Chapter 4

Research Results

This chapter includes descriptive data based on questionnaires. The results are displayed into three parts; part one describes the demographics; part two presents the results of student motivation in learning; and part three shows the results of the open-ended questions and the interviews analysed using content analysis.

Table 1: A summary of the demographics of the participants and internet and devices used by the participants

General information	Group One		Group Two		Group Three	
	Numbers	Percentage %	Numbers	Percentage %	Numbers	Percentage %
Gender						
Male	6	25.0	4	29	9	40.9
Female	18	75.0	10	71	13	59.1
Study Program						
GBM	24	100	14	100	0	0.0
EIC	0	0.0	0	0.0	22	100
Year						
Year 1	0	0.0	0	0.0	0	0.0
Year 2	24	100	0	0.0	22	100
Year 3	0	0.0	14	100	0	0.0
Year 4	0	0.0	0	0.0	0	0.0
Communicative Devices Used						
Mobile phone	23	95.8	12	85.7	20	90.9
Tablet	1	4.2	0	0.0	2	9.1
Other	3	12.5	4	28.6	4	18.2
Operation system						
IOS	16	66.7	6	42.9	12	54.5
Android	9	37.5	5	35.7	5	22.7
Windows	6	25	6	42.9	8	36.4
Other	1	4.2	0	0.0	0	0.00
Ways to communicate with your lecturer						
Phone no.	9	37.5	4	28.6	3	13.6
Line	20	83.3	13	92.9	5	22.7
Facebook account	19	79.2	4	28.6	3	13.6

General information	Group One		Group Two		Group Three	
	Numbers	Percentage %	Numbers	Percentage %	Numbers	Percentage %
Facebook group	19	79.2	7	50.0	3	13.6
Email	12	50	8	57.1	18	81.8
Other	23	95.8	4	28.6	0	0.00
How long do you spend time using internet or mobile phone?						
0-1 hour	1	4.2	0	0.00	0	0.00
2-3 hours	4	16.7	2	14.3	1	4.5
4-5 hours	8	33.3	2	14.3	10	45.5
5-6 hours	5	20.8	4	28.6	4	18.2
7 hours or more	6	25	6	42.9	7	31.8
How long do you spend time using internet for studying?						
0-1 hour	8	33.3	2	14.3	6	27.3
2-3 hours	10	41.7	8	57.1	7	31.8
4-5 hours	3	12.5	4	28.6	7	31.8
5-6 hours	1	4.2	0	0.0	2	9.1
7 hours or more	2	8.3	0	0.0	0	0.0
What kind of materials did your lecturer use? (You may give more than 1 answer)						
CD / DVD	4	16.7	0	0.0	0	0.00
Computer	20	83.3	9	64.3	16	72.7
Overhead	4	16.7	4	28.6	0	0.00
Projector	20	83.3	12	85.7	19	86.4
Internet Sources	14	58.3	6	42.9	9	40.9
Others	1	4.2	1	7.1	3	13.6
Please indicate websites or programs used by your lecturer						
Facebook	21	87.5	5	35.7	0	0.0
Youtube	19	79.2	11	78.6	6	27.3
Line	10	41.7	7	50.0	0	0.0
Other social media	1	4.2	1	7.1	6	27.3
Application	4	16.7	7	50.0	3	13.6
Programs	7	29.2	2	14.3	11	50.0
Websites	6	25	1	7.1	3	13.6

General information	Group One		Group Two		Group Three	
	Numbers	Percentage %	Numbers	Percentage %	Numbers	Percentage %
Others	3	12.5	0	0.0	2	9.1
Do you have personal computer?						
Yes	22	91.7	13	92.9	20	90.9
No	2	8.3	1	7.1	2	9.1
Do you have high-speed internet?						
Yes	23	95.8	10	71.4	18	81.8
No	1	4.2	4	28.6	4	18.2
Teaching method used in teaching business content						
Book	23	95.8	13	92.9	6	27.3
worksheets	15	62.5	11	78.6	15	68.2
Discuss	7	29.2	10	71.4	12	54.5
Online learning	21	87.5	4	28.6	7	31.8
Posting VDOs	19	79.2	9	64.3	5	22.7
Others	0	0.0	5	35.7	4	18.2

Group One

This group included 24 students, 6 of which were male (25%) and 18 of which were female (75%). (Perhaps list the highest percentage first: 75% female and 25% male.). All participants were second year students in the Global Business Management program, enrolled in a Global Business Management course. The researchers found that 23 students, or 95.8%, used mobile phones as their communicative devices, while one student, or 4.2% used a tablet and/or other devices. The iOS operation system was the most popular system used by 16 students (66.7%), followed by Android used by 9 students (37.5%), and Windows used by 6 students (25%). 22 students (91.7%) had a personal computer or laptop, while two students (8.3%) did not have a personal computer at home or at their dormitory. Additionally, 23 students (95.8%) had high-speed internet installed at home or in their dormitory, while only one student (4.2%) did not have high-speed internet access. The students were allowed to contact the lecturer by phone, LINE application, Facebook messenger, Facebook group, and email.

Regarding how the students used the internet or mobile phone each day, interestingly, 8 students (33.3%) reported spending 4-5 hours each day, 6 students (25%) reported spending 7 hours or longer, 5 students (20.8%) reported spending 5-6 hours, 4 students

(16.7%) reported spending 2-3 hours, and only one student or 4.2% reported spending about one hour per day. Students also reported how they used the internet or mobile phone, with 8 students (33.3%) spending one hour to study,10 students (41.7%) spending 2-3 hours to study, three students (12.5%) spending 4-5 hours to study, one student (4.2%) spending 5-6 hours to study, and two students (8.3%) spending 7 or more hours to study.

Group Two

This group included 14 students studying Leadership for Global Business Management in semester 2/2560. The descriptive analysis in the form of percentage and frequency was used in analyzing the data, computed by SPSS. The result was carried out based on the percentages reported and in-depth interviews with two student representatives.

There were four male and ten female students between 20 and 21 years old. They all had a mobile phone or personal computer to use for communication and study. They had various methods of communicating with their lecturer. One student could use more than one way to contact his/her lecturer, range from the most to the least popular program; Line (92.9%), Email (57.1%), Facebook (50%), Other (Google Classroom) (28.6%), and phone call (28.6%). Nearly half of the students (42.9%) spent 7 hours a day surfing the internet, and more than half (57.1%) spent 2-3 hours learning from the internet. However, 4 students (28.6%) had problems with internet speed, and they stated this problem as a barrier to their learning activities.

Group Three

Group three consisted of 22 students enrolled in the Fundamental Knowledge of Business Practices course in the Global Business Management program. 9 students were male (41%) and 13 were female (59%). 18 students (82%) reported using their mobile phone as their communicative device, and 4 students (18%) reported using other devices such as computer, tablet, or notebook. In addition, 12 students (54.5%) used the iOS operating system, 4 (18.2%) used Android, and 6 (27.3%) used Windows. All students (100%) used e-mail to communicate with the lecturer. Regarding time spent using the internet for personal use, 1 student (4.5%) reported spending 2-3 hours, 10 students (45.5%) reported spending 4-5 hours, 4 students (18.2%) reported spending 5-6 hours, and 7 students (31.8%) reported spending 7 hours or more. Regarding time spent using the internet for studying, 6 students (27.3%) reported spending 0-1 hours, 7 students (31.8%) reported spending 2-3 hours, 7 students (31.8%) reported spending 4-5 hours, and 2

students (9.1%) reported spending 5-6 hours. 20 students (90.9%) reported having a personal computer, and 2 students (9.1%) did not. 18 students (81.8%) had access to high-speed internet, while 4 students (18.2%) did not have access. The lecturer presented 100% of the outside-of-class material on computer and internet sources, and presented 100% of the in-class material on Microsoft PowerPoint. The lecturer also posted worksheets and videos as a part of the teaching materials on Google drive.

Taking part in this experiment has been interesting and has provided the lecturer with some good insights about the art of teaching, the teacher-student relationship and the effectiveness of this interaction, given that the final goal is having the students absorb new knowledge and use it in their future. In these regards, a few factors have been shown to have particular impact:

- The quality of the video lessons.
- The opportunity for the students, while watching the video, to pause whenever needed and watch the explanation again.
- The ability of the teacher to speak slowly and clearly in the video lessons.
- The capacity of the teacher to present the topic as interesting and practical.
- The ability of the teacher to emphasise the importance of doing the work at home (watching the video lessons, memorize the topics and take notes).
- The motivation of the students to learn the subject, which would influence their willingness to do some extra work at home (more than they would do in a normal class).
- The importance of finding effective ways to test their knowledge and understanding of the video lesson, given the time constraints, in order to make sure that the students will come to the exam well prepared.

Table 1: Students' motivation in learning when using the flipped classroom method in teaching business contexts in International College, CMRU.

Items about motivation in learning	Group One		Group Two		Group Three	
	Mean	SD	Mean	SD	Mean	SD
ARCS – A - Attention						
A1	3.63	0.65	3.07	0.92	3.82	0.59
A2	3.38	0.71	3.36	1.08	3.77	0.61
A3	3.71	0.75	3.14	1.23	3.91	0.81
A4	1.92	0.78	2.14	1.03	2.86	0.83
A5	3.54	0.78	2.71	0.83	3.77	0.61
A6	3.50	0.66	3.43	0.85	4.05	0.58
A7	3.42	0.83	3.14	0.77	3.73	0.83
A8	3.37	0.82	3.64	0.74	4.09	0.81
A9	2.79	0.83	2.93	0.73	3.18	1.10
Total (Sum A)	**3.25**	**0.43**	**3.06**	**0.50**	**3.68**	**0.33**
ARCS – R - Relevance						
R1	3.63	0.71	3.43	0.76	3.50	0.60
R2	3.96	0.96	4.29	0.61	4.36	0.58
R3	3.96	0.75	3.79	0.58	3.68	0.65
R4	3.63	0.77	3.29	0.61	3.77	0.61
R5	3.46	0.83	3.14	0.53	3.50	0.74
R6	3.75	0.85	3.64	0.50	3.55	0.60
R7	3.92	0.97	3.50	0.65	4.14	0.56
R8	3.87	0.90	4.14	0.66	4.18	0.66
Total (Sum R)	**3.77**	**0.68**	**3.65**	**0.30**	**3.83**	**0.32**
ARCS – C - Confidence						
C1	3.17	0.92	2.64	1.22	3.00	1.02
C2	3.00	0.83	2.86	0.77	3.05	0.84
C3	3.04	0.96	3.50	1.16	2.77	1.11
C4	3.58	0.97	3.93	0.83	3.23	0.87
C5	3.46	0.66	3.07	0.62	3.68	0.72
C6	3.25	0.79	3.07	0.62	3.59	0.73
C7	3.37	0.71	3.00	0.88	3.55	0.80
Total (Sum C)	**3.26**	**0.46**	**3.15**	**0.33**	**3.26**	**0.32**
ARCS – S - Satisfaction						
S1	3.54	0.88	2.86	0.86	3.68	0.78
S2	3.58	0.78	3.50	0.76	3.82	0.66
S3	3.71	0.75	3.57	0.76	3.91	0.87
S4	3.50	0.83	3.36	0.63	4.00	0.76
S5	3.38	0.65	3.29	0.61	3.82	0.91

Items about motivation in learning	Group One		Group Two		Group Three	
	Mean	SD	Mean	SD	Mean	SD
S6	3.29	0.81	3.43	0.65	3.59	0.73
S7	3.63	0.65	3.50	0.76	4.05	0.72
S8	3.54	0.83	3.36	0.63	4.05	0.65
Total (Sum S)	**3.52**	**0.62**	**3.35**	**0.47**	**3.86**	**0.55**

Students' motivation for learning was analysed in four dimensions, namely attention, relevance, confidence, and satisfaction. The researchers used the 5-point symmetrical Likert scale in student questionnaires, where students gave scores ranging from 1, Strongly Disagree, to 5, Strongly Agree.

Items A4, A9, and C2 were in negative statement form, meaning that these scores were reversed: the lower score the students gave, the higher their motivation was. In this case, we have manually reversed the score to make the information ready to be computed. For example, in A4 of the attention scale asked student to rate the statement "The content of this subject looks difficult." A score of 1 meant that students did not think the course was difficult. This indicated that students' real motivation level was high. So, for items such as these, we have manually reversed the score to 5. The following are the details of each dimension, summarized by group:

Group One

Table 2: The summary results of group one.

Item	N	Sum	Mean	Standard Deviation
Attention (9 items)	24	78.0	3.25	0.43
Relevance (8 items)	24	90.5	3.77	0.68
Confidence (7 items)	24	78.4	3.27	0.46
Satisfaction (8 items)	24	84.5	3.52	0.63
Average	24	82.8	3.45	0.55

As shown in Table 3, in the attention dimension, the total mean score was 3.45, with the highest score was item A3 (M=3.71), the lowest score was item A4 (M=1.92). This suggests that students found the content of this subject difficult for them. However, the overall results showed that students' motivation levels were positive in the attention area.

In the relevance dimension, the total mean score was 3.77, with the highest scores being items R2 (M=3.96) and R3 (M=3.96), and the lowest score was item R5 (M=3.46). These results show that students found online learning to be quite relevant to their interest, and to be an important learning resource.

In the confidence dimension, the total mean score was 3.26, with the highest score being item C4 (M=3.58), and the lowest score being item C2 (M=3.00). These results suggest that students the students found the subject content difficult, though the overall results showed positive confidence in students.

In the satisfaction dimension, the total mean score was 3.52, with the highest score being item S3 (M=3.71), and the lowest score being item S6 (M=3.29). Students indicated overall satisfaction with the video lessons that they could watch whenever they wanted, and satisfaction with being able to spend time learning outside of class. The highest score of satisfaction indicated that the flipped classroom was more convenient than the traditional classroom because students could study the lessons at any time.

Group Two

Table 3: The summary results of group two.

Item	N	Sum	Mean	Standard Deviation
Attention (9 items)	14	42.89	3.06	0.50
Relevance (8 items)	14	51.13	3.65	0.30
Confidence (7 items)	14	44.14	3.15	0.33
Satisfaction (8 items)	14	47.00	3.36	0.47
Overall (36 items)	14	46.29	3.31	0.40

In the attention dimension, the total mean score was 3.06, with the highest score being item A6 (M=3.43), and the lowest score being item A4 (M=2.14). These results suggest that students' motivation levels were positive in the attention dimension. According to the data, students were curious and excited about the course content and the new teaching techniques (M=3.43). However, some students indicated that found the course content quite difficult, so they had less attention to the subject (M=2.14). In the relevance dimension, the total mean score was 3.65, with the highest score being item R2 (M=4.29), and the lowest score being item R5 (M=3.14). These results suggest that students found online learning to be quite relevant to their interests and to be an important learning resource.

In the confidence dimension, the total mean score was 3.15, with the highest score being item C4 (M=3.93), and the lowest score being item C1 (M=2.64). These results suggest that although students were not quite confident when they started studying this subject for the first time, their confidence increased after they became comfortable with the format of the flipped classroom.

In the satisfaction dimension, the total mean score was 3.36, with the highest score being item S3 (M=3.57), and the lowest score being item S1 (M=2.86). These results indicate students' overall satisfaction with the flipped classroom format. However, the lowest score about satisfaction indicated that the flipped classroom was not more engaging than traditional classroom teaching. This score suggests that students were not quite satisfied with the new teaching format in general.

Group Three

Table 4: The summary results of group three

Item	N	Sum	Mean	Standard Deviation
Attention (9 items)	22	81.1	3.69	0.33
Relevance (8 items)	22	84.4	3.84	0.32
Confidence (7 items)	22	71.9	3.27	0.32
Satisfaction (8 items)	22	85.0	3.86	0.55
Average	22	80.6	3.66	0.38

As shown in Table 5, in the attention dimension, the total mean score was 3.68, with the highest score being item A8 (M=4.09), and the lowest score being item A4 (M=2.86). These results suggest that students found the content of this subject difficult for them, similar to groups one and two. However, the overall results also showed that students' motivation levels were positive in the attention area.

In the relevance dimension, the total mean score was 3.83, with the highest score being item R2 (M=4.36), and the lowest scores being items R1 and R5 (M=3.50). These results suggest that students found online learning to be quite relevant to their interests and to be an important learning resource.

In the confidence dimension, the total mean score was 3.26, with the highest score being item C5 (M=3.68), and the lowest score being item C3 (M=2.77). These results showed overall positive outcomes regarding students' confidence. These results also showed that students felt more confident when they watched the videos more often,

and they did not feel confident when they did not watch the videos before coming to class.

In the satisfaction dimension, the total mean score was 3.86, with the highest scores being items S7 (M=4.05) and S8 (M=4.05), and the lowest score being item S6 (M=3.59). These results indicate that students' overall satisfaction with the video lessons, as they could learn and gain some knowledge from the videos. Overall, the scores showed that students were satisfied with the flipped classroom teaching method.

The Open-Ended Questions in the Questionnaire

The questionnaire in this research was divided into three parts. Part one asked for general information about the respondents, part two included questions about the ARCS model rated on a 5-point symmetrical Likert scale, and part three was comprised of three open-ended questions, as follows:

1) What do you think about studying the business content VDOs from home?
2) What were the barriers influencing the use of VDO in teaching and learning activities?
3) Any other comments or recommendations regarding the use of VDO in teaching and learning.

The results of all questions are displayed in the index part.

Results from the Content Analysis

The results from the interview and open-ended questions were analyzed using content analysis. The motivation for learning was classified into 4 categories regarding Keller's ARCS motivation model including attention, relevance, confidence, and satisfaction (Keller, 1987; Keller, 2000; Keller, 2008; Keller, 2010).

Categories of Contents

1) Attention

Student A1 stated, *"I think all of the videos and other materials are consistent with the course. Most of them have interesting content, which is attractive for me more than study through the books."*

Student A2 stated, "*This method is new to us, so that we have enough interest to learn. Secondly, it is richness, the content is rich and not boring, and students can arrange their own time to study."*

Student B1 stated, *"I would like them to be less like recorded lectures and more like highlights of the key concepts with suggested readings and some practice exercises. I think making the videos more interactive in this way will help students engage and learn more from them."*

Student C2 stated, "*It's a really creative way of teaching and new for me. I think video content that lecturer provides is a good technique to motivate students, being active and trying to prepare the lessons before the class get start."*

2) Relevance

Student C1 said, *"I think it's also good and easy to learn, it helps students to improve their skills by themselves but sometimes I think the subject isn't easy even though you describe it already some students still do not understand clearly so they have to listen to you in class again."*

Student C2 stated, *"We can learn reading, listening and writing at the same time from the video."*

3) Confidence

Student A1 stated, *".....The video content is from every side of the world, and it makes me open my new education world. It also make me feel free to study, I can learn by myself again and again, anytime and everywhere."*

Student A2 said, *"I think this method is very suitable for me. This approach reduces unnecessary problems and adds a lot of fun and convenience. This kind of teaching is a good way for our learning. It compresses the textbooks and just displays the essence, which makes our study and review more targeted and strengthens our confidence in learning this course."*

Students C1 and C2 stated, *"When I don't understand some content, I can pause the video to search other details about that and then go back to the video. I can repeat it when I'm not clear with the lesson."*

4) Satisfaction

Student A1 said, "*I don't have to waste much time to study as I waste when I use the book, I enjoy while I study, I can use technology as a utility and it is the tool that makes me understand easily."*

Table 6 Categories of Content Analysis

Coding	Categories of Content
A	*ARCS - Attention*
	Attention to engage in higher levels of curiosity, particularly at the beginning of class
R	*ARCS - Relevance*
	The learners' learning goals, past experiences, and learning styles
C	*ARCS - Confidence*
	Students build positive successful expectations
S	*ARCS - Satisfaction*
	Positive feelings about students' learning experiences, which sustain their motivation in learning

Student A2 stated, "*The teaching content is also excellent. According to the characteristics of the knowledge structure, the lecture highlights key points, combines theory with practice, so that we can have a high classroom efficiency and the lecturer's teaching content is quite detailed, most students can learn from the lecturer's ideas.*"

Student B1 stated, "*The videos felt a little too long. It was just like listening to the same lecture that would be given in class, but in video form. If I am going to listen for the same amount of time that I would if I were in a classroom I would prefer to be in the classroom so I can ask questions while listening. It is harder to be an active listener to a longer video. I really enjoyed the textbook for this course. The material was presented clearly and it had some very interesting quotes for each topic.*

I found that the textbook gave me the most benefit for learning the subject. I don't think that there were enough videos for them to have much of an impact on the subject for me. The lecturer did not provide many videos. If she provided more numbers and shorter videos with some highlight contents, this method might be more interesting to me.

...I would like them to be less like recorded lectures and more like highlights of the key concepts with suggested readings and some practice exercises. I think making

the videos more interactive in this way will help students engage and learn more from them."

Student C1 said, *"I think it's also good and easy to learn, help students to improve their skills by themselves but sometimes I think the subject isn't easy even though you describe it already, some students still do not understand clearly so they have to listen to you in class again."*

Student C2 said, *"I think the video content that the lecturer provided is a good technique to motivate students to be active and try to prepare the lessons before the class gets started."*

Descriptive Results of the Content

The ARCS Motivation Model, developed by the educational psychologist John Keller (Keller, 1987; Keller, 2000; Keller, 2008; Keller, 2010), is the model that had a significant impact towards the field of computer-based instruction (McMahon, 2014). ARCS stands for Attention, Relevance, Confidence and Satisfaction, which are considered to be the four elements that students require in order to be engaged in learning (Keller, 2000; Keller, 2008):

Attention is the initial importance factor that draws learners' attention to engage in higher levels of curiosity, particularly at the beginning of the class. Moreover, it is vital to sustain learners' attention throughout the lesson.

Regarding the Attention element of the ARCS model, the research results showed a mix of student perspectives, ranging from very positive to neutral. Some students found that the videos contained interesting material and they felt the videos were more attractive than studying from the book, and considered the flipped classroom to be a good technique for motivating students. On the other hand, some students suggested that making shorter and more engaging videos would help to motivate students to learn more from the videos.

Relevance refers to the connection of the instructional content or the teaching strategies to the learners. These connections could involve the learners' learning goals, past experiences, and learning styles. The link between the content to learners' goals, experiences or interests, and learning styles that could be promoted during learning time.

Regarding the Relevance element of the ARCS model, the results indicated that flipped classroom matched with most students' learning style to some extents. In particular, students commented that they could learn reading, listening and writing at the same time. However, it was also shown that students found the subject matter difficult, which made it difficult for them to relate the subject matter with their life experiences. This could be understood to mean that students still needed more explanation from the lecturers in the normal class.

Confidence is the third condition which helps students build positive successful expectations. This can be accomplished by giving students clear objectives and accomplished examples. Some students have low confidence since they have little comprehension of what teachers expect from them.

Regarding the Confidence element of the ARCS model, it was interesting to note that some students found that when they did not understand the subject matter or when they were studying for their examinations, they could watch the videos repeatedly and pause to study difficult material. In particular, students found the videos that contained the reviews or highlights of each lesson to be the most useful, and commented that they considered these videos made their review more targeted and strengthened their confidence in learning in this course.

Satisfaction is required as the factor to sustain motivation in learning. The first three principles are necessary to build students' motivation to learn, while the fourth factor, satisfaction, is essential for learners to have positive feelings about their learning experiences, which sustain their motivation in learning.

Regarding the Satisfaction element of the ARCS model, the results of the interviews indicated that students were mostly satisfied with the flipped classroom method. The students enjoyed the videos, and they found that the lectures combined theories with practical activities, and highlighted key points so that they did not have to spend excessive time studying from the books when they found that using technology could benefit them and make them understand easily. However, one student felt that the videos were too long, and felt that she listened to the same lecture in class. Moreover, this student felt that there were not enough videos to give students greater impact from the subject. This student suggested making shorter videos that highlighted the most important material, and making more videos. Interestingly, this student preferred reading from the textbook because it gave her the most benefit for learning the subject. This might be due to the

fact that one of the lecturers did not have time to record some videos, and assigned students to read before coming to class instead of posting the videos.

Regarding the research hypothesis (H2), the motivation for learning in students in the three classes was not different. In order to answer the research hypothesis (H2), SPSS, ANOVA was used to find the differences between three groups.

Table 5 : The comparison of motivation between groups

ARCS Motivation	Differences	Sum of Squares	df	Mean Square	F	Sig
Sum Attention	Between Group	3.869	2	1.935	11.093	0.000
	Within Groups	9.941	57	0.174		
	Total	13.810	59			
Sum Relevance	Between Group	0.289	2	0.144	0.585	0.561
	Within Groups	14.070	57	0.247		
	Total	14.358	59			
Sum Confidence	Between Group	0.140	2	0.070	0.462	0.633
	Within Groups	8.615	57	0.151		
	Total	8.755	59			
Sum Satisfaction	Between Group	2.501	2	1.252	3.863	0.027
	Within Groups	18.451	57	0.324		
	Total	20.952	59			

According to the research hypothesis (H2), the motivation for learning in students in three classes was not different. Comparing the results among three groups shows an interesting outcome.

Regarding the sum of relevance (ARCS-Relevance) and confidence (ARCS-Confidence), there were no differences in the results among groups. The sum of the relevance showed 0.561 while the sum of the confidence indicated 0.633.

There were some different results regarding the attention (ARCS-Attention) among three groups as it showed the significance of 0.0 in the sum of attention results. When considering the Post Hoc Tests, it was found that the results of group three indicated significant results which were different from groups one and two.

Similarly, the results from the sum of satisfaction (ARCS-Satisfaction) showed some distinctions between the three groups with a significance of 0.027. When considering the

Post Hoc Tests, it was found that while the results of group two did not show the significance, the results of groups one and three were significantly different from group two.

Therefore, the research hypothesis (H2) was not correct since H2 stated that the motivation for learning in students in the three classes was not different. When considering the comparison of the results among three groups using the sum of the results of each part, we observed some different outcomes between the groups, particularly in the areas of the ARCS-Attention, and ARCS-Satisfaction.