# Appendix VI Interview Protocol

Hello, [participant]. Thank you very much for participating in this interview! I would like to ask you some questions about your perceptions on mathematical modelling teaching in your school. This interview will be audio-taped and all your personal information will be kept confidential. Your participation is voluntary, and you have the right to refuse to answer any questions or withdraw from this interview at any time, which would not lead to any negative consequences. Thank you again for your support and cooperation.

Part I Basic Information

1. Is it convenient for you to share about your working year(s) and professional title?

2. Have you been teaching in this school? Have you been teaching junior high school mathematics in recent years?

3. Have you received any teaching achievement awards in recent years?

Part 2 Theoretical Cognition of Mathematical Modelling Teaching

1. Can you define what is mathematical modelling? In your opinion, what process should be included in mathematical modelling?

2. Do you know the teaching requirements for mathematical modelling of junior middle school students in the mathematics curriculum standard for compulsory education? If you know, would you mind summarizing it briefly?

3. Have you come into contact with the teaching method of mathematical modelling recently? If yes, would you mind describing it?

Part 3 Subjective Attitude to Mathematical Modelling Teaching

1. What do you think makes mathematical modelling for junior middle school students in the mathematics curriculum standard for compulsory education? Do you think it is necessary for junior middle school students to do mathematical modelling? And why?

2. Do you know about the policy and research of mathematical modelling in your school? If yes, do you think these policy and research results are helpful to mathematical modelling teaching?

3. Do you know the mathematical modelling competitions for middle school students? Have any of your students participated in these competitions? Do you support junior high school students to participate in mathematical modelling competitions? What do you think are the advantages and disadvantages of the mathematical modelling competition that junior middle school students participate in?

Part 4 Teaching Behaviour of Mathematical Modelling

1. How do you design and teach the content of mathematical modelling in the textbook? Can you share one of your cases?

2. What are the stages of your mathematical modelling class? How would you allocate time for each activity? In the teaching process, when students have difficulties in modelling, what intervention measures will you use? What means would you use to evaluate the model established by students?

3. After the teaching of mathematical modelling, will you reflect on the teaching? What aspects will you reflect on teaching?

4. How do you evaluate students’ mathematical modelling ability before and after class?

5. How do you develop modelling tasks in mathematical modelling teaching? Would you mind giving an example?

Part 5 The Implementation Suggestions of Mathematical Modelling Teaching

1. What do you think is the future trend of mathematical modelling teaching?

2. How do you give consideration to the cultivation of junior middle school students’ mathematical modelling ability and the improvement of examination results?

3. What do you think is worth improving in the teaching of mathematical modelling for junior high school students?

Thank you very much for your participation!