Appendix

Appendix A: Questionnaire measuring student satisfaction with the ARS.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Items | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
| “The use of clickers in this course  encouraged me to participate in class.” |  |  |  |  |  |
| “The use of clickers in this course  encouraged others to participate in class.” |  |  |  |  |  |
| “The use of clickers in this course was distracting.” |  |  |  |  |  |
| “Because of the clickers, I participated more in this class than I normally do.” |  |  |  |  |  |
| “I valued that the clickers allowed people to respond anonymously.” |  |  |  |  |  |
| “The use of clickers slowed down the class too much.” |  |  |  |  |  |
| “The professor depended too much on the use of response cards.” |  |  |  |  |  |
| “The use of clickers helped make some topics clearer.” |  |  |  |  |  |
| “I would rather use clickers to participate in class discussions than use the  microphone.” |  |  |  |  |  |
| “Overall, I think having the clickers made the class better.” |  |  |  |  |  |
| “Attending class was worthwhile.” |  |  |  |  |  |

A.1 Open-ended questions:

1. What was the most useful feature of the ARS?
2. What was the least useful aspect of the ARS?
3. Would you recommend continued use of the ARS in future courses?

Appendix B: questionnaire measuring participants’ satisfaction with the flipped classroom technique.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Items | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
| “I was able to learn from the course materials in the flipped classroom.” |  |  |  |  |  |
| “I was stimulated to complete additional readings or research on topics discussed in the course.” |  |  |  |  |  |
| “Discussions in the flipped classroom assisted me in understanding other points of view.” |  |  |  |  |  |
| “As a result of my experience with this course, I would like to take another flipped classroom  course in the future.” |  |  |  |  |  |
| “This course in the flipped classroom was a useful learning experience.” |  |  |  |  |  |
| “The diversity of topics and resources in this course prompted me to participate effectively in discussions.” |  |  |  |  |  |
| “I invested a great deal of effort to search about topics on the internet to increase my  participation in this course.” |  |  |  |  |  |
| “My level of learning that occurred in this course was of the highest quality.” |  |  |  |  |  |
| “The learning activities and assignments of this course met my learning expectations.” |  |  |  |  |  |
| “The instructor for this course met my learning expectations.” |  |  |  |  |  |
| “This flipped classroom course met my learning expectations.” |  |  |  |  |  |
| “The flipped classroom helped me learn more than I would have if we had completed  traditional lessons.” |  |  |  |  |  |
| “I found it easy to pace myself successfully through this course.” |  |  |  |  |  |
| “The flipped classroom has improved my learning outcomes.” |  |  |  |  |  |

B.1 Open-ended questions:

1. What was the most useful feature of the flipped classroom technique?
2. What was the least useful aspect of the flipped classroom technique?
3. Would you recommend continued use of the flipped classroom technique in future courses?