Supplementary Information

The Correlation Between Social Media Usage in Academic Context and Self-Efficacy Towards TPACK of Preservice Science Teachers in Indonesia

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INSTRUMENT/QUESTIONNAIRE

Technological Pedagogical Content Knowledge Self-Efficacy Scale (TPACK-SeS).

Please rate your degree of confidence regarding statements below.

Technological Knowledge (TK)

1. I can explain the differences between hardware and software.
   - Very Low
   - Low
   - Medium
   - High
   - Excellent

2. I can fix hardware problems.
   - Very Low
   - Low
   - Medium
   - High
   - Excellent

3. I can install software
   - Very Low
   - Low
   - Medium
   - High
   - Excellent

4. I can use software.
   - Very Low
   - Low
   - Medium
   - High
   - Excellent

5. I can choose appropriate technological tools for teaching (e.g. interactive board, LCD, …)
   - Very Low
   - Low
   - Medium
   - High
   - Excellent

6. I can explain the similarities between hardware and software.
   - Very Low
   - Low
   - Medium
   - High
   - Excellent
**Knowledge of Teaching with Technology (KTT)**

7. I can utilize technological tools (e.g., pH meter, ammeter) to gather scientific data.
   - [ ] Very Low  [ ] Low  [ ] Medium  [ ] High  [ ] Excellent

8. I can use technological tools (e.g., spreadsheets, computer) to analyse scientific data.
   - [ ] Very Low  [ ] Low  [ ] Medium  [ ] High  [ ] Excellent

9. I can explain advantages of using technology in science education.
   - [ ] Very Low  [ ] Low  [ ] Medium  [ ] High  [ ] Excellent

10. I can determine technologies that are appropriate for students’ grade level.
    - [ ] Very Low  [ ] Low  [ ] Medium  [ ] High  [ ] Excellent

11. I can explain how to use technologies in my lesson plan.
    - [ ] Very Low  [ ] Low  [ ] Medium  [ ] High  [ ] Excellent

12. I can explain how to manage a classroom that is equipped with technologies.
    - [ ] Very Low  [ ] Low  [ ] Medium  [ ] High  [ ] Excellent

13. I can answer students’ questions about the technology use in my classroom.
    - [ ] Very Low  [ ] Low  [ ] Medium  [ ] High  [ ] Excellent

14. I can utilize technological tools to make teaching processes more productive.
    - [ ] Very Low  [ ] Low  [ ] Medium  [ ] High  [ ] Excellent

15. I can explain how technology affects student learning.
    - [ ] Very Low  [ ] Low  [ ] Medium  [ ] High  [ ] Excellent

**Technological Pedagogical Content Knowledge (TPACK)**

16. I can use technological tools to determine students’ misconceptions about science.
    - [ ] Very Low  [ ] Low  [ ] Medium  [ ] High  [ ] Excellent

17. I can use technological tools to assess student learning of science.
    - [ ] Very Low  [ ] Low  [ ] Medium  [ ] High  [ ] Excellent
18. I can apply my technological knowledge, content knowledge, and pedagogical knowledge all together to create an effective learning environment.

- Very Low - Low - Medium - High - Excellent

19. I can develop quality lesson plans using my technological knowledge, content knowledge, and pedagogical knowledge together.

- Very Low - Low - Medium - High - Excellent

20. I can use technological tools to assess students’ prior knowledge about science topics.

- Very Low - Low - Medium - High - Excellent

**THE SOCIAL NETWORKING SITES USE (SNSU) FREQUENCY SCALE IN ACADEMIC SETTING FOR PRESERVICE TEACHERS**

Please rate your frequency of using Social Networking Sites (SNS)

**A Searching and Studying (SS)**

1. How often do you search information related to your coursework from any social networking sites?

- Never - Rarely - Sometimes - Often - Always

2. How often do you search current news related to your coursework from any social networking sites?

- Never - Rarely - Sometimes - Often - Always

3. How often do you search image or animation related to your coursework from any social networking sites?

- Never - Rarely - Sometimes - Often - Always

4. How often do you watch online videos related to your coursework (such as video of laboratory experimentation) from any social networking sites?

- Never - Rarely - Sometimes - Often - Always

5. How often do you integrating image, animation, or videos that you search into your assignment?

- Never - Rarely - Sometimes - Often - Always
B Download Media (DM)

6 How often do you download video related to your coursework?
   - Never
   - Rarely
   - Sometimes
   - Often
   - Always

7 How often do you download image or animation related to your coursework?
   - Never
   - Rarely
   - Sometimes
   - Often
   - Always

8 How often do you download document such as Journal articles related to your coursework?
   - Never
   - Rarely
   - Sometimes
   - Often
   - Always

9 How often do you download learning apps/software that useful for your study?
   - Never
   - Rarely
   - Sometimes
   - Often
   - Always

10 How often do you download learning apps/software that useful for your teaching in the classroom?
    - Never
    - Rarely
    - Sometimes
    - Often
    - Always

C Sharing Media (SM)

11 How often do you share your files or document related to your coursework using any social networking sites with other students?
   - Never
   - Rarely
   - Sometimes
   - Often
   - Always

12 How often do you share picture and video using any social networking sites with other students?
   - Never
   - Rarely
   - Sometimes
   - Often
   - Always

13 How often do you share your thought or ideas using any social networking sites with other students?
   - Never
   - Rarely
   - Sometimes
   - Often
   - Always

14 How often do you collaborate with other students in a group work using any SNS?
Never  Rarely  Sometimes  Often  Always

15 How often do you share current news using any SNS to other students?

D  Professionalism Development (PD)

16 How often do you use SNS to learn computer hardware?

17 How often do you use SNS to learn computer software?

18 How often do you use SNS to learn new technological tools for teaching?

19 How often do you use SNS to create learning media?

20 How often do you integrate e-Learning platform (such as Moodle, Edmodo, etc.) in the classroom?

21 How often do you use SNS to update information related to current new technology for teaching?

22 How often do you use SNS to learn integrating technology into your lesson plan?

23 How often do you join distance learning workshop such as online short course?
| Question                                                                 | Options                                      |
|-------------------------------------------------------------------------|----------------------------------------------|
| **24** How often do you chat in social media with professional teachers to get information about ICT integration using social media? | Never, Rarely, Sometimes, Often, Always       |
| **E Entertainment and Motivation (EM)**                                  |                                              |
| **25** How often do you read online news for entertainment?              | Never, Rarely, Sometimes, Often, Always       |
| **26** How often do you listen to music during studying?                 | Never, Rarely, Sometimes, Often, Always       |
| **27** How often do you play Educational Games in smartphone or laptop during studying? | Never, Rarely, Sometimes, Often, Always       |
| **28** How often do you watch online video for entertainment purposes during studying? | Never, Rarely, Sometimes, Often, Always       |
| **29** How often do you chat in Social media to improve learning motivation from others? | Never, Rarely, Sometimes, Often, Always       |