the textbook, <u>the textbook has many words</u> that I can add to my vocab when I was first with the this module. <u>I can add my vocabs more.</u></p>	<ul style="list-style-type: none"> • textbooks have many words • can improve vocabulary

<p>12. What do you think are the major prospects of the module?</p> <ul style="list-style-type: none"> • Probes: How can barriers be overcome? 	<p>B1: A major opportunities for this module, actually, um. Ok. Actually, I think this module will um, it <u>has a high market potential not only in Malaysia but also overseas, who are willing to learn Arabic with the technologies, terms and definition.</u> So it actually many countries would like to keep in track on this language on these languages for them to influence more people to join them.</p> <p>B2: I think I I can adapt with the learning system that is used in the module.</p> <p>G1: You can you can actually improve our areas, obviously, then. No, I'm just repeating my point is that <u>the media can actually improve our language, Arabic language and stem</u> at the same time.</p> <p>G2: I think <u>this module can improve the Arabic language itself and the STEM knowledge</u> that included in the content of the module.</p>	<ul style="list-style-type: none"> • has a high market potential • adaptable to the current learning system/curriculum. • this module can improve the Arabic language itself and STEM knowledge
<p>13. To what extent can this module help you in improving your Arabic language?</p> <ul style="list-style-type: none"> • Probe: How is “this module” benefit you? 	<p>B1: I'm. This module benefits me, of course, yes, because I'm a person who is searching for. <u>An alternative or an initiative for me myself to learn Arabic</u> because it helps me a lot in the syllabus in syllabus, such as <i>Ulumuddin</i> Arabic language itself. And in order to <u>understand the syllabus, you know, more precisely with the language</u></p>	<ul style="list-style-type: none"> • As an alternative or a new initiative to learn Arabic • understand the language precisely which may enhance understanding of the topics. • the attractive visual with colors, • the module helps students

	<p><u>actually enhances my understanding on the topics.</u></p> <p>B2: This module <u>has the objective characteristic with colors, and it makes me like to read it.</u> And when I always read it, my written stem could be good.</p> <p>G1: Hmm. I think they're pretty healthy. Like [00:11:00.00] about 50 to 60 percent alongside standard Arabic classes in English, so the can. I do think <u>the module is, you know, helping me.</u> I learning straight from the module, but <u>the module is like a compliment from what we learn in standard classes in school.</u> No thought by our lecturers. I say that</p> <p>G2: So all <u>the arrangement of the exercises is quite neat and</u> [00:11:00.00] <u>we can understand and that the this doesn't mess each other, so we can learn one by one step by step</u></p>	<ul style="list-style-type: none"> • the module is a complement to what have been learnt in school. • the neat layout of the exercises in the module • can be easily understood as contents are well organised and jumbled up. can learn systematically.
<p>14. Describe how your learning and assessment practices improve your Arabic language</p> <ul style="list-style-type: none"> • Probe: How do you know? (criteria, evidence) 	<p>B2: when when I was using this module, I <u>learned I had an Arabic effectively, and I get to know some historical stories about scientist scholars.</u></p> <p>Probe: Because. When when I read, I mean, when I read about about about a story, <u>I go to internet and just to make sure. Uh, the issue in the story on the internet is related on what is written in the module,</u> so I [00:13:00.00] can. Hmm. I</p>	<ul style="list-style-type: none"> • learned Arabic effectively • know some historical stories, about scientist and scholars (Muslim Scholars) • recheck the stories on the internet • can improve understanding about the story • use prior knowledge from Arabic classes

	<p><u>can improve my understanding</u></p> <p>G1: Firstly, we can <u>use the [00:12:00.00] knowledge that we already know from Arabic classes and we use this in the module.</u> We then answer all the assessments and then we <u>found new vocab.</u> No. And then <u>the module is what it is easy to understand.</u> So it's <u>[00:12:30.00] not hard to use the modern media to give away everything.</u></p>	<ul style="list-style-type: none"> • found new vocabulary during assessments • easy to understand • not hard to use modern media to give away everything
<p>15. Is assessment a major focus of attention and discussion here?</p> <ul style="list-style-type: none"> • Probe: why or why not? (reasons, influences) 	<p>B1: Yes, because we are talking about the future. We are talking about our generation or next generations. So <u>this is a module where they can more expose earlier than us to the language, US technologies [00:19:00.00] and futuristic elements.</u></p> <p>B2: Hmm. Yes, it is, because it's because <u>[00:13:30.00] this module, this module is interesting for students to learn, and this module maybe can easily be adapted.</u></p> <p>G1: Yes, Because <u>the main topic of this module is about STEM and then STEM requires, you know, brainstorming and creative thinking.</u> So, you <u>[00:13:00.00] know, we will encourage students to do discussions and then we can also focus on the assessment that we are doing instead of, you know, being distracted.</u></p>	<ul style="list-style-type: none"> • this is a module can expose much earlier than us to the language, technologies, and futuristic elements. • this module is interesting for students to learn • this module maybe can easily be adapted. • the main topic of this module is about STEM • STEM requires brainstorming and creative thinking. • Can encourage students to do discussions • Can focus on the assessment that students do instead of being distracted.

	<p>G2: Yes. High. Since <u>we are learning STEM subjects like our major syllabus here and the Arabic language itself is also a major here.</u> Then students should have been discussed this.</p>	<ul style="list-style-type: none"> • students learning STEM subjects and Arabic language as major syllabus
<p>16. What specific new learning process you gain after using this module?</p>	<p>B1: Oh, um, <u>it's a learning process, actually for me to digest all the terms of the job.</u> Actually, um, it actually takes a lot and it takes some times for me to digest the words because it is [00:19:30.00] totally new to me and I don't even I didn't even know <u>that the English could be translated into Arabic.</u> So it is a good work for, um, it is a good work for us as a teenager. So I.</p> <p>B2: My <u>notes better based on the colorful boxes in the module,</u> because the box is really a trick me the the box is very interesting.</p> <p>G1: Obviously, you know, <u>improving [00:13:30.00] my Arabic language, then you can enrich our knowledge in STEM.</u> Also, we <u>can link the Arabic grammar now who sort of and while I work with them in the in terms of facts and words.</u></p> <p>G2: , <u>I can enrich my knowledge in STEM and I can link the Arabic grammars with stamps and if we stamps them and fix. And equally.</u></p>	<ul style="list-style-type: none"> • understanding and digesting all the terms • that English could be translated into Arabic. • notes become better based on the colourful boxes/diagrams/illustrations in the module • Improving Arabic language • Can enrich our knowledge in STEM. • improve grammar of Arabic language • work with them in the in terms of facts and words, • can enrich knowledge in STEM • can link the Arabic grammars with STEM
	<p>B1: I think the characteristic of, you know, some teachers,</p>	

<p>17. Is there any particular characteristic of the module that you can associate with innovative learning initiative?</p> <ul style="list-style-type: none"> • Can you share about it ? 	<p><u>the way of thinking by [00:20:30.00] teachers, because actually <u>this module contains a lot of, you know, high um, high thinking, high or high thinking orders.</u> So actually, <u>it challenges teachers also, um uh, to teach us from the module.</u></u></p> <p>B2: They [00:14:30.00] test the the module, <u>I do read the STEM related books,</u> and those books are written in English.</p> <p>Probe: The books the English books do have. [00:15:00.00] <u>Words is. There has a similar sound to it, so I can just relate it and try to understand it.</u></p> <p>G1: No, [00:14:00.00] I don't think so. Because you guys are doing. You know, <u>I didn't. I didn't have any you get sick of the linen using this module. I just quit. It just helps me. I'll be with. It's just</u></p> <p>G2: <u>this module is quiet and not really not very high level football.</u></p>	<ul style="list-style-type: none"> • the way teachers think when using the module • this module contains a lot of high thinking order problems • challenges teachers to teach. • read the STEM related books, • Words is there having a similar sound to it and can just relate it and try to understand it • module is quiet and not really not very high level at all.
<p>18. Is there any innovative learning that you use before using this module?</p> <ul style="list-style-type: none"> • Probe: can you share its own characteristics? 	<p>B1: Either, you know, leaning, I think the highest innovative that I have used is <u>using YouTube. Um, actually the characteristic is basically play with the colours to attract me to stay, my focus, to keep my focus.</u> I think.</p> <p>B2: And. Before, before, before I read this module. Yes. Before I read this module, I just. I just read my</p>	<ul style="list-style-type: none"> • using YouTube - play with the colours to attract students to stay focus • do revision back to back for Arabic language and for STEM. • read revision books that has compiled all of the

	<p>I just reversed back my exercise [00:16:00.00] for <u>Arabian one and four for STEM</u>. I just <u>read my revision books that has compiled and compiled all of the all of the contents from the textbooks.</u></p> <p>G1: I think we use the <u>do e-learning</u>. Actually, I will actually. But [00:15:00.00] <u>the modules is still using the traditional method during the exercise. The the content is this is like transferring the textbook. It digitally and then we using unanimity, so I do think it is quite I think this is quite.</u></p> <p>G2: Like I said before the program that we retain. <u>Only the program that you join, that [00:14:30.00] you think that it is very innovative learning.</u></p>	<p>contents from the textbooks.</p> <ul style="list-style-type: none"> • E-learning - The content mimics the textbook - Digital and use unanimity • Join the programme under the Permata Insan can be called as the innovative learning
--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

4.3.3 Arrangement of Interview Questions & Coding According to Research Questions

RQ1: How do KGI students use Arabic in learning STEM subjects?

1. What motivates you to use innovative techniques in your Arabic language learning?
 - a) In depth understanding
 - b) Attractive learning material
 - c) Easy to understand

- d) Outdated learning styles
- e) Exposure to the technology
- f) Difficulties in learning Arabic language

2. What are the strategies that you use to improve your Arabic language learning besides using this module?

- a. Have basic knowledge of Arabic language since childhood
- b. give ideas
- c. self-learning
- d. do exercise
- e. helps in learning Arabic
- f. improves grammar
- g. pay full attention
- h. ask questions for clarification
- i. do a lot of practices

Does it work?

Yes

3. What kind of medium do you use in developing your Arabic language proficiency?

- a. textbook
- b. past exercises
- c. Memorized words
- d. Lessons taught by teachers

- e. Internet
 - f. reference materials
 - g. online dictionary
4. What characteristics of the platform that may develop your Arabic language proficiency?
- a. Easy to use
 - b. Collocation, synonyms and thesaurus
 - c. definition
 - d. the raw and then the all sorts of things come out
5. Do you use the internet developing your Arabic language?
- a. ensure that grammar and usage of words are correct
 - b. assist basic knowledge to avoid confusion
 - c. watch YouTube
 - d. watch online tutorials and teachings
6. What are some of the major challenges you face in attempting to change learning practices?
- a. Module is not printed
 - b. Need physical book or module
 - c. Only read textbook
 - d. STEM is a difficult field
 - e. the module itself is new
 - f. no reference to look

7. Why do you use the textbooks?
 - a. textbooks have many words
 - b. can improve vocabulary

8. Describe how is your learning and assessment practices improve your Arabic language?

Probe: How do you know? (Criteria, evidence)

- a. learned Arabic effectively
- b. know some historical stories, about scientist and scholars (Muslim Scholars)
- c. recheck the stories on the internet
- d. can improve understanding about the story
- e. use prior knowledge from Arabic classes
- f. found new vocabulary during assessments
- g. easy to understand
- h. not hard to use modern media to give away everything

RQ2: What are the impacts of the implementation of A4STEM module to upgrade Arabic language for gifted students in KGI?

1. What kind of improvement you get after engaging in this A4STEM module?
 - a. New terms/innovative terms
 - b. New terms
 - c. Preach with the assistance of futuristic elements

- d. get additional knowledge about STEM fields
 - e. improved vocabulary
 - f. understand STEM a bit better
 - g. know the involvement of scientific terms in Arabic language
2. What is changing about A4STEM module on your Arabic language?
 - a. Implementation of Arabic language in technology
 - b. Broaden student's perspective, opinion, and the way of thinking
 - c. New scientific terms in Arabic language

RQ3: How does Arabic 4 STEM module improve KGI students' Arabic Language proficiency?

1. What are the contents from the A4STEM module that has improved your Arabic language learning?
2. And do you think the content has improved your Arabic language?
 - a. simple and compact notes
 - b. consists of innovation and futuristic elements
 - c. recap what has been learnt
 - d. an evolution of textbook in education
 - e. face challenges in Arabic language with prepared knowledge.
 - f. Various vocabulary glossary
 - g. Improve Arabic vocabulary
 - h. Colorful box
 - i. Interesting infographic and visuals

- j. Easy to understand
 - k. Compact Content
 - l. Content quite compelling
 - m. Nice arrangement of content
 - n. a new way for learning Arabic
3. How do you go about assessing whether you understand the module you use?
- a. Do the exercise
 - b. Do revision
 - c. Exposure to the innovative and futuristic terms
 - d. Understand certain chapter
 - e. the assessment is doable.
 - f. the components can be used for practical usages such as debates
 - g. module must have answer schemes.
4. Probe: Do you understand the A4STEM module?
- Yes
5. What kind of assessments in the module tell you the most about what you have learnt in Arabic language?
- a. the Jawahir Kalam
 - b. exposure to the innovative and futuristic terms
 - c. new words, new tarakib and new terms.
 - d. Attractive design
 - e. enhance understanding in Arabic knowledge especially I'rab.
 - f. answering questions from a given paragraph
6. Probe: What kind of assessment most accurately capture your interest in learning Arabic language?

7. What are the main factors of this module that may contribute to the development of your Arabic language?
8. Probe: Why do you prefer that? Why do you like it?
 - a. the idea of delivering the content
 - b. enhances interests in Arabic language
 - c. gives new perspective in the world of Arabic language.
 - d. Easy to understand
 - e. Can apply new vocab/word
 - f. the assessment is doable.
 - g. not too advanced, yet not too easy
 - h. suitable with level of knowledge in Arabic language.
 - i. its eye-catching visuals, the colourful and many pictures.
9. Does the implementation of A4STEM module upgrade KGI gifted students' Arabic language proficiency?
10. Probe: Can you share your thoughts or opinion based on your own experience?
 - a. Need the element of creative practice and science
 - b. Attract student to learn more about the language
 - c. It can benefit others
 - d. module can help students in developing their Arabic language and STEM
 - e. A4STEM can develop Arabic language proficiency for gifted and talented students
 - f. every language actually quite unsavoury
 - g. do the exercise and assessments by ourselves (Self-study)
 - h. join camp/school programme
 - i. exposure to science subjects

11. What do you think are the major prospects of the module?

12. Probes: How can barriers be overcome?

- a. has a high market potential
- b. adaptable to the current learning system/curriculum.
- c. this module can improve the Arabic language itself and STEM knowledge

13. To what extent can this module help you in improving your Arabic language?

14. Probe: How is “this module” benefit you?

- a. As an alternative or a new initiative to learn Arabic
- b. understand the language precisely which may enhance understanding of the topics.
- c. the attractive visual with colors,
- d. the module helps students
- e. the module is a complement to what have been learnt in school.
- f. the neat layout of the exercises in the module
- g. can be easily understood as contents are well organised and jumbled up. can learn systematically.

15. Is assessment a major focuses of attention and discussion here?

16. Probe: why or why not? (Reasons, influences)

- a. this is a module can expose much earlier than us to the language, technologies, and futuristic elements.
- b. this module is interesting for students to learn
- c. this module maybe can easily be adapted.
- d. the main topic of this module is about STEM
- e. STEM requires brainstorming and creative thinking.

- f. Can encourage students to do discussions
- g. Can focus on the assessment that students do instead of being distracted.
- h. students learning STEM subjects and Arabic language as major syllabus.

17. What specific new learning process you gain after using this module?

- a. understanding and digesting all the terms
- b. that English could be translated into Arabic.
- c. notes become better based on the colourful boxes/diagrams/illustrations in the module
- d. Improving Arabic language
- e. Can enrich our knowledge in STEM.
- f. improve grammar of Arabic language
- g. work with them in the in terms of facts and words,
- h. can enrich knowledge in STEM
- i. can link the Arabic grammars with STEM

18. Is there any particular characteristic of the module that you can associate with innovative learning initiative?

19. Can you share about it?

20. the way teachers think when using the module

- a. this module contains a lot of high thinking order problems
- b. challenges teachers to teach.
- c. read the STEM related books,
- d. Words is there having a similar sound to it and can just relate it and try to understand it

e. module is quiet and not really not very high level at all.

21. Is there any innovative learning that you use before using this module?

22. Probe: can you share its own characteristics?

- a. using YouTube
- b. play with the colours to attract students to stay focus
- c. do revision back-to-back for Arabic language and for STEM.
- d. read revision books that has compiled all of the contents from the textbooks.
- e. E-learning
- f. The content mimics the textbook
- g. Digital and use unanimity
- h. Join the programme under the Permata Insan can be called as the innovative learning.

4.3.4 Coding into Themes

Table 4.3 Coding into Themes

OPEN CODING	CATEGORIES	THEMES
<ul style="list-style-type: none"> • In depth understanding • Attractive learning material • Easily to understand • Outdated learning process • Exposed to the technology • Difficulties in learning Arabic language 	<p>Characteristics of Module:</p> <ul style="list-style-type: none"> • Attractive learning material • Easy to understand • Various vocabulary glossary • Colourful box • Interesting infographic and visual • Easy to understand 	<p>Effectiveness of A4STEM module:</p> <p>a. Characteristics of Module:</p> <ul style="list-style-type: none"> • Attractive learning material • Easy to understand • Various vocabulary glossary • Colourful box

<ul style="list-style-type: none"> • learn Arabic language since childhood • give ideas • helps in self-learning • do exercise • helps in learning Arabic • improves grammar • pay full attention • ask questions for misunderstanding • do a lot of practices • simple and compact notes • consists of innovation and futuristic elements • recap what learns from the past • an evolution textbook in education • face challenges in Arabic language with prepared knowledge. • Various vocabulary glossary • Improve Arabic vocabulary • Colorful box • Infographic and interesting visual • Easy to understand • Content compact • Content quite compelling • Nice arrangement of content • a new way for learning Arabic• • New terms/innovative terms • New terms • Preach with the assistance of futuristic element 	<ul style="list-style-type: none"> • Compact Content • Content quite compelling • user-friendly content layout • a new way for learning Arabic • New terms/innovative terms • New terms • New scientific terms in Arabic language • adapt with the learning system that is used in the module. • it challenges teachers to teach using the module. • read STEM related books, • Words is there having a similar sound to it and can just relate it and try to understand it • play with the colours to attract students to stay focus <p>Advantages of learning A4STEM module</p> <ul style="list-style-type: none"> • generates ideas • helps in independent/self-learning • In depth understanding • simple and compact notes • consists of innovation and futuristic elements 	<ul style="list-style-type: none"> • interesting infographic and visual • Easy to understand • compact content • Content quite compelling • user-friendly content layout a new way for learning Arabic • New terms/innovative terms • New terms • New scientific terms in Arabic language • adaptable to the current learning system/curriculum it challenges teachers to teach using the module. • read the STEM related books, • Words is there having a similar sound to it and can just relate it and try to understand it • play with the colors to attract students to stay focus • simple and compact notes • consists of innovation and futuristic elements • an evolution textbook in education <p>b. Advantages of learning A4STEM module</p> <ul style="list-style-type: none"> • generates ideas • helps in independent/self-learning
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<ul style="list-style-type: none"> • get additional knowledge about STEM • improved vocabulary • understand STEM a bit better • know the involvement of scientific terms in Arabic language • Implementation of Arabic language in technology • Broaden student's perspective, opinion, and the way of thinking • New scientific terms in Arabic language • Using textbook • Revise the past exercise • Memorize some words • Teachers learning • Use of internet • has a lot of reference materials • online dictionary • Easy to use • that associate with the words also come up • the definition Arabic come up • the raw and then the all sorts of things come out • ensure that the grammar, the usage of word is correct • mix it with my basic knowledge that can confuse my mind • watch YouTube • watch the online tutorial and teaching • Do the exercise • Do revision 	<ul style="list-style-type: none"> • an evolution textbook in education • Preach to assist with the futuristic element • get additional knowledge about STEM fields • improved vocabulary • understand STEM a bit better • knowhow certain scientific terms are used in Arabic language • recap what has been learnt. • face challenges in Arabic language with prepared knowledge. • Improve Arabic vocabulary • helps in learning Arabic • improves grammar <p>Strategies used in learning Arabic language:</p> <ul style="list-style-type: none"> • Do exercise • Pay full attention • Ask questions for clarifications • Do a lot of practices • Do revision • learn Arabic language since childhood • Using textbook • Do past exercises as revision • Memorize some words 	<ul style="list-style-type: none"> • In depth understanding • able to improve student's Arabic language • Preach to assist with the futuristic element • get additional knowledge about STEM fields • improved vocabulary • understand STEM a bit better • knowhow certain scientific terms are used in Arabic language • recap what has been learnt. • face challenges in Arabic language with prepared knowledge. • Improve Arabic vocabulary • helps in learning Arabic • improves grammar <p>c. Strategies used in learning Arabic language and STEM:</p> <ul style="list-style-type: none"> • Do exercise • Pay full attention • Ask questions for misunderstanding • Do a lot of practices • Do revision • learn Arabic language since childhood
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<ul style="list-style-type: none"> Exposed with the innovative terms and futuristic terms Understand certain chapter the assessment is doable. can utilize the component components like the debates module must have scheme answers. the <i>Jawahir Kalam</i> is very for me, it's very useful exposed with the innovative terms and futuristic terms get the new word, new tarakib and new terms. Attractive design enhance understanding in Arabic knowledge especially I'rab. answering a question from a given paragraph the idea of delivering the content enhances our interest in Arabic language gives new perspective in the world of Arabic language. Easy to understand Can apply new vocab/word the assessment is doable. not too high, and it's not too easy the compliance with our level of knowledge in Arabic. 	<ul style="list-style-type: none"> Focus teachers learning Use internet Use online dictionary Watch YouTube do revision back exercise for Arabic one and four for STEM. read revision books that has been compiled from textbooks. e-learning Join the programme under the Permata Insan can be called as the innovative learning the textbook has many words <p>Advantages of internet</p> <ul style="list-style-type: none"> has a lot of reference materials easy to use ensure that the grammar, the usage of word is correct <p>Advantages of online dictionary (<i>Al-Maa'ni</i>)</p> <ul style="list-style-type: none"> Easy to use that associate with the words also come up the definition Arabic come up the raw and then all sorts of things come out <p>Difficulties in learning Arabic language</p> <ul style="list-style-type: none"> Exposure to the technology 	<ul style="list-style-type: none"> Do revision the past exercise Memorize some words Focus teachers learning Use internet Use online dictionary Watch YouTube do revision back exercise for Arabic one and four for STEM. read revision books that has compiled all of the contents from the textbooks. we use the do e-learning Join the programme under the Permata Insan can be called as the innovative learning <p>Student's feedback towards A4STEM module:</p> <ul style="list-style-type: none"> Understand certain chapter exposed with the science subjects the assessment is doable. can utilize the component components like the debates the <i>Jawahir Kalam</i> is very for me, it's very useful exposed with the innovative terms and futuristic terms
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<ul style="list-style-type: none"> • its eye-catching visuals, the colourful and many pictures, • Need the element of creative practice and science • Attract student to learn more about the language • It can benefit others • module can help students in developing their Arabic language and STEM • A4STEM can develop the Arabic language for gifted and talented students • every language actually quite unsavoury • do the exercise and assessments by ourselves (Self-study) • join camp/school programme • exposed with the science subjects • Module is still in softcopy • Need physical book or module • Only read textbook • STEM is hard place/field • the module itself is new • no reference to look • the STEM itself is difficult • the textbook has many words • has a high market potential • adaptable to the current learning system/curriculum. 	<ul style="list-style-type: none"> • Outdated learning process • Need the element of creative practice and science • Module is still in softcopy • Need physical book or module • Only read textbook • the module itself is new • no reference to look • the STEM itself is difficult • the module still uses the traditional method for exercise • The content is this is like transferring the textbook • It digitally and use unanimity <p>Changes about A4STEM module on Arabic language</p> <ul style="list-style-type: none"> • Implementation of Arabic language in technology • Broaden student's perspective, opinion, and the way of thinking <p>Difficulties in learning Arabic language</p> <ul style="list-style-type: none"> • mix it with my basic knowledge that can confuse my mind • watch the online tutorial and teaching 	<ul style="list-style-type: none"> • get the new word, new <i>tarakib</i> and new terms. • Attractive design enhance understanding in Arabic knowledge especially <i>I'rab</i>. • answering a question from a given paragraph • Easy to understand • Can apply new vocab/word • Not too high, and it's not too easy the compliance with our level of knowledge in Arabic. • its eye-catching visuals, the colourful and many pictures, enhances our interest in Arabic language • gives new perspective in the world of Arabic language. • Attract student to learn more about the language • It can benefit others • module can help students in developing their Arabic language and STEM • A4STEM can develop the Arabic language for gifted and talented students • do the exercise and assessments
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<ul style="list-style-type: none"> • the media can actually improve our language, Arabic language, and STEM. • this module can improve the Arabic language itself and the STEM knowledge • alternative or an initiative for me myself to learn Arabic • understand the language precisely which may enhance understanding of the topics. • . • has the attractive characteristic with colours, • the module helps students • the module is like a compliment from what learn in standard classes in school. • neat layout of the exercises can understand and doesn't mess each other • can learn one by one step by step • learned Arabic effectively • know some historical stories about scientist scholars (Muslim Scholars) • recheck the stories in internet • can improve understanding about the story 	<ul style="list-style-type: none"> • Exposed with the innovative terms and futuristic terms • module must have scheme answers. <p>Student's feedback towards A4STEM module:</p> <ul style="list-style-type: none"> • Understand certain chapter exposure to the science subjects the assessment is doable. • can utilize the components for practical use. • exposure to innovative terms and futuristic terms • exposure to new words, new <i>tarakib</i> and new terms. • Attractive design enhance understanding in Arabic knowledge especially <i>I'rab</i>. • answering a question from a given paragraph Easy to understand • Can apply new vocab/word • Not too advanced, yet not too easy • Suitable with students' level of 	<p>by ourselves (Self-study)</p> <ul style="list-style-type: none"> • Understand the language precisely which may enhance understanding of the topics. • learned Arabic effectively • know some historical stories about scientist scholars (Muslim Scholars) • can improve understanding about the story use prior knowledge from Arabic classes • learn new vocab during answer the assessments <p>Main factors of this module develop Arabic language</p> <ul style="list-style-type: none"> • The idea of delivering the content • this module can improve the Arabic language itself and the STEM knowledge • alternative or an initiative for me myself to learn Arabic • has the attractive characteristic with colours, • the module helps students • the module is like a compliment
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<ul style="list-style-type: none"> • use prior knowledge from Arabic classes • found new vocab during answer the assessments • this module easy to understand • not hard to use modern media to give away everything • this is a module can expose much earlier than us to the language, technologies, and futuristic elements. • this module is interesting for students to learn • this module maybe can easily be adapted. • the main topic of this module is about STEM • STEM requires brainstorming and creative thinking. • Can encourage students to do discussions • Can focus on the assessment that students do instead of being distracted. • students learning STEM subjects and Arabic language as major syllabus • it's a learning process, actually for me to digest all the terms of the job that the English could be translated into Arabic. • notes become better based on the 	<ul style="list-style-type: none"> • knowledge in Arabic. • its eye-catching visuals, the colourful and many pictures, enhances interest in Arabic language • gives new perspective in the world of Arabic language. • Attracts student to learn more about the language • It can benefit others • module can help students in developing their Arabic language and STEM • A4STEM can help gifted and talented students master the Arabic language. • every language actually quite unsavoury • do the exercise and assessments independently (Self-study) • understand the language precisely which may enhance understanding of the topics. • learned Arabic effectively • know some historical stories about scientist scholars (Muslim Scholars) 	<ul style="list-style-type: none"> • from what learn in standard classes in school. • Neat/ user-friendly layout of the exercises can understand and doesn't mess each other • can learn one by one step by step • this module easy to understand • not hard to use modern media to give away everything • this is a module can expose much earlier than us to the language, technologies, and futuristic elements. • this module is interesting for students to learn • this module maybe can easily be adapted. • the main topic of this module is about STEM • STEM requires brainstorming and creative thinking. • Can encourage students to do discussions • Can focus on the assessment that students do instead of being distracted. • Students can learn STEM subjects and Arabic language as major syllabus
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<ul style="list-style-type: none"> • colourful boxes in the module • Improving my Arabic language • Can enrich our knowledge in STEM. • can link the Arabic grammar now who sort of • work with them in the in terms of facts and words, • can enrich knowledge in STEM • can link the Arabic grammars with STEM • the way teachers think when using the module this module contains a lot of high thinking orders • it challenges teachers to teach • read the STEM related books, • Words is there having a similar sound to it and can just relate it and try to understand it • module is quiet and not really very high level at all. • using YouTube • the characteristic is basically play with the colours to attract students to stay focus • do revision back exercise for Arabic one and four for STEM. • read revision books that have been compiled from the contents in textbooks. 	<ul style="list-style-type: none"> • can improve understanding about the story • use prior knowledge from Arabic classes • learn new vocab during assessments <p>Main factors that this module may help develop Arabic language proficiency</p> <ul style="list-style-type: none"> • The idea of delivering the content • this module can improve the Arabic language itself and STEM knowledge • A new alternative or an initiative to learn Arabic • has attractive characteristic eg colourful, • the module helps students • the module is like a complement from what is learnt in standard classroom in school. • the layout of the exercises is quite neat • can easily understand as the content is well organised. 	<ul style="list-style-type: none"> • it's a learning process, actually for me to digest all the terms of the job that the English could be translated into Arabic. • notes become better based on the colourful boxes in the module • Improving my Arabic language • Can enrich knowledge in STEM. • can link the Arabic grammar now who sort of work with them in the in terms of facts and words, can enrich knowledge in STEM • can link the Arabic grammars with STEM • this module contains a lot of high thinking orders • module is quiet and not really very high level at all. • It shows the way of thinking by teachers • this module contains a lot of high thinking orders • it challenges teachers to teach
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<ul style="list-style-type: none"> • we use the do e-learning • the module is still using the traditional method for exercises • The content mimics the textbook • It digitally and use unanimity • Joining programmes under the Permata Insan can be called as innovative learning 	<ul style="list-style-type: none"> • can learn systematically • this module is easy to understand • not hard to use modern media to give away everything • this is a module can expose much earlier than us to the language, technologies, and futuristic elements. • this module is interesting for students to learn • this module can easily be adapted. • the main topic of this module is about STEM • STEM requires brainstorming and creative thinking. • Can encourage students to do discussions • Can focus on the assessment that students do instead of being distracted. • Students can learn STEM subjects and Arabic language as major syllabus • it's a learning process, actually for me to digest all the terms of the job that the English could be 	<p>is from the module.</p> <ul style="list-style-type: none"> • read the STEM related books, • Words is there having a similar sound to it and can just relate it and try to understand it • module is quiet and not really very high level at all. • the module can actually improve our language, Arabic language, and STEM. • recheck the stories in internet <p><u>Needs of A4STEM module in Arabic language learning:</u></p> <p>Difficulties in learning Arabic language</p> <ul style="list-style-type: none"> • Exposed to the technology • Outdated learning process • Need the element of creative practice and science • Module is not printed • Need physical book or module • Only read textbook • the module itself is new • no reference to look • STEM itself is difficult • the module still uses the traditional method for exercises
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	<ul style="list-style-type: none"> • translated into Arabic. • notes become better based on the colourful boxes in the module • Improving my Arabic language • Can enrich knowledge in STEM. • can link the Arabic grammar now who sort of work with them in the in terms of facts and words, • can enrich knowledge in STEM • can link the Arabic grammars with STEM • this module contains a lot of high thinking order problems • module is quiet and not really very high level at all. • It shows the way of thinking by teachers • it challenges teachers to teach using the module. • read the STEM related books, • Words is there having a similar sound to it and can just relate it and try to understand it • module is quiet and not really 	<ul style="list-style-type: none"> • The content mimics the textbook • Digital <p>Changes that A4STEM module has been brought about on Arabic language</p> <ul style="list-style-type: none"> • Implementation of Arabic language in technology • Broaden student's perspective, opinion, and the way of thinking • every language actually quite unsavoury
--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	<p>very high level at all.</p> <ul style="list-style-type: none"> • the module can actually improve our language, Arabic language, and STEM. • reconfirm the stories on the internet enables more resources 	
--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

4.4 Research Analysis

Research analysis section will analyze the findings of the research as discussed earlier after manually analyze through interview audio and manually decryption into themes and sub themes as follows:

4.4.1 Characteristics of Module

Being able to master two majors in Arabic language and STEM effectively is perhaps the most important of all life skills especially among Kolej GENIUS Insan students in Universiti Sains Islam Malaysia (USIM). By mastering both majors, it enables them to not only be experts in Arabic language but also in STEM. The exposure of A4STEM module to some extent has changed the perception of KGI students about learning Arabic language based on STEM.

The module is one type of learning materials that are presented systematically, so that the students can learn with or without a facilitator or teacher which can be known as self-learning. The results are as in Figure 4.1:

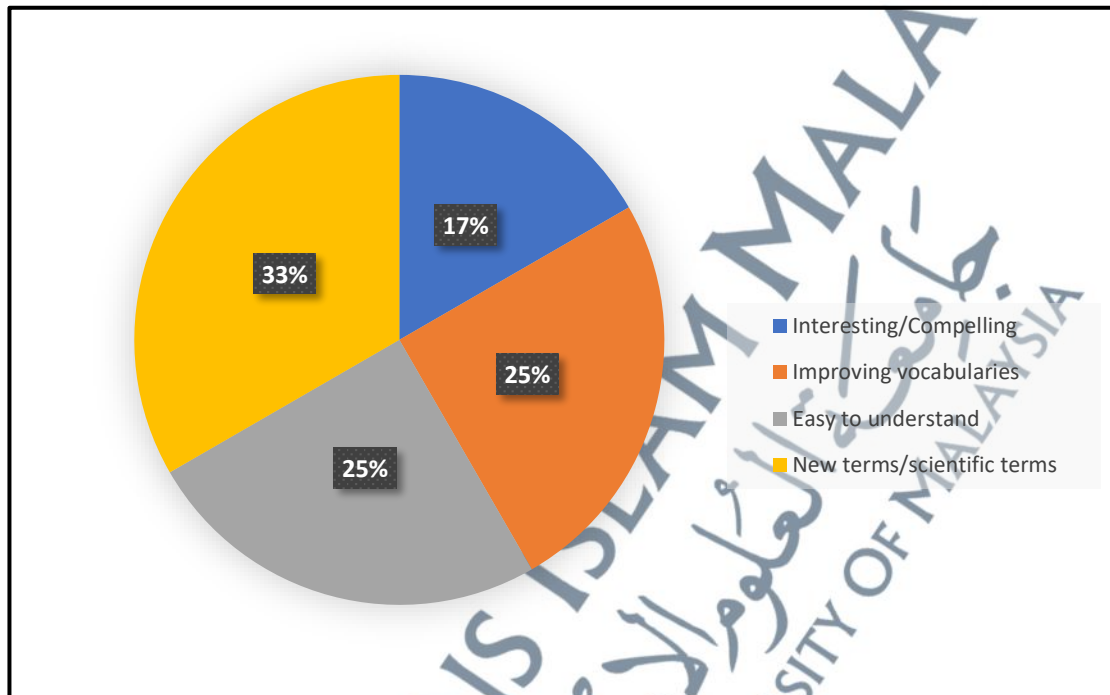


Figure 4.1 Characteristics of Module

The learning by using module allows students who have a high ability to learn would be faster in completing a basic competence than other students. B2 mentioned that this module consists of various vocabulary glossaries where his Arabic language vocabulary can be improved: *“The content that that improvement relinquishes the words glossaries at the starting page of chapter where I can improve my Arabic vocabulary”*. G1 elaborated about this module further. She mentioned that this module uses infographic and interesting visual that makes her think that this is new to her: *“Firstly, the Arabic for STEM module is the infographic and the visuals interesting too. For me, it is for me then new”*.

However, G2 mentioned that it's the module's content that is quite compelling and easily understood due to its neat and user-friendly layout: *the content, the content is quite compelling, but it easy to understand because the arrangement is to neat, and exercise is within our knowledge and skills on to her and the easy.* B1 elaborated that A4STEM module has strengthened him with the element of futuristic and innovation that consists of glossary, particular section and title and also exercises: *"this module strengthened me with the elements of innovation and elements of futuristic". the module itself contains yeah, contains various elements such as the all of the elements could help a student to improve their Arabic, such as where we have glossary. We have a particular section and title and exercises.*

This point is supported by another participant, G2, as she mentioned that she can learn new scientific terms in Arabic language after using A4STEM module: *I get more, more vocabulary on the scientific terms in Arabic.* B1 also added that this module can challenge the teachers to teach students using this module because it contains a lot of high order thinking problems: *"some teachers, the way of thinking by teachers, because actually this module contains a lot of, you know, high um, high thinking, high or high thinking orders. So actually, it challenges teachers also, um uh, to teach us from the module".* B1 added his opinion that this module use scientific terms that can be used in Arabic language, which he can use to preach with the assistance of futuristic elements that can benefit to another students: *"this module is basically the terms, the scientific terms, the, you know, you know, innovative terms actually and all the high sciences, high selection of sciences term that I could apply when I when I must state my Arabic, I can, you know, I can preach to assist with the futuristic element which could benefit all of us".*

G1 also mentioned that the module's content contains simple and compact notes: *“firstly, the Arabic for STEM module is the infographic and the visuals interesting too. For me, it is for me then new. The content in the module is compact, but it is easy to understand, not too wordy and not too short”*. B1 also added that this module consists of innovative and futuristic elements: *“and but this module strengthened me with the elements of innovation and elements of futuristic”*. B1 also mentioned that this module actually helps him recapping what was learnt before: *“So basically, it helps me in recalling all my past knowledge that I have forgotten”*.

4.4.2 Advantages of Learning A4STEM Module

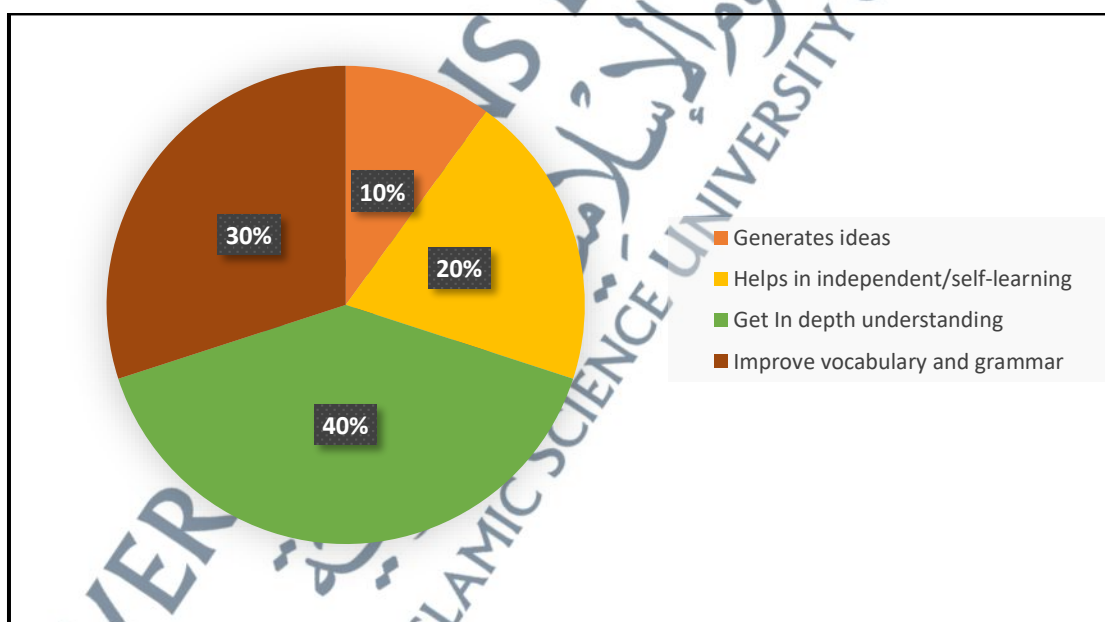


Figure 4.2 Advantages of learning A4STEM module

Since this module has its own unique characteristics, this module must have its own advantages that are highlighted by the students. Based on the pie chart 4.4.2, these are the advantages which sets this module apart from other learning methods, and which

it considers to be the most important of all. According to B1, he mentioned that this module helps him understand the Quran: *“I myself would like to clearly understand the Quran”*.

Furthermore, G2 mentioned that the A4STEM module is easy to understand with content that is quite compelling due to its layout: *“on my opinion, the content, the content is quite compelling, but it easy to understand because the arrangement is to neat, and exercise is within our knowledge and skills on to her and the easy”*. G1 also added that this module can be a new way of learning Arabic language: *“this module is a new way for learning Arabic to do it for us here”*. B2 mentioned that the module uses colourful boxes, and improves and reinforces the glossaries in the starting page of the Chapter known as *Jawahir Kalam*: *“the content that that improvement relinquishes the words glossaries at the starting page of Chapter, where I can improve my Arabic vocabulary, and this module has the colourful box to”*.

In addition, this point is supported by another participant, B1, as he mentioned that this module contains various elements that helps students to improve their Arabic language: *“and the module itself contains yeah, contains various elements such as the all of the elements could help a student to improve their Arabic, such as where we have glossary”*. B1 also added that this module is an evolution of the textbook due to its futuristic elements that can help them face challenges in learning the Arabic language with prior knowledge: *“So yeah, it actually one of a revolution or a revolution of textbook because it is more futuristic. So, we, as a student, we can face more challenges in Arabic language with a prepared knowledge”*. B2 mentioned that this module can

improve his vocabulary and his understanding about STEM: *“Hmm. I improved my vocabulary and I understand STEM a bit better. Uh”*.

This point is supported by another participant, G1, who also mentioned that, through this module, students can get additional knowledge about the STEM field and the involvement of Muslim scholars in science and technology: *“firstly, first and foremost, you know, we can get additional knowledge about STEM fields at the same time. You know, we can see the involvement of Muslim scholars in science and technology”*. G2 also mentioned that students can learn about the involvement of scientific terms in the Arabic language: *“additional additional knowledge about STEM and can see the. Involvement of scientific terms in Arabic language”*.

This point is added and supported by another participant, B1, as he mentioned that this module changed his perspective due to the implementation of the Arabic language in advanced technologies and industries that can broaden student's perspective, opinion, and way of thinking: *“Honestly, it changed my perspective because usually, you know, when I was kid, I see Arabic, I see Arabic in this way of, you know, like religious, um, the way of the attitude. But I couldn't see that Arabic is actually can be implemented in such technologies, such advanced technologies, and advanced industries. So actually, with this module, a student like me can, you know, can broaden our perspectives and opinions and the way of thinking”*.

4.4.3 Strategies used in learning Arabic language and STEM

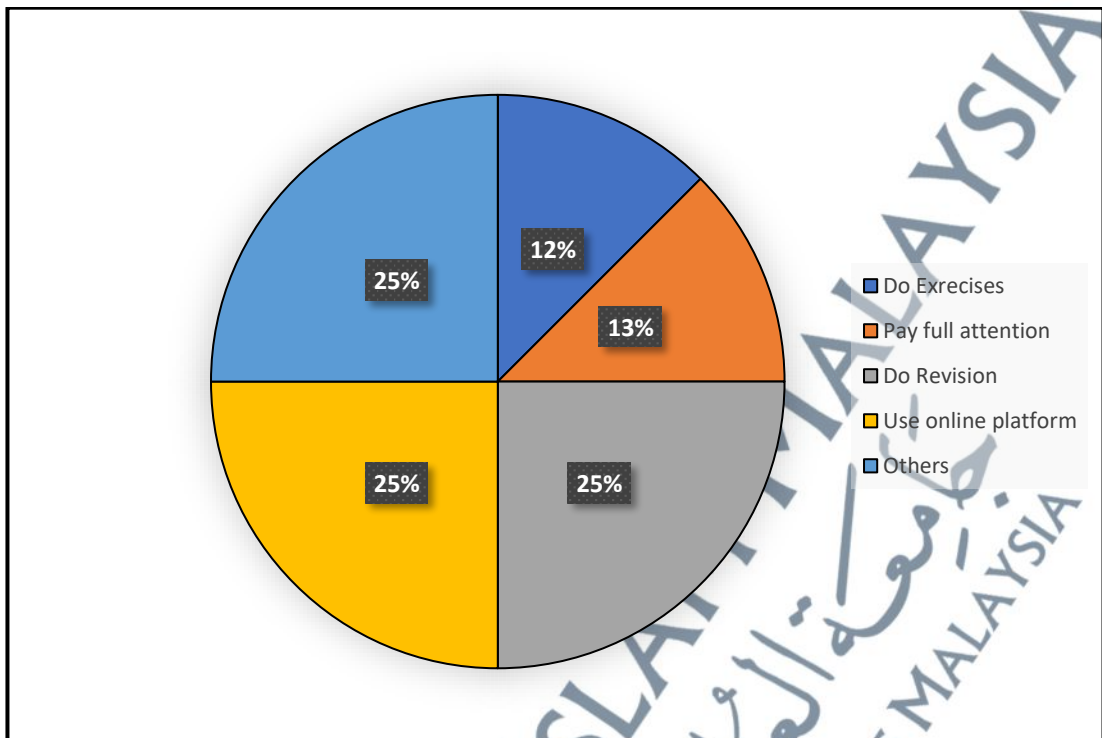


Figure 4.3 Strategies used in learning Arabic language and STEM

This module contains two areas which are Arabic language and STEM. however, to master these two areas requires an effective strategy to maintain a high and balanced mastery of this module both in STEM education and Arabic language. Many people think that Arabic is one of the most difficult languages in the world, and this is understandable. These strategies are practical, proven, and well established to help students understand the requirements of learning a language like Arabic and mastering STEM elements based on the informants' responses about their strategies used in learning Arabic language. These are practical, proven, and well established to help students understand the requirements of learning both aspects of it.

B1 mentioned that he had already studied the basics of the Arabic language during primary school: *"I have study, I am studying Arabic, I study Arabic since I was*

in, um, since I was seven years old. So basically, in my primary school actually strengthened the basis of Arabic language". B1 also added that during secondary school, it actually helps to gain more knowledge in Arabic language: "And when I grow up and into secondary school, it actually kind of more knowledge in Arabic language".

Furthermore, B1 thinks that the most effective strategies that can be used to improve Arabic language learning are the guidance of the teachers, friends, and the module itself that can generate ideas that enable self-learning: *"for me, it is so, uh, effective because of from the guidance of the teachers, friends, and the module itself. I mean, the textbooks and the syllabus itself, it actually gives me ideas so I can learn it by myself, and I can get myself to improve more".* This point supported by B2 as he mentioned doing exercises given by the lecturer helps to learn the Arabic language and improves his grammar: *"I do exercises that my lecturer gave me, because it just helps me when, when, when I want to learn Arabic and and it improves my grammar".*

These strategies are also supported by G1 as she mentioned that to ensure a full understanding during lectures, it requires a lot of attention and asking questions if there are topics that cannot be understood after the lecture: *"I will ensure a full understanding during lectures. I mean, when I am learning something, I will be a lot of attention. And what we are learning and then I will ask a lot of questions if I don't understand the topic".* G1 also added that these strategies are working 70 percent of the time because they complement the methods of language learning: *"So far is about 70 percent working. You know, we need something to complement way of learning".* G2 responded that the strategies she used was similar to G1's, where she will ask a lot of questions when there is something she does not understand and she will do a lot of practice on the

topic: *“When the lecturers teach in the class, I will ask a lot of questions when I don't understand anything. And after that, I will do a lot of practice on the topic”*.

In addition, B1 added that by doing the exercises, he can observe his own capabilities and progress in the Arabic language on whether it is developing or not: *“Or I'll go on exercises, basically any module or textbook will provide you some exercises, so I will do exercises to observe my own capabilities in Arabic, whether it is developing or not”*. B1 also mentioned that if his Arabic language proficiency has not shown any improvement, he will do revisions of the topic or grammar subject in order to improve his Arabic language daily: *“and if it's not, I will revise back the title or the grammar subject so I can improve more day by day”*.

This strategy can be strengthened through B2's strategy as he reread textbook that consists of words and meanings along with revising all the exercises he has already done: *“I read I read my textbook that has words and meanings, and I revise my exercises that I've done”*. B2 also mentioned that besides reading the textbook, he tries to memorize the words and do exercises to improve his understanding of the Arabic language: *“When you use it? Um, to to. And to I use the textbook. And I memorize some of the words and. I do my exercises and to improve my understanding on the Arabic language”*.

B1 also uses a familiar strategy as B2 mentioned before as he tries to master the textbook until he succeeds: *“I would try to master the textbook until I must have”*. B1 added that by reading other books, he could understand: *“And then I will start searching for other mediums such as all books, all Arabic books that I could understand and try*

to understand". G1 also mentioned that she can improve her Arabic language proficiency through textbooks and lectures: *"I agree with the textbooks and then teachers lately"*. G1 added that the Internet can improve her language because the Internet has various learning and reference materials: *"this is also internet because it is it has a lot of reference materials"*. B1 mentioned that he used the Internet especially Google to ensure that the grammar and usage of a word is correct so he can mix it with his basic knowledge to avoid confusion: *"I like from the Google sources because I don't really. Um, ensure that the grammar, the usage of word is correct, and I don't want to, you know, mix it with my basic knowledge that can confuse my mind"*.

In addition, G1 shared the main websites used for learning included *Al Maa'ni dictionary* and YouTube: *"The main the main websites that I use is Al Maa'ni dictionary and YouTube"*. G1 explained that she used this dictionary because it is easy to use: *"Firstly, it is easy to use. I just have to key in the word and then right the way it works, that associate with the words also come up and then the definition Arabic. Also, the I'rab and then all sorts of things come out"*. The main topics she focused on this platform are grammar, exercises, conversation practices, and speaking tests: *"The topics, you know, in Grammar, the practice and the conversation practice and speaking test"*.

G2 also mentioned that improving Arabic language proficiency can be done through lectures and reading textbooks since most of the KGI students are working on memorizing the Holy Quran: *"The main lecturers, textbooks and since we are memorising the Holy Quran"*. G2 also used the Internet especially the YouTube platform to watch tutorials and online teachings from other school teachers: *"I also use*

YouTube, watch tutorial teaching, online teaching". B1 also pointed out that he uses the YouTube platform due to the colourful visuals shown to attract the viewer to stay focused: *"I think the highest innovative that I have used is using YouTube. Um, actually the characteristic is basically play with the colours to attract me to stay, my focus, to keep my focus"*.

G2 explained that before entering KGI, the students needed to attend a program called Permata Insan Camp. There, the students will be exposed to the Arabic language and Science: *"Uh, yes. Before we go before you enter the school, we have to entertain this program, call Permata Insan Camp. We will learn Arabic, STEM and so on. Since when we, well, in 10 years in, if that is the schedule that they do, then is all it is"*. She also added that when learning Arabic, it is already integrated with the science subjects including biology and chemistry: *"Then from there, when we learn Arabic, when we learn the Arabic subject we have, the scientific system is integrated. So, the biology chemistry is integrated with the Arabic language. And from there we learn"*.

4.4.4 Student's feedback towards A4STEM Module

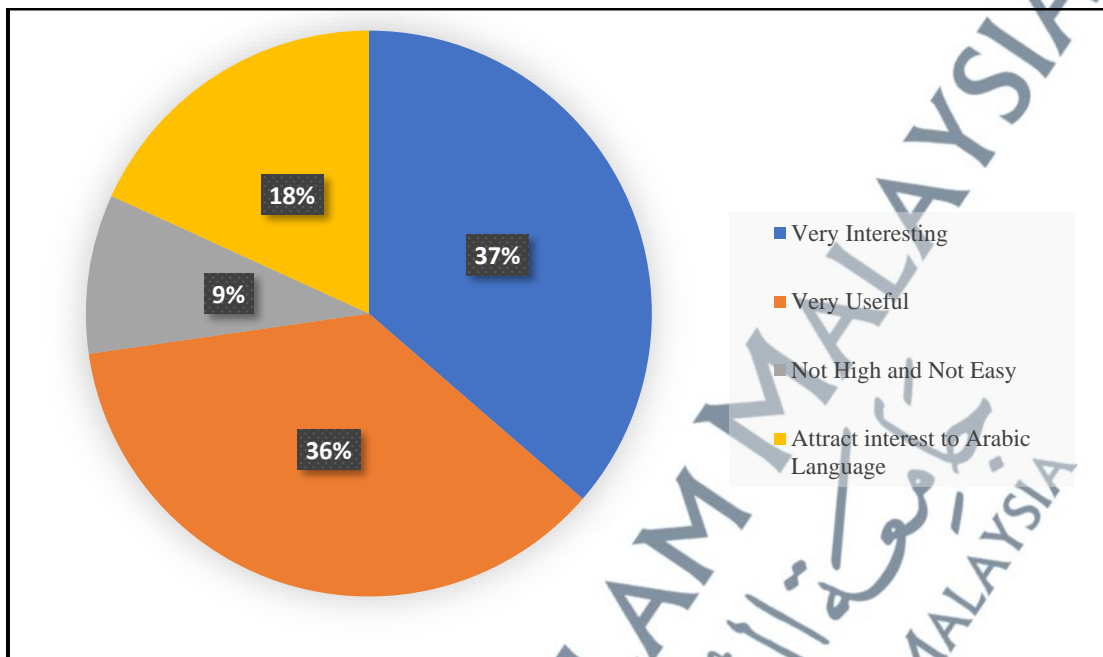


Figure 4.4 Student's feedback towards A4STEM module

Feedback is a crucial component in the development of knowledge and information in the learning process (Mashaan and Nuha,2020). For feedback to be optimally accepted, Mashaan and Nuha (2020) stated that it must allow students to assess their learning, make improvements, and increase their ability to accomplish learning objectives. After using the module for one semester, the participants give their feedback based on their experience.

G1 mentioned that in mastering STEM through the A4STEM module, she goes through the module, and finds that this module is easy to understand, and the assessment is doable, which can also be practical by utilizing some components such as debates, exercises and essays: *"You know, I went through the module first and then I've done the exercise and the assessments in after reading the essays and paragraphs in the module.*

And then I found that it is easy to understand, and the assessment is doable. It's not too hard. And also, we can utilize the component components like the debates, the the exercise, the essays as a whole". B2 responded that before attempting the module, he revised again his exercises from Arabic one and four for STEM that had already been compiled with all the contents from the textbooks: "And. Before, before, before I read this module. Yes. Before I read this module, I just. I just read my I just revised back my exercise for Arabic one and four for STEM. I just read my revision books that has compiled and compiled all of the all of the contents from the textbooks"

Furthermore, B2 added that he can easily understand certain chapters especially Physics: *"Uh, uh, about. And then what did I understand most about physics".* This point is supported by B2 who mentioned that reading the module ensures understanding of Arabic instead of STEM. However, if there is any confusion using the module, he refers to his textbooks to understand and better relate with the module: *"I understand it. I understand it module deal a bit better from from before I read the module. And if I, uh, if I do not understand what I read, I look back to my revision books that is written in English, and I try to relate it to the module"*

B1 mentioned that the glossary 'Jawahir Kalam' that is provided in every chapter is very useful because it provides new words, new *tarakib* and new terms that can be used in technology: *"the Jawahir Kalam. Jawahir Kalam is provided by every new chapter of the book because the Jawahir Kalam is very for me, it's very useful because, um, it brought with me the new words and new tarakib new terms for me to use in the state of technology and, um, future high tech"*. B2 added that the module uses colourful boxes that can attract students to read and understand it more: *"And the. In*

the middle, I think it's it's the colourful boxes because it makes me want one to read it and understand the module more”.

This opinion is shared by G1 who states that the module helps her to enhance her understanding in I'rab with scientists creating the questions based on the material given: *“but you know, the the module helps me to enhance my understanding, understanding in I'rab and also the scientists making so answering the questions about the materials given”*. G2 also mentioned that she likes answering questions based on a given paragraph (*muthola'ah*) personally: *“And for me is is right and answering a question from a given paragraph. Why? Because I personally like the kind of questions”*.

B2 shared his feedback regarding the exercises from the module, with the exercises looking doable and helping him to understand easily: *“Individual decisions based on what have I learned and the access that given look doable for me, it means I think I can do it and I think it can make me understand very easily”*. B2 also added that he can use new words and combine it with old words that he knew to make a better sentence: *“So that I can use the the new word? And try to combine it with my old words so that I can make maybe a perfect sentence”*. G1 mentioned that this module is not too tough or easy, and can be used to comply with current level of knowledge in Arabic language: *“Opinion is not too high, and also it's not too easy. It's the compliance with our level of knowledge in Arabic. So, we actually understand what we are doing”*. G2 explained this point in greater detail in an interview. She said that this module uses eye catching visuals, colourful elements and many pictures which encourage her to read a whole paragraph: *“For me, I tend to read the whole paragraph because of its eye*

catching visuals, the colourful and many pictures, so I tend to read other didn't I didn't. Then it just black and white and it's OK”.

Meanwhile, B1 mentioned that this module can attract more students because of its content especially the idea of delivering the content: *“Or I think the main factor for me, for the module, of course, the content, the idea of delivering the content, which is with elements of technology actually and the elements of the energy basically will attract youth because it is close to our hearts. So, um, and indirectly, the module will be a success module for teenagers”.* B1 explained this point in greater detail in an interview. He said that this module not only enhances students’ interest in Arabic language, but gives the students new perspective in the Arabic language: *“so such systems such approach such attractive, effective. It actually enhances our interest in Arabic language, and it gives us a new perspective in the world of Arab language”.*

B2 mentioned that this module can assist students in developing their Arabic language and STEM because the module uses suitable colors and comprehensive sentences: *“In my, in my opinion, the module? Uh, I think the module can help me or some students in developing our Arabic language and stem because it has, uh, most most of the module has have the objective characteristics such as colour suits and understandable sentences, uh, for initiation”.* She also added that the module can be used as part of a student’s self-study that can be accessed anytime: *“The module is easy to understand, and we can actually do the exercise and assessments by ourselves while her off duty”.*

Furthermore, B1 mentioned that the elements of creativity and sciences is needed to attract students to learn more about the Arabic language: *“We need the element of creative practice such as yeah and sciences, because we are. Most of us are logic person. So, this logic, the least logical things will attract us as a student to learn more about the language”*. B1 explained this point in greater detail in an interview. He said this module can be an viable alternative for a student to learn Arabic: *“An alternative or an initiative for me myself to learn Arabic because it helps me a lot in the syllabus in syllabus, such as Uhumuddin Arabic language itself”*. Meanwhile, B2 mentioned that he learned the Arabic language effectively and was able to know learn about the history of Muslim scientist scholars: *“when when I was using this module, I learned I had an Arabic effectively, and I get to know some historical stories about scientist scholars.*

After reading the historical stories about Muslim scholars, the module encouraged him to learn more about the scholars by going on the Internet and increasing his understanding: *“When when I read, I mean, when I read about about about about a story, I go to internet and just to make sure. Uh, the issue in the story on the internet is related on what is written in the module, so I can. Hmm. I can improve my understanding”*. G1 also added that the module allows her to use the knowledge she already has from existing Arabic classes and apply it in the module: *“Firstly, we can use the knowledge that we already know from Arabic classes and we use this in the module”*. She explains it further in this interview as she mentioned that while answering all the assessment questions, she gained new vocabulary: *“We then answer all the assessments and then we found new vocab. No. And then the module is what it is easy to understand”*.

4.4.5 Main Factors A4STEM Improve Students' Arabic Language Proficiency

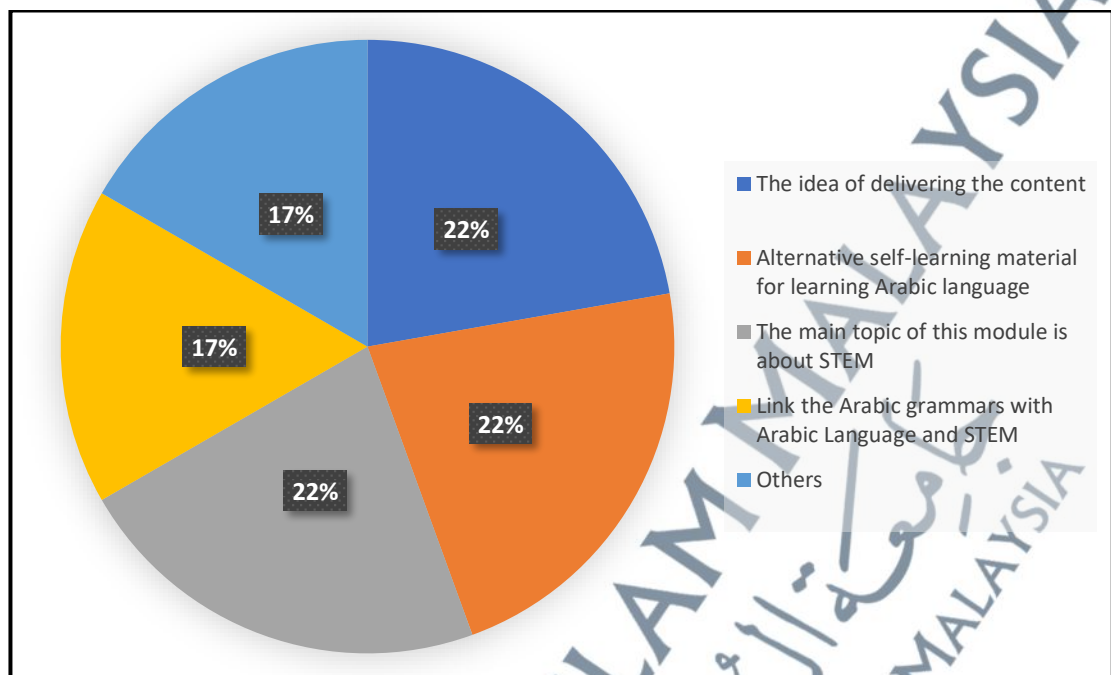


Figure 4.5 Main factors A4STEM improve students' Arabic language proficiency

Learning is a complex process that defies simple definitions and questions. The use of learning aids also affects a student's learning. Therefore, the research will identify the main factors that this module improve students' Arabic language proficiency instead of STEM knowledge. G1 mentioned that this module can improve their Arabic language as well as their STEM knowledge that is included in the content of the module: *"I think this module can improve the Arabic language itself and the STEM knowledge that included in the content of the module"*. She added that this module may help her, but only as a complement to what she has learnt classroom: *"I do think the module is, you know, helping me. I learning straight from the module, but the module is like a complement from what we learn in standard classes in school. No thought by our lecturers"*.

Furthermore, G1 explained that even though the module is meant for learning Arabic language, the content touches STEM subjects, hence requiring brainstorming and creative thinking. This encourages students to do discussions while focusing on assessments: *“Yes, Because the main topic of this module is about STEM and then STEM requires, you know, brainstorming and creative thinking. So, you know, we will encourage students to do discussions and then we can also focus on the assessment that we are doing instead of, you know, being distracted”*.

G2 also mentioned that she could easily understand and learn systematically as the contents of the module are well organised in which the layout of the exercises is neat and not jumbled up: *So all the arrangement of the exercises is quite neat and we can understand and that the this doesn't mess each other, so we can learn one by one step by step*”. G2 added that the module benefits her since both STEM and Arabic language are core subjects in the syllabus: *“Yes. High. Since we are learning STEM subjects like our major syllabus here and the Arabic language itself is also a major here”*. B2 added that this module is interesting for students to learn and can easily be adapted: *“Hmm. Yes, it is, because it's because this module, this module is interesting for students to learn, and this module maybe can easily be adapted”*. B2 also mentioned that he is better at notetaking as the module comes with interesting colourful diagrams and illustrations: *“My notes better based on the colorful boxes in the module, because the box is really a trick me the the box is very interesting”*.

In addition, B2 stated that this module encourages him to read STEM related books that are written in English, enabling him to relate those English words to Arabic in the module: *“I do read the STEM related books, and those books are written in*

English. The books the English books do have. Words is. There has a similar sound to it, so I can just relate it and try to understand it". G1 mentioned that A4STEM module has improved her Arabic language and enrich her knowledge in STEM: "Obviously, you know, improving my Arabic language, then you can enrich our knowledge in STEM". G1 also added that she can link Arabic grammar, Nahu, Sorf and Balaghah with STEM in terms of facts and words: "Also, we can link the Arabic grammar, Nahu, Sorf and Balaghah with STEM in the in terms of facts and words".

G2 explained that she can enrich her knowledge in STEM and link the Arabic grammars with STEM terms and facts equally: *"Uh, I can enrich my knowledge in STEM, and I can link the Arabic grammars with STEM and with STEM terms and facts. And equally".* However, G2 also responded that this module is not meant for advanced level: *"this module is quiet and not really not very high level at all".* B2 mentioned that before this, he only read textbook, however after he used this module for the first time, it's quite interesting: *"hmm. Before I use, before I use, before I read them what you do. The way I learn Arabic is just that I only read my textbook and when I was first used to the module, I'm a bit like a bit shocked because of the active and the interesting facts".*

4.4.6 The Needs of A4STEM Module in Arabic Language Learning

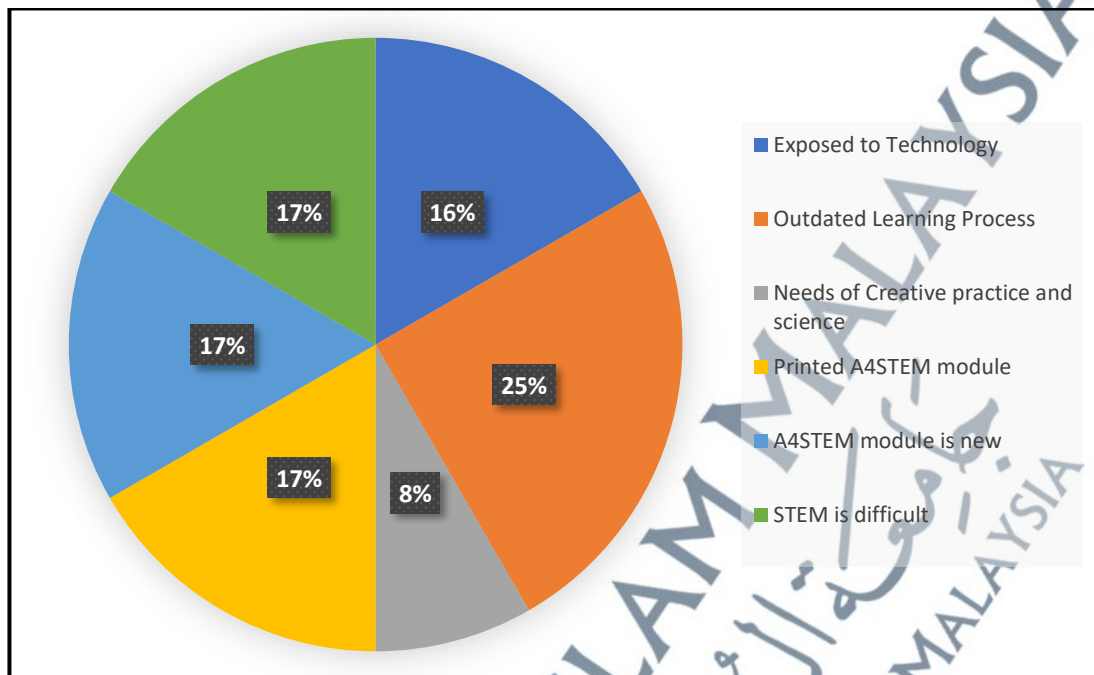


Figure 4.6 The Needs of A4STEM module in Arabic language learning

Learning a foreign language is one of the most difficult tasks a person can undertake. The effort required to transfer across linguistically complicated structures is what makes learning a new language so challenging. Learning to think in a different language is equally difficult. Above all, it takes time, effort, and commitment. Here are some of the reasons many consider it is difficult to learn Arabic language in STEM. B1 mentioned that it is difficult for him to learn if the module is not printed: *“Oh, actually, for the challenges, of course, like this module is still in copyright, so we are used to, you know, we are used to abstract things such as physical, physical, such as physical books and textbooks”*.

B1 mentioned that physical book or module is needed so students can use it:

“So, I think the challenges are is only, um, we need to have a physical book or module

so we can, you know, you can feel it and we can let it fester". However, G1 explained that using the textbook in learning Arabic language, especially when learning grammar, is traditional and outdated as they live in the era of technology: *"the traditional way of learning Arabic, which is that using textbooks and, you know, learning the formulas about grammars, all of that is quite outdated for us because are the new generation, we are exposed to the technology"*.

Meanwhile, G1 mentioned that STEM is a 'hard' field, vast, and difficult: *"We see STEM is hard place, it is a big, you know, increase the difficulty"*. G1 added that since the module is new, it was not easy to look for references: *"then the module itself is new to us. You know, only four of us have seen this module. And then we have no reference to look"*. G2 also explained that with the integration of STEM and Arabic language, it becomes a challenge even STEM itself is difficult: *"Since the STEM itself is difficult and we have to integrate it with Arabic. So it's one of the challenges. And like I say, the more do they like to have the scheme and to"*. G2 added that this module must have answer schemes so that students can use the module independently, as well as to assist teachers in their teaching: *"And the module should have on scheme answers. If the module is used for self-study, then it should have a scheme assessed in the module itself. But if the module is used for teachers and students, then teachers should be provided by the scheme and answers"*. Meanwhile, G1 mentioned that this module is digital that complements the use of traditional method during exercises: *"But the modules is still using the traditional method during the exercise. The the content is this is like transferring the textbook. It digitally and then we using unanimity, so I do think it is quite I think this is quite"*.

4.4.7 Changes that A4STEM Module On Arabic Language

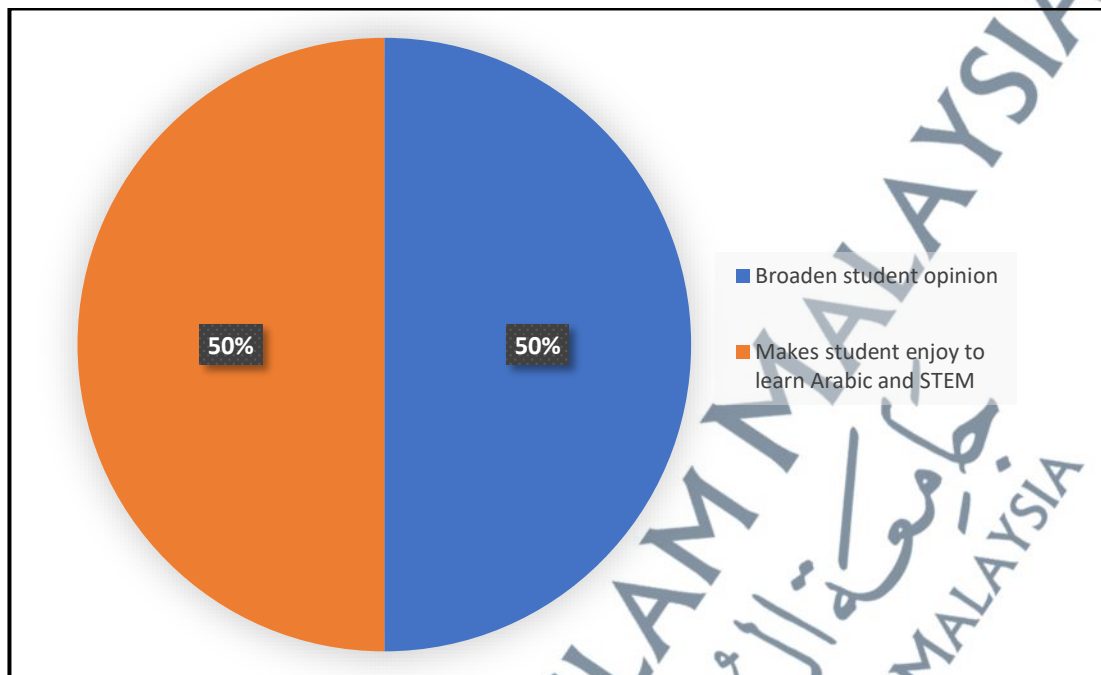


Figure 4.7 Changes that A4STEM Module On Arabic Language

The new innovation of A4STEM as a learning material has changed the way students learn Arabic language. B1 mentioned that the implementation of Arabic language in technologies can broaden student's perspective, opinion, and the way they think: *"But I couldn't see that Arabic is actually can be implemented in such technologies, such advanced technologies, and advanced industries. So actually, with this module, a student like me can, you know, can broaden our perspectives and opinions and the way of thinking. So, we are more prepared in facing at this"*.

However, G1 explained that the A4STEM module is quite enjoyable in order to develop Arabic language learning for gifted and talented students: *"I think yes, Arabic for STEM can develop the Arabic language for gifted and talented students because, you know, every language is actually quite savoury in KGI"*.

4.5 Conclusion

This chapter has included all findings and has thoroughly analysed the findings. The results show that there is a positivity in terms of acceptance and effectiveness of using A4STEM module among KGI students towards Arabic language learning. However, most of them share their difficulties and challenges in mastering two fields, Arabic language, and STEM from this module. The main factors discussed on how this module can improve students' Arabic language, and students' positive feedbacks and opinions towards the content of this module are indicators to gauge which services needed to be improved so that more students, not only in KGI USIM but also other schools in Malaysia, are attracted to learn using this module.

