

Table 3-Supplementary material

Survey Instrument- Student Version

An exploration of student and facilitator perspectives of problem-based learning (PBL) online.

The survey should take you approximately 10 minutes to complete. Given your familiarity with F2FPBL, you are uniquely placed to reflect on you online experiences.

Thank you for taking the time to participate.

Participation eligibility

I am

☐ 2nd year Speech and Language Therapy Student

☐ 3rd year Speech and Language Therapy Student

Please state your age: ____

Experience of Online Video Communication

1. Would you consider yourself technologically competent?

☐ Yes

☐ No

2. How often did you use online video communication (e.g., Zoom, Facetime, Snapchat) **outside of the educational setting before** starting PBL online at NAMED UNIVERSITY ?

☐ Daily 0-1 hours

☐ Few times a week

☐ Daily 2-3 hours

☐ Fortnightly

☐ Daily 4-5 hours

☐ Monthly

☐ Daily 5+ hours

☐ No experience

☐ Once a week

3. **Within the educational setting**, please indicate time spent on online video communication **before** starting PBL online at NAMED UNIVERSITY ?

☐ Daily 0-1 hours

☐ Few times a week

☐ Daily 2-3 hours

☐ Fortnightly

☐ Daily 4-5 hours

☐ Monthly

☐ Daily 5+ hours

☐ No experience

☐ Once a week

4. How many tutorials of online PBL have you experienced at NAMED UNIVERSITY ?

Evaluation of Microsoft Teams

These questions will ask you to evaluate your experience of Microsoft Teams as an online video-conferencing platform, and suitability for the delivery of PBL online. You will now be asked to rate the following statements with 1 = strongly disagree and 5 = strongly agree.

5. Microsoft Teams is easy to use

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Microsoft Teams is a suitable platform to conduct PBL online.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Please rate the following features of Microsoft Teams in order of important with 1 =least important and 5 =most important.

	Least important	Somewhat Important	Neutral	Very important	Most important
Chat based function	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hand raising tool	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Screenshare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Security	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Create class folders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collaborate live in real time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Does the platform functionality of Microsoft Teams support your ability to learn and interact online?

☐ Yes ☐ No

9. Please list two comments you have about the use of Microsoft Teams as a platform for delivering PBL online.

Collaborative Learning

These questions will ask you about the group learning process online. Please rate the following statements with 1 =strongly disagree and 5 =strongly agree.

10. Compared to F2F collaborative PBL learning, I believe PBL online leads to:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
More difficulty interpreting non-verbal communication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More difficulty establishing group dynamics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More comfort expressing my views	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enhanced flow of conversation during discussion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

An increase in uneven contributions from students	○	○	○	○	○
Lack of spontaneous interactions	○	○	○	○	○

11. Do you think group collaboration during online PBL differed from F2F PBL?

☐ Yes

☐ No

12. Please explain your answer to Q 11.

Quality of Individual Learning

The questions will ask you about the quality of your individual learning during PBL online.

Please rate the following statements, with 1 = strongly disagree and 5 = strongly agree.

13. I take a less active role in the PBL process online.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

14. I believe the depth of discussion online is as effective as F2F PBL.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

15. PBL online enhance my ability to deeply process content (e.g., better acquisition and understanding of knowledge)

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. I take more responsibility for self-directed learning online.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. I think the quality of learning outcomes during PBL online is equal to F2FPBL learning outcomes.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. It is more challenging for me to integrate knowledge from online PBL and online supplemental lectures and workshops (e.g., Anatomy, Speech and Hearing Sciences, Research Methods)

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Do you think the quality of individual learning during PBL online differed from F2F PBL?

☐Yes

☐No

20. Please explain your answer to Q 19.

Role of the Facilitator

These questions will ask you about the role of the facilitator during PBL online. Please rate the following statements with 1 = strongly disagree and 5 = strongly agree.

21. During PBL online I think the facilitator...

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Communicates expectations for student participation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has a greater role in managing group dynamics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has to intervene more often during group processes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is consulted more often in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

relation to content knowledge					
Provides satisfactory feedback about group participation	○	○	○	○	○

22. Do you think the tutor role in PBL online differed from F2F PBL?

☐ Yes

☐ No

23. Please explain your answer to Q 22.

Perspectives of the PBL Environment Online

Given your familiarity the F2F PBL, you are uniquely placed to reflect on your online experiences. These questions will ask you your opinion of the PBL environment online.

24. What of the below options do you perceive are advantages of PBL online? (**Tick all applicable**)

☐ No travel

☐ Flexibility (ability to partake from any place)

☐ Participate off-campus

☐ More relaxed environment

☐ Time efficient

☐ Reduction in indirect costs (e.g., transport and parking)

☐ Suited my approach to learning

☐ Increased study time

25. Which of the below options do you perceive are barriers of PBL online? (Tick all applicable)

- | | |
|---|---|
| <input type="checkbox"/> Internet connectivity (poor audio/ visual quality) | <input type="checkbox"/> Lack of devices |
| <input type="checkbox"/> Environmental distractions | <input type="checkbox"/> Lack of motivation |
| <input type="checkbox"/> Lack of space | <input type="checkbox"/> Difficulty concentrating |
| <input type="checkbox"/> Social isolation | <input type="checkbox"/> Other |

You will now be asked to rate the following statements about your PBL experience online with 1 = strongly disagree and 5 = strongly agree.

26. I feel online PBL is as effective as F2F PBL.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

27. I prefer online PBL to F2F PBL.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

28. My internet connection can be problematic.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

29. I enjoy PBL online.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

30. Please explain your answer to Q29

Overall Perspectives

Given your familiarity with F2F PBL, you are uniquely positioned to reflect on your online experiences. These questions will ask your overall opinion of PBL online.

31. What do you feel are the barriers to PBL online?

32. What are your positive experiences of PBL online?

33. How would you change PBL online if you had the opportunity to do so? Why do you think this would be more effective?

34. What aspects of the PBL process online would you keep the same?

35. What advice would you give a student starting PBL online for the first time?

36. What format do you prefer?

☐ Online PBL

☐ F2F PBL

37. Please indicate your preference with regard to future use of online PBL

More ☐

Less ☐

None ☐

No preference ☐

38. The COVID-19 pandemic has undoubtedly impacted delivery of PBL at NAMED UNIVERSITY . Please describe your perception of these changes.

Do you have any further comments?

Table 4- Supplementary Material

Survey Instrument- Facilitator Version

An exploration of student and facilitator perspectives of problem-based learning (PBL) online.

The survey should take you approximately 10 minutes to complete. Given your familiarity with F2F PBL, you are uniquely placed to reflect on you online experiences.

Thank you for taking the time to participate.

Participation eligibility

I am

☐ 2nd year Speech and Language Therapy Facilitator

☐ 3rd year Speech and Language Therapy Facilitator

Please state your age: ____

1. Experience of Online Video Communication

1. Would you consider yourself technologically competent?

☐ Yes

☐ No

2. How often did you use online video communication (e.g., Zoom, Facetime, Snapchat) **outside of the educational setting before** starting PBL online at NAMED UNIVERSITY ?

☐ Daily 0-1 hours

☐ Few times a week

☐ Daily 2-3 hours

☐ Fortnightly

☐ Daily 4-5 hours

☐ Monthly

☐ Daily 5 + hours

☐ No experience

☐ Once a week

3. **Within the educational setting**, please indicate time spent on online video communication **before** starting PBL online at NAMED UNIVERSITY ?

- ☐ Daily 0-1 hours
 ☐ Few times a week
☐ Daily 2-3 hours
 ☐ Fortnightly
☐ Daily 4-5 hours
 ☐ Monthly
☐ Daily 5 + hours
 ☐ No experience
☐ Once a week

4. How many tutorials of online PBL have you facilitated at NAMED UNIVERSITY ? ____

Evaluation of Microsoft Teams

These questions will ask you to evaluate your experience of Microsoft Teams as an online video-conferencing platform, and suitability for the delivery of PBL online. You will now be asked to rate the following statements with 1 = strongly disagree and 5 = strongly agree.

5. Microsoft Teams is easy to use

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Microsoft Teams is a suitable platform to conduct PBL online.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Please rate the following features of Microsoft Teams in terms of importance with 1 = least important and 5 = most important.

	Least important	Somewhat Important	Neutral	Very important	Most important
Chat based function	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hand raising tool	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Screenshare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Security	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Create class folders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collaborate live in real time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Does the platform functionality of Microsoft Teams support your ability to learn and interact online?

☐ Yes ☐ No

9. Please list two comments you have about the use of Microsoft Teams as a platform for delivering PBL online.

Collaborative Learning

These questions will ask you about the student group learning process online. Please rate the following statements with 1 = strongly disagree and 5 = strongly agree.

10. Compared to F2F collaborative PBL learning, I believe PBL online leads to:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
More difficulty interpreting non-verbal communication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More difficulty establishing group dynamics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More comfort expressing my views	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enhanced flow of conversation during discussion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An increase in uneven contributions from students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of spontaneous interactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Do you think group collaboration during online PBL differed from F2F PBL?

☐ Yes

☐ No

12. Please explain your answer to Q 11.

Quality of Individual Learning

The questions will ask you to evaluate the quality of your individual student learning during PBL online. Please rate the following statements, with 1 = strongly disagree and 5 = strongly agree.

13. Students take a less active role in the PBL process online.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. I believe the depth of discussion online is as effective as F2F PBL.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. PBL online enhanced students' ability to deeply process content (e.g., better acquisition and understanding of knowledge)

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. Students take more responsibility for self-directed learning online.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. I think the quality of learning outcomes during PBL online is equal to F2F PBL learning outcomes.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. It is more challenging for students to integrate knowledge from online PBL and online supplemental lectures and workshops (e.g., Anatomy, Speech and Hearing Sciences, Research Methods)

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Do you think the quality of individual student learning during PBL online differed from F2F PBL?

☐Yes

☐No

20. Please explain your answer to Q 19.

Role of the Facilitator

These questions will ask you about your role as facilitator during PBL online. Please rate the following statements with 1 = strongly disagree and 5 = strongly agree.

21. During PBL online I think the facilitator...

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Communicates expectations for student participation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has a greater role in managing group dynamics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has to intervene more often during group processes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is consulted more often in relation to content knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provides satisfactory feedback about group participation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22. Do you undertake additional preparation to facilitate PBL online?

☐ Yes

☐ No

23. Do you have to undertake the additional role of technical support during PBL online?

☐ Yes

☐ No

24. Do you think the tutor role in PBL online differed from F2F PBL?

☐ Yes

☐ No

25. Please explain your answer to Q 24.

Perspectives of the PBL Environment Online

Given your familiarity the F2FPBL, you are uniquely placed to reflect on your online experiences. These questions will ask you your opinion of the PBL environment online.

26. What of the below options do you perceive are advantages of PBL online?(**Tick all applicable**)

☐ No travel

☐ Flexibility (ability to partake from any place)

☐ Participate off-campus

☐ More relaxed environment

☐ Time efficient

☐ Reduction in indirect costs (e.g., transport and parking)

☐ Increased tutorial preparation time

☐ Other

27. Which of the below options do you perceive are barriers of PBL online? (Tick all applicable)

- | | |
|---|---|
| <input type="checkbox"/> Internet connectivity (poor audio/ visual quality) | <input type="checkbox"/> Lack of devices |
| <input type="checkbox"/> Environmental distractions | <input type="checkbox"/> Lack of motivation |
| <input type="checkbox"/> Lack of space | <input type="checkbox"/> Difficulty concentrating |
| <input type="checkbox"/> Social isolation | <input type="checkbox"/> Other |

You will now be asked to rate the following statements about your PBL experience online with 1 = strongly disagree and 5 = strongly agree.

28. I feel online PBL is as effective as F2F PBL.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

29. I prefer online PBL to F2F PBL

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

30. My internet connection can be problematic.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
○	○	○	○	○

31. I enjoy PBL online.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

32. Please explain your answer to Q31

Overall Perspectives

Given your familiarity with F2F PBL, you are uniquely positioned to reflect on your online experiences. These questions will ask your overall opinion of PBL online.

33. What do you feel are the barriers to PBL online?

34. What are your positive experiences of PBL online?

35. How would you change PBL online if you had the opportunity to do so? Why do you think this would be more effective?

36. What aspects of the PBL process online would you keep the same?

37. What advice would you give a student starting PBL online for the first time?

38. What format do you prefer?

☐ Online PBL

☐ F2F PBL

39. Please indicate your preference with regard to future use of online PBL

More ☐

Less ☐

None ☐

No preference ☐

40. The COVID-19 pandemic has undoubtedly impacted delivery of PBL at NAMED UNIVERISTY. Please describe your perception of these changes.

Do you have any further comments?