

CHAPTER FOUR

RESULT AND ANALYSIS

4.1 Introduction

This chapter presents the data analysis of the findings of both quantitative and qualitative data. While this chapter focuses on the data analysis and the resulting findings, brief explanations of the results were included. The research reports on the results in two phases. The results of the qualitative study are intended to answer the second research question that discovers the skills required to integrate Islamic and scientific knowledge from the experts. Meanwhile, the results of the quantitative analysis are intended to address the third question, which is to measure the usability of digital comic among students.

4.2 Thematic and Descriptive Analysis Result

This study aims to establish the usability of digital comic. In order to answer all the research questions, this research was using mix method design both quantitative and qualitative method, sampling and data analysis. Based on quantitative research, a set of survey questionnaire were distributed to selected class which is the Form 5 Ibnu Rusyd students of SMA Al-Ihsan. The respondents who took part in this survey consisted of 33 students.

For qualitative research, a semi structured interview questions have been asked randomly among five respondents based on purposively sampling technique. All five respondents were from Form 5 students from different classes of SMA Al-Ihsan. Table 4.2 illustrates the profile of respondent's base on interview that has been done. It shows respondent as a number start from number 1 until five. The respondents were assigning based on number. The demographical background known for their gender and classes.

Table 4. 2: Profile of Respondents Interview

RESPONDENT	GENDER	CLASSES
#1	Female	5 Ibnu Rusyd
#2	Male	5 Ibnu Abbas
#3	Female	5 Ibnu Khaldun
#4	Male	5 Ibnu Taimiyyah
#5	Female	5 Ibnu Al-Khawarizmi

4.2.1 Thematic analysis result (Qualitative)

Data collection methods employed in this research was an in interview. The result of quantitative analysis will be supported and interpreted by the qualitative data using thematic analysis. The thematic analysis gathered from the verbatims by respondents that has been interviewed. Case studies using in-depth interview have been done to get the data. Based on the interview data that has been recorded was transcribed into verbatim. Later, the important points of interview were selected, and researcher was identified and the excerpt was put into coding and themes. This was done manually using table of coding and it was continued to identified the category and the concept of all the passages. Under this process, the researcher used the knowledge to analyze the concepts based on the similarities of the idea of the interview and literature review. All of this process of data analyzing was known as thematic analysis.

In this study, the data from an interview has been transferred into transcript verbatim. The transcript has been analyzed based on the research objectives. The researchers read the transcript and categorized the topic and subtopic based on the similarities of idea from the respondents. In using thematic analysis, the table coding for all respondents have been establishes base on code, themes and concept. Then, the finding has been arranged into subtopic as below.

Based on the interviews conducted towards the five respondents, the main themes were identified in order to justify the usability of digital comic. The category of these themes is attributed to the conceptual and contextual dimension due to the nature of the

respondent's insights which consists of the sharing of their experiences. The concept discussed the usability of the digital comic. The themes have been arranged as following:

A) New experience when using digital comic of PQS subject

4.2.1.1 Interesting

Most of the respondents said they like and interested to read comic during learning process. The new concept by applied digital comic during learning PQS subject can offer them a new experience. This was agreed by respondent three (R#3) she said that comic can be something interesting because it's become something new if apply in this subject, while respondent five (R#5) asserted that comic has an element which can help memorize the difficult subject. This is based on the excerpt below:

R #1 Yes, I really like it because I like reading anime.

Ya, saya sangat suka sebab saya suka baca anime.

R #2 Really like it because it's differed from others.

Sangat suka sebab lain dari yang lain.

R #3 I like when there is something new in this PQS subject because I think it's interesting.

Saya suka bila ada benda baru dalam subjek PQS ni sebab saya rasa ia menarik.

R #4 Interest, when it comes to comics.

Minat lagi-lagi kalau komik.

R #5 Yes, I really like it because there are new elements in the subject that are difficult to memorize.

Ya, saya sangat suka sebab ada elemen baru dalam subjek yang susah nak hafal.

4.2.1.2 Attractiveness

Respondent five (R#5) said the comic can be attract because it's simple. This was agreed by other four respondents where they said that comic is attractiveness because it's having the picture that can be read in relax ways, support by the picture drawings that seems cute and the story contains in comic was easy to understand and clear. This is based on the excerpt below:

R #1 Because it's easy to understand the story inside.

Sebab senang faham cerita dalam tu.

R #2 Because when there are pictures of paintings it
feels interesting

Sebab bila ada gambar lukisan rasa menarik.

R #3 There are cute drawings. I like to look

Ada lukisan comel-comel. Saya suka tengok.

R #4 Feel relaxed when learning to use this comic.

Rasa santai-santai bila belajar guna komik ni.

R #5 Attract. Best and simple.

Menarik. Best dan simple.

4.2.1.3 Accessible

The comic digital was accessible where it can be read anywhere, anytime. Respondent two (R#2) said the comic can help he feel less burdened in learning difficult subject. This was supported by respondent four (R#4) he said that the attractiveness of comic can help them out of feeling bored when learning or reading. This was agreed by respondent five (R#5) where she said that comic can be fun because it's containing the picture that has a cartoon image and stated that comic can be even access through computer lab at the school. This is based on the excerpt below:

R #1 Can relax easy to understand.

Boleh relax senang nak faham.

R #2 I don't feel too burdened to learn difficult topics.

Tak rasa sarat sangat nak belajar topik susah

R #3 You can study anywhere, just like studying near home, you can lie down while reading comics.

Boleh belajar dekat mana-mana je macam study dekat rumah boleh baring sambal baca komik.

R #4 You don't get sleepy when studying the topic using comics, it's easy to use at any time.

Tak mengantuk bila belajar topik tu guna komik, mudah nak guna bila-bila masa.

R #5 I think it's fun to study when there are cartoons. You can definitely use the computer lab if it's fun at school.

Saya rasa sebab seronok belajar bila ada gambar kartun. Pastu boleh guna makmal computer kalau kat sekolah seronok.

B) Understanding the PQS subject

4.2.1.4 Increasing

The potential implementation of digital comic application of PQS subject can increase students in understanding the subject matter. Understanding is key to learning regardless. It was agreed by respondent one (R#1) who said that with the use of comic can be diversified in learning instead of using textbook only. This was supported by the rest of the respondents which they declared that when they read the comic it's can help

them increase in understanding of the important point which is comic has a language that is easy to remember and the text is simple rather than read the text in the textbook. Learning with comics in the subject matter also can help them easily remember the things that they have read. This is based on the excerpt below:

R #1 Yes, it can be increased because you don't need to using textbooks only.

Ye, boleh meningkat sebab kalau tidak asyik guna buku teks je.

R #2 Yes, because you don't have to read the text in the textbook.

Haah boleh sebab tak payah nak baca panjang-panjang yang dalam buku teks tu.

R #3 I am confident that I can improve because I can understand the important points straight away.

Saya yakin boleh meningkat sebabnya boleh faham point penting terus.

R #4 I think it has increased because I really understand it.

Saya rasa meningkat sebab memang saya faham sangat.

R #5 Will increase because I feel the enthusiasm when reading so it's easy to get into my head.

Akan meningkat sebab saya rasa semangat bila membaca jadi senang nak masuk dalam kepala.

C) The suggestions of integration the digital comic in PQS subject

4.2.1.5 Features

All of the responders agreed that some features can be adding to make this comic more interesting. Respondent two (#R2) was suggested it will be more fun if features such as animation will be added. It was agreed by respondent three (R#3) who said that with the sound added in comic it will be more interesting. This was supported by the rest of the respondents which they suggested that the longer storyline in comic with simple and compact stories also the font size is bigger, it's can make them reading comic in a very fun way. Finally respondent one (#R1) suggested the other topic of this subject can be added which will make this comic more interesting. This is based on the excerpt below:

R #1 My suggestion might be to add another topic because I think this comic is interesting.

Cadangan saya mungkin boleh tambah tajuk lain juga sebab saya rasa komik ni menarik.

R #2 Add other features such as cartoons that can move around and it's will be more fun when you want to read comics.

Tambah ciri-ciri lain contohnya macam cartoon yang boleh bergerak-gerak dan lagi seronok bila nak baca komik.

R #3 If add the sound, the comic will be more interesting.

Kalau tambah sound pun macam menarik komik itu ada suara.

R #4 I suggest a slightly longer storyline because it's really fun to read the subject of PQS in form of comics.

Saya cadangkan jalan cerita yang panjang sedikit sebab terlalu seronok nak baca subjek PQS lagi-lagi dalam komik.

R #5 I think the comic is simple, compact and the writing font may be a little bigger so that it's easy to read. But I like this comic.

Saya rasa komik yang ringkas, padat dan font tulisan yang besar sedikit supaya lagi senang nak membaca. Tapi saya suka dah komik ini.

4.2.2 Descriptive analysis result (Quantitative)

Data analysis techniques used in this research was descriptive analysis method. The quantitative descriptive analysis method processes data in the form of numbers or mean scores regarding the object under study.

This study used quantitative descriptive analysis method to describes the mean score of students' responses by using Statistical Package for The Social Science Software (SPSS) related to media developed through the provision of digital comic media questionnaire sheets. The result of quantitative descriptive analysis as below:

Table 4.2.2(i): Student's Responses

No	Name	Mean Score
1	Student 1	4.86
2	Student 2	4.75
3	Student 3	5.00
4	Student 4	4.21
5	Student 5	4.11
6	Student 6	3.89
7	Student 7	5.00
8	Student 8	4.82
9	Student 9	5.00
10	Student 10	4.14
11	Student 11	3.89
12	Student 12	4.46
13	Student 13	4.11
14	Student 14	4.11
15	Student 15	5.00
16	Student 16	4.43
17	Student 17	4.46
18	Student 18	3.86
19	Student 19	3.93
20	Student 20	4.32
21	Student 21	3.86
22	Student 22	3.89

23	Student 23	4.36
24	Student 24	4.61
25	Student 25	4.54
26	Student 26	4.64
27	Student 27	4.21
28	Student 28	4.43
29	Student 29	4.32
30	Student 30	4.18
31	Student 31	4.43
32	Student 32	4.64
33	Student 33	4.61
Total		4.39

The student responses to the digital comic obtained a total mean score of 4.39 from the ideal score of 5.00. Therefore, it proved usability. Furthermore, suppose the final research results are "feasible to use". In that case, the digital comic is deemed fit for use as a learning medium on the topic of Pengajian Hadith for Form 5 Ibnu Rusyd students of SMA Al-Ihsan. Furthermore, the highest results of the student's questionnaire obtained a mean score of 4.79 of the maximum mean value of 5 with good category, which means that the digital comic provided is good.

Data analysis in this study includes the validity of the media obtained from the questionnaire results of student responses which analyzed by using SPSS quantitatively by following the following formula:

Mean score = Assessment scores / Number of student responses

Furthermore, the data analysis uses the Likert scale 1-5 to see students' responses to the digital comic that have been developed. The questionnaire filling data refer to the Likert scale filling method with five choices for each component presented. This data is in the form of numbers which are 5, 4, 3, 2, 1. Questionnaire answers using a Likert scale which includes five choices, are presented in Table 4.2.2.

Table 4.2.2 (ii): Questionnaire Answer Criteria with Likert Scale

Category	Score
Strongly Agree	5
Agree	4
Natural	3
Strongly Disagree	2
Disagree	1

4.3 Validation Analysis Results

Validation and testing aim to control the content of teaching materials to keep them by the needs and characteristics of students.

4.3.1 Media Validation

The media validation was carried out by a Multimedia lecturer from the Faculty of Science and Technology (FST), USIM and a school Panitia of PQS subject from the Sekolah Menengah Agama Al-Ihsan, Kuantan. A validation from a media expert was carried out by a lecturer and a teacher to gather feedbacks and opinions to make some improvements on the initial development of the digital comic. The questionnaires of the media validation in this study were adapted and modified based on the study of Pramono (2020).

The assessment of media validation in this study was based on the 5 Likert scale modified by the Sukardjo (2012) as follows:

Figure 4.3.1: Score Conversion to Value on a 5 Scale

Score/Category	Score	
	Pattern	Calculation
Very good	$X > \bar{X}_i + 1,80 \text{ Sdi}$	$X > 4,21$
Good	$\bar{X}_i + 0,60 \text{ Sdi} < X \leq \bar{X}_i + 1,80 \text{ Sdi}$	$3,40 < X \leq 4,21$
Pretty good	$\bar{X}_i - 0,60 \text{ Sdi} < X \leq \bar{X}_i + 0,60 \text{ Sdi}$	$2,60 < X \leq 3,40$
Not good	$\bar{X}_i - 1,80 \text{ Sdi} < X \leq \bar{X}_i - 0,60 \text{ Sdi}$	$1,79 < X \leq 2,60$
Very Poor	$X \leq \bar{X}_i - 1,80 \text{ Sdi}$	$X \leq 1,79$

Where:

Average ideal score (\bar{X}_i)	= $1/2 \times (\text{maximum score} + \text{minimum score})$
Sdi	= $1/6 \times (\text{maximum score} - \text{minimum score})$
Maximum score	= 5
Minimum score	= 1
Average ideal score (\bar{X}_i)	= $1/2 \times (5 + 1) = 3$
Standard deviation ideal score (Sdi)	= $1/6 \times (5 - 1) = 0.67$
X	= Actual score

The data obtained from the material experts were analyzed to identify mean score by calculating the total of questionnaires score with the number of total questions. The total of mean score was interpreted for each aspect using the five-scale conversion criteria adapted by guidelines of Sukardjo (2012) as Strongly Feasible, Feasible Enough, Inadequate, and Unworthy.

The results of the media expert validation obtained a mean score of 3.27 of the maximum average values of 5, including enough feasible categories. Meanwhile, the results from the teacher validation obtained 4.93 of a mean score that is considered strongly feasible.

4.3.1.1 Media Expert

A media expert did validation to gather advice or opinions from media experts to make revisions.

Table 4.3.1.1: Media Expert Validation

Categories	Score
1. The suitability of the material.	2
2. Suitability of media with the purpose of learning.	4
3. Suitability of media with material characteristics.	5
4. Completeness of the material in the media.	2
5. Ease of understanding the material in the media.	2
6. Ease of understanding the media illustrations.	4
7. Help students in achieving the learning outcomes.	3
8. Encourage students to be more active.	2
9. Can be used as a learning support of the subject.	3
10. The clarity of the material in the media.	2
11. Suitability of illustration with related materials.	3
12. The suitability of the material with the development of technology and information.	2
13. Completeness and clarity in conveying identity.	2

14. Deliver material clearly.	2
15. Clear delivery of learning objectives.	3
16. Help students learning PQS subject.	3
17. The suitability of languages rules.	4
18. Ease of understanding the language that is used.	4
19. The accuracy of spelling and terminology.	3
20. The accuracy of the writing of punctuation.	3
21. The consistency of the use of terms.	3
22. Linkage between the meaning of the dialogue conversation.	3
23. Suitability of language with conversation figure.	4
24. Use language that is easy for students to understand.	4
25. Communicative.	3
26. The color display, font type and font size are clear to read.	3
27. Attractiveness of the cover design.	5
28. The attractiveness of the drawing design.	5
29. The accuracy of drawing and illustration.	5
30. Continuity stories each page.	3
31. Legibility of text.	2
32. The accuracy of color combination.	2
33. Balance of the proportion of pictures, illustrations, and text.	4
34. Picture quality.	5
35. Clarity of storyline.	3
36. The accuracy of the election characters.	5
37. Suitability of picture with a story.	5
38. Attractiveness of the storyline.	3
39. Clarity of illustration.	3

40. Attractiveness of the presentation of character.	5
41. The clarity of the picture.	5
42. Accuracy of typeface.	1
43. The accuracy of the size of the font.	1
44. Laying balloon conversation.	4
45. Design view each screen.	3
46. Display opener design.	5
47. Conformity with the background text color.	1
48. The clarity of the instructions for use of media.	1
49. Ease of use menus.	5
50. Ease of use navigation buttons.	5
51 Digital comic media is easy in the process of installation.	1
52. File size is not large.	3
53. Operation is simple.	5
54. Coherence.	3
55. Cohesiveness.	3
56. Illustrations are presented clearly.	5
57. Interesting background display.	3
58. The combination in the use of colors.	3
59. Overall appearance integration.	3
Total	193
Mean	3.27

Based on an assessment by a media expert, the digital comic got a mean score of 3.27. Moreover, based on the conversion guidelines in Sukardjo (2012: 98) in Pramono (2020), the average value of 3.27 falls in the category of "Feasible Enough". Therefore,

judging from the data above, it can be concluded that using PQS-based textbooks of digital comics in the learning process gets positive responses from media experts. Hence, digital comic is declared feasible and can be used in the PQS learning session.

Assessment by media expert can be presented by followed the following formula:

Mean score = Assessment scores / Number of questions

Furthermore, data analysis was carried out using quantitative descriptive analysis techniques and qualitative descriptive analysis. The type of data in this study was divided into two types. First, qualitative data in the form of words is derived from the input and advice from the experts. Second, quantitative data in the form of figures are obtained by the mean score of the test experts. The data collection method in this study used a questionnaire method, while the research instrument used was a rating scale in the form of a digital comic media validation sheet. The media validity sheet instrument covers seven aspects: learning, content/material, language/symbols, graphic, presentation, visuals, and overall appearance.

4.3.1.2 Teacher Validation

Validation was done by a teacher, which was performed to gather advice or opinions to make revisions.

Table 4.3.1.2: Teacher Validation

Categories	Score
1. Completeness and clarity in conveying identity.	5
2. Clear delivery of learning objectives.	5
3. Clear delivery of material.	5
4. The suitability of language.	5
5. Use common phrases that are easy for students to under.	5
6. Coherence.	5
7. Cohesiveness.	5
8. Text is presented clearly.	5
9. Sound is presented clearly.	4
10. Illustrations are presented clearly.	5
11. Interesting background display.	5
12. The combination in the use of colors.	5
13. Selection of character.	5
14. The attractiveness of character.	5
15. Overall appearance integration.	5
Total	74
Average	4.93

Based on the assessment by the teacher, the digital comic obtained a mean score of 4.93 out of 5.00. Based on the conversion guidelines Sukardjo (2012: 98) in Pramono (2020), the average value of 4.93 falls in the category of "Strongly Feasible". Therefore, digital comic media on the topic of Pengajian Hadith was declared valid and suitable to use in learning. Assessment by the teacher can be presented in the diagram as follow:

Mean score = **Assessment scores / Number of questions**

4.4 Revision of product

The revision was made after getting suggestions and comments from the media validator. As a result, several things were revised on the comics learning media as follows:

Suggestions from media experts to change color background and layout that are not too striking.

Suggestions from spelling in comics should be simplified again, adjusted to the consistency of font usage, especially to facilitate students' understanding of comics and increase student interest in reading the digital comic. Improvements can be seen below.

Suggestions from media experts to adjust the font size that is too small to read.



Figure 4.4 (i): Before Revision

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Figure 4.4 (ii): After Revision

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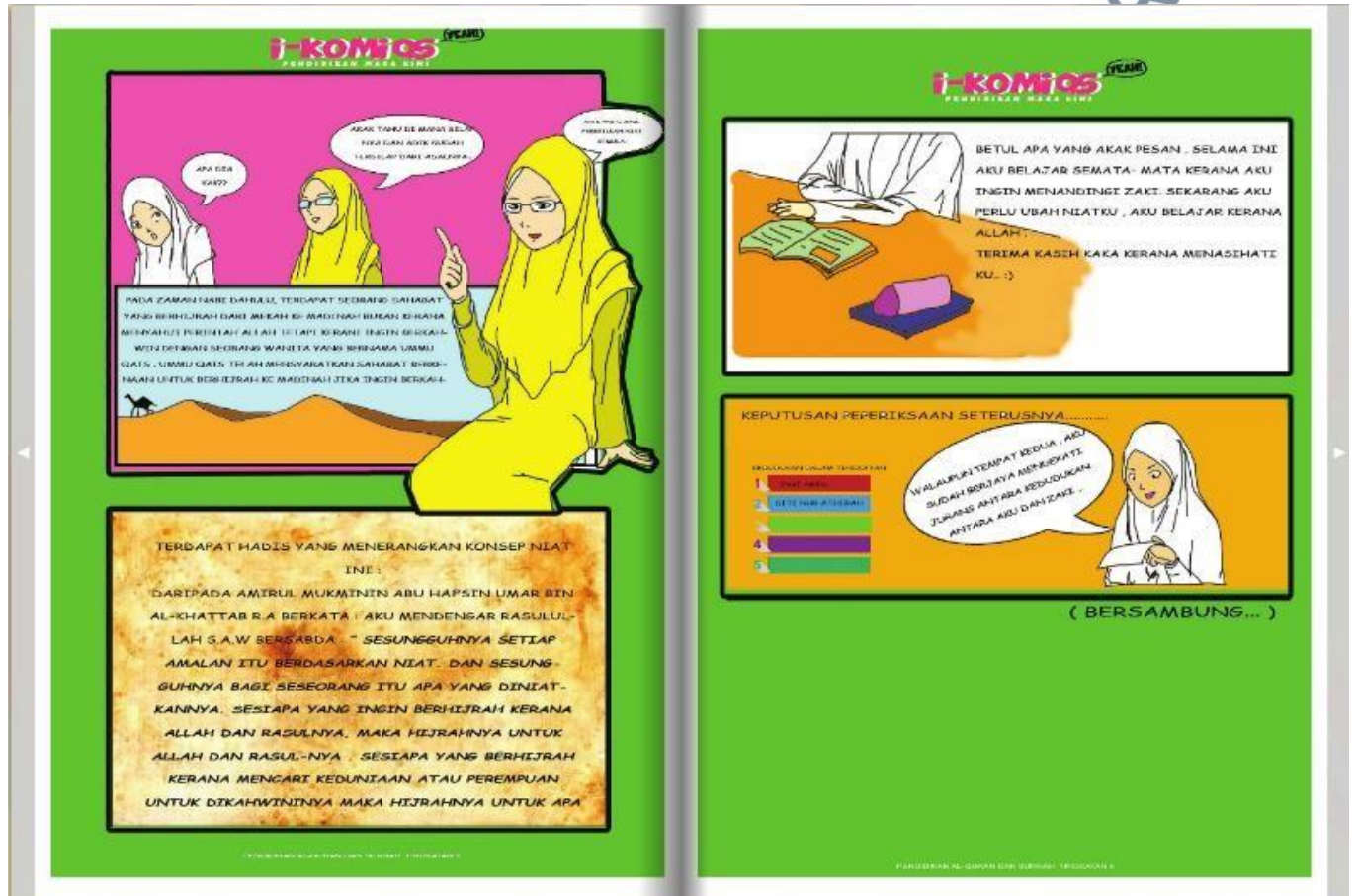


Figure 4.4 (v): Before Revision

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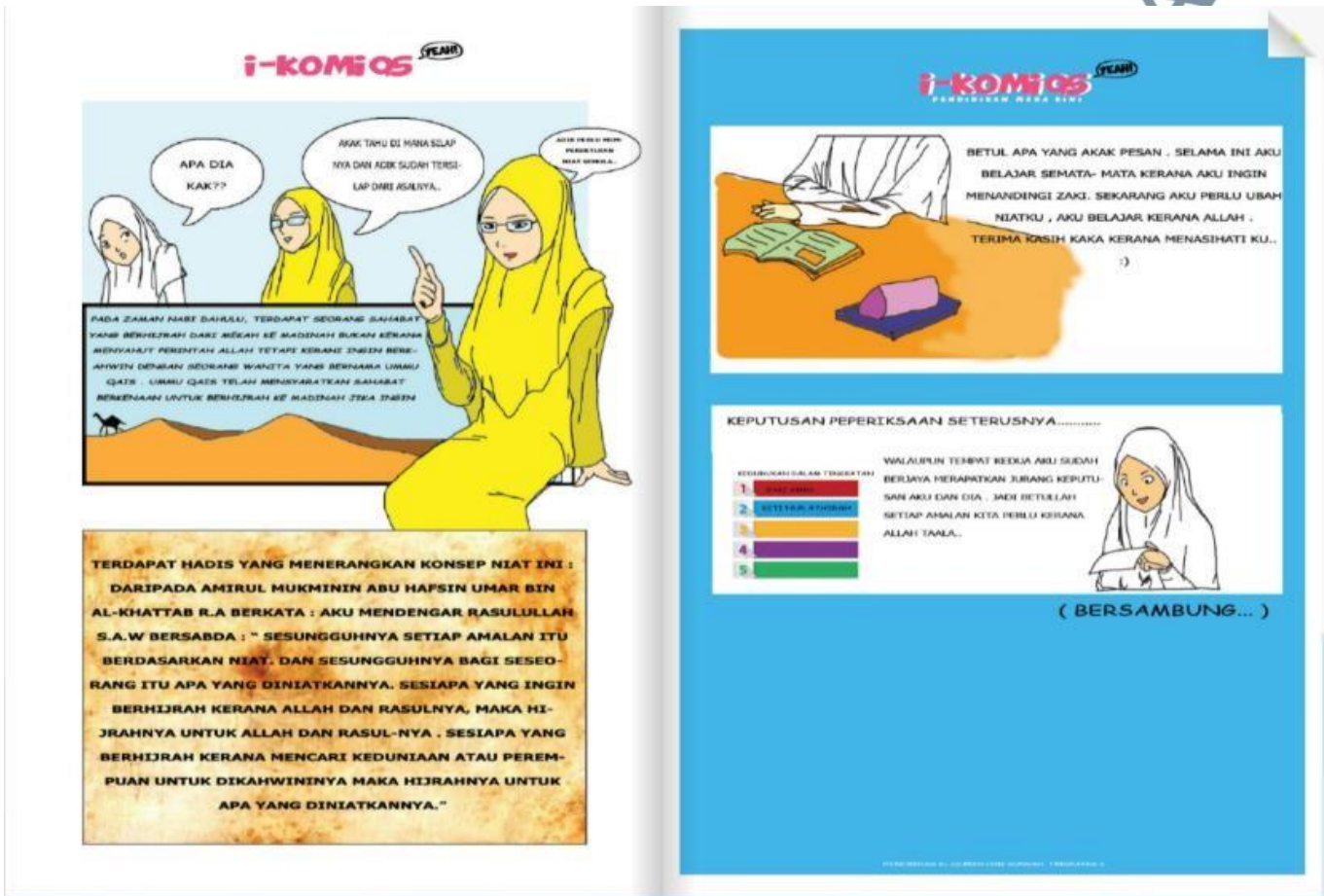
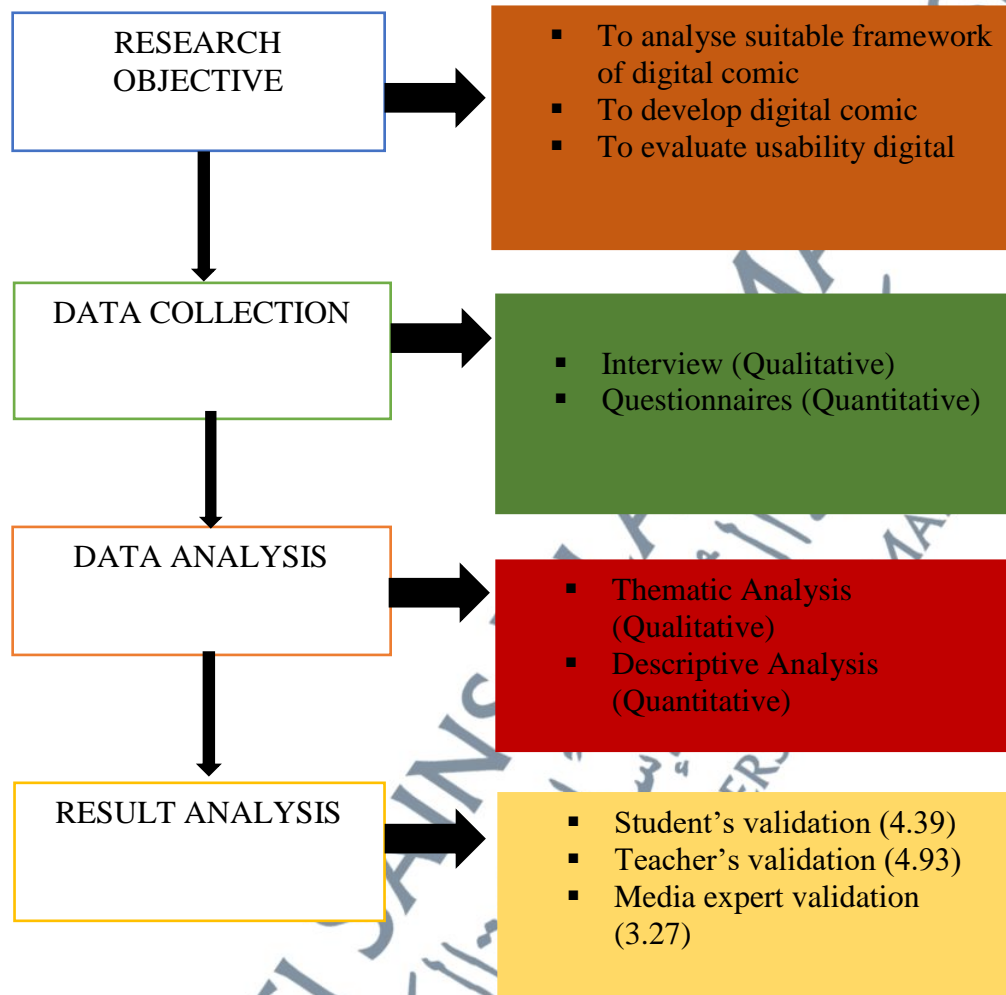


Figure 4.4 (vi): After Revision

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Flowchart 4.0: The Research Flowchart

4.5 Chapter Summary

Chapter Four examined the results of the mixed methods used by the researcher. The results of the qualitative study were processed in Microsoft Word after the transcription process and categorized into respective themes. In addition, the findings of the quantitative study were stored in Google Form before being transported to Microsoft Excel and analyzed using SPSS.

All in all, from the entire discussion above, the development of digital comic media based on Form Five Al-Quran and Sunnah Education textbook on the topic of Pengajian Hadith for Form 5 Ibnu Rusyd students of SMA Al-Ihsan were suitable to use. This development followed the A.D.D.I.E model procedure. Besides, it concluded that the media expert's assessment of the digital comic of PQS obtained a mean score of 3.27.

Therefore, the result showed that it is Feasible Enough to be used in the Form Five Al-Quran and Sunnah Education subject. Moreover, the score also got an average of 4.93 from the validation of teacher to the digital comic, which is also considered Strongly Feasible. In addition, based on the student responses to the digital comic, the mean score of 4.39 out of 5.00 concluded that the usability of the digital comic was feasible to use. Next, all the conclusions and recommendations for this research will be discussed further in chapter 5.