

Appendix 1: the SMTSL questionnaire*Directions for students*

This questionnaire contains statements about your willingness in participating in this science class. You will be asked to express your agreement on each statement. There are no “right “ or “wrong” answers. Your opinion is what is wanted. Think about how well each statement describes your willingness in participating in this class.

Draw a circle around

1. if the statement you strong disagree
2. if the statement you disagree
3. if the statement you have no opinion
4. if the statement you agree
5. if the statement you strong agree

Be sure to give an answer for all questions. If you change your mind about an answer, just cross it out and circle another.

Some statements in this questionnaire are fairly similar to other statements. Don't worry about this. Simply give your opinion about all statements.

Your Name _____; Teacher's Name _____
 School _____; Grade _____; Male _____ Female _____
 Science Class; Biology _____ Physical Science _____

A. Self efficacy	Strongly disagree	Disagree	No opinion	Agree	Strongly agree
1. Whether the science content is difficult or easy, I am sure that I can understand it.	1	2	3	4	5
2. I am not confident about understanding difficult science concepts.(-)	1	2	3	4	5
3. I am sure that I can do well on science tests.	1	2	3	4	5
4. No matter how much effort I put in, I cannot learn science.(-)	1	2	3	4	5
5. When science activities are too difficult, I give up or only do the easy parts.(-)	1	2	3	4	5
6. During science activities, I prefer to ask other people for the answer rather than think for myself. (-)	1	2	3	4	5
7. When I find the science content difficult, I do not try to learn it (-)	1	2	3	4	5

B. Active learning strategies	Strong disagree	Disagree	No opinion	Agree	Strong agree
8. When learning new science concepts, I attempt to understand them.	1	2	3	4	5
9. When learning new science concepts, I connect them to my previous experiences.	1	2	3	4	5
10. When I do not understand a science concept, I find relevant resources that will help me.	1	2	3	4	5
11. When I do not understand a science concept, I would discuss with the teacher or other students to clarify my understanding.	1	2	3	4	5
12. During the learning processes, I attempt to make connections between the concepts that I learn.	1	2	3	4	5
13. When I make a mistake, I try to find out why.	1	2	3	4	5
14. When I meet science concepts that I do not understand, I still try to learn them.	1	2	3	4	5
15. When new science concepts that I have learned conflict with my previous understanding, I try to understand why.	1	2	3	4	5
C. Science Learning Value	Strong disagree	Disagree	No opinion	Agree	Strong agree
16. I think that learning science is important because I can use it in my daily life.	1	2	3	4	5
17. I think that learning science is important because it stimulates my thinking.	1	2	3	4	5
18. In science, I think that it is important to learn to solve problems.	1	2	3	4	5
19. In science, I think it is important to participate in inquiry activities.	1	2	3	4	5
20. It is important to have the opportunity to satisfy my own curiosity when learning science.	1	2	3	4	5
D. Performance Goal	Strong disagree	Disagree	No opinion	Agree	Strong agree
21. I participate in science courses to get a good grade. (–)	1	2	3	4	5
22. I participate in science courses to perform better than other students. (–)	1	2	3	4	5

23. I participate in science courses so that other students think that I'm smart.(-)	1	2	3	4	5
24. I participate in science courses so that the teacher pays attention to me.(-)	1	2	3	4	5
E. Achievement Goal	Strong disagree	Disagree	No opinion	Agree	Strong agree
25. During a science course, I feel most fulfilled when I attain a good score in a test.	1	2	3	4	5
26. I feel most fulfilled when I feel confident about the content in a science course.	1	2	3	4	5
27. During a science course, I feel most fulfilled when I am able to solve a difficult problem.	1	2	3	4	5
28. During a science course, I feel most fulfilled when the teacher accepts my ideas.	1	2	3	4	5
29. During a science course, I feel most fulfilled when other students accept my ideas.	1	2	3	4	5
F. Learning Environment Stimulation	Strong disagree	Disagree	No opinion	Agree	Strong agree
30. I am willing to participate in this science course because the content is exciting and changeable.	1	2	3	4	5
31. I am willing to participate in this science course because the teacher uses a variety of teaching methods.	1	2	3	4	5
32. I am willing to participate in this science course because the teacher does not put a lot of pressure on me.	1	2	3	4	5
33. I am willing to participate in this science course because the teacher pays attention to me.	1	2	3	4	5
34. I am willing to participate in this science course because it is challenging.	1	2	3	4	5
35. I am willing to participate in this science course because the students are involved in discussions.	1	2	3	4	5

Note: (-) represent reverse items.