

SUPPLEMENTARY TABLE 1 | The Technology Use and Attitudes in Music Learning Survey.

Section 1: Demographics

1. Age *[open numerical response]*
2. Sex *[female; male]*
3. Nationality *[open response]*
4. Country of residence *[open response]*
5. What is your primary instrument? *[list]*
6. For how many years have you studied this instrument? *[open numerical response]*
7. For approximately how many hours do you practice on a typical day? *[open numerical response]*
8. Have you taken one-to-one lessons on your primary instrument? *[yes; no]* If yes, for how many years? *[open response]*
9. What is your primary musical genre *[classical; jazz; pop; folk; other]*
10. What best describes your musical activity?
[amateur; student: secondary school; student: undergraduate; student: postgraduate; professional]

Section 2: You and technology

This section examines your use of technology in **day-to-day life**.

11. I am skilled at using these devices *[1 = not at all, 7 = very]*
 - smartphone
 - laptop
 - desktop computer
 - tablet
 - smartwatch
 - television (or large display)
 - video camera (not phone or computer)
 - audio recording device (not phone or computer)
 - sound playback system (not phone or computer)
 - motion tracking device (e.g. Microsoft Kinect)
12. In general, I... *[1 = not at all, 7 = very much]*
 - ...seek out new technologies.
 - ...enjoy using new technologies.
 - ...enjoy learning to use new technologies.
13. Where I use technology in day-to-day life it...
*[extremely unlikely; quite unlikely; slightly unlikely; neither; slightly likely; quite likely; extremely likely]**
 - ...enables me to accomplish day-to-day tasks more quickly.
 - ...improves my performance on day-to-day tasks.
 - ...increases my productivity on day-to-day tasks.
 - ...enhances my effectiveness on day-to-day tasks.
 - ...makes day-to-day tasks easier.
 - ...is useful for day-to-day tasks.
14. The technology I use in day-to-day life...
*[extremely unlikely; quite unlikely; slightly unlikely; neither; slightly likely; quite likely; extremely likely]**
 - ...is easy for me to learn to operate.
 - ...does what I want it to do.
 - ...is clear and understandable.
 - ...is flexible.
 - ...is easy for me to become skilled at.
 - ...is easy to use.

Section 3: You, technology, and your musical activities

This section examines your use of technology in practicing and learning your **primary instrument**.

15. What technologies do you usually have access to when you practise and take lessons? [*practice: yes, no*] [*lessons: yes, no*]
- smartphone
 - laptop
 - desktop computer
 - tablet
 - smartwatch
 - television (or large display)
 - video camera (not phone or computer)
 - audio recording device (not phone or computer)
 - sound playback system (not phone or computer)
 - motion tracking device (e.g. Microsoft Kinect)
 - other
16. Do you usually access the following technologies on a **separate device** (e.g. a digital tuner or video camera) or on your **phone/tablet/etc.**? (*separate device; phone/tablet/etc./neither*)
- metronome; tuner; audio recording; video recording
17. Where I use technology in practicing and learning my primary instrument, it is because... [*1 = not at all, 7 = very much*]**
- ...it helps me reach my goals.
 - ...it saves me time.
 - ...it is readily available.
 - ...it is required.
 - ...it is inexpensive.
 - ...I am knowledgeable about using technology.
 - ...using technology is easy.
 - ...it is useful.
 - ...I have enough support.
18. Where I **don't** use technology in practicing and learning my primary instrument, it is because... [*1 = not at all, 7 = very much*]**
- ...there is not enough time.
 - ...it is not available.
 - ...it is not required.
 - ...it is too expensive.
 - ...I don't know enough about using the technology.
 - ...it is too difficult.
 - ...it is not useful.
 - ...I don't have enough support.
19. I would use more technology in practicing and learning my primary instrument if it were available.
[*extremely unlikely; quite unlikely; slightly unlikely; neither; slightly likely; quite likely; extremely likely*]
20. Where I use technology to practise and learn my primary instrument, it... [*extremely unlikely; quite unlikely; slightly unlikely; neither; slightly likely; quite likely; extremely likely*]*
- ...enables me to learn more quickly.
 - ...improves my performance.
 - ...increases my productivity.
 - ...enhances my effectiveness of my practice.
 - ...makes practising and learning easier.
 - ...is useful.
-

21. The technology I use to learn my primary instrument, it...

*[extremely unlikely; quite unlikely; slightly unlikely; neither; slightly likely; quite likely; extremely likely]**

- ...is easy for me to learn to operate.
 - ...does what I want it to do.
 - ...is clear and understandable.
 - ...is flexible.
 - ...is easy for me to become skilled at.
 - ...is easy to use.
-

Section 4: Your current use of technology in music

This section examines **how often** you use technology in developing particular skills or completing certain activities relating to learning your **primary instrument**.

22. How often do you use **technology** (of any kind) when developing the following? *This is not a complete list and some skills may overlap [1 = never, 7 = always]***

- technical skills
 - *handling the instrument*
 - *timbre (tone quality)*
 - *intonation*
 - *dynamics*
 - *articulation*
 - *posture*
- musical skills
 - *music reading*
 - *rhythmic accuracy*
 - *memorization*
 - *expressiveness*
- ensemble skills (e.g. communication, rehearsing, listening)
- practice skills
 - *planning practice time*
 - *documenting practice activity*
 - *tracking progress*
 - *reviewing teacher feedback*
 - *avoiding injury*
- communication skills (e.g. stage presentation)
- career skills (e.g. networking, budgeting, advertising)
- life skills related to musical activities (e.g. mental and physical health, nutrition)

23. How frequently do you do the following?

[never; yearly; monthly; weekly; multiple times per week; daily; multiple times per day]

- document how practice time is spent (using technology).
- document how practice time is spent (without technology).
- have lessons over video (e.g. Skype or FaceTime).
- record own playing.
- view own playing.
- record others' playing.
- view recordings of others' playing.

Section 5: Your future use of technology

As an extension of the last question on current technology use, this section examines your thoughts concerning **possible future technologies** relating to learning your **primary instrument**.

24. How useful do you think **new technologies could be** in developing the following skills relating to your primary instrument?
[1 = not at all, 7 = very]***

- technical skills
 - *handling the instrument*
 - *timbre (tone quality)*
 - *intonation*
 - *dynamics*
 - *articulation*
 - *posture*
- musical skills
 - *music reading*
 - *rhythmic accuracy*
 - *memorization*
 - *expressiveness*
- ensemble skills (e.g. communication, rehearsing, listening)
- practice skills
 - *planning practice time*
 - *documenting practice activity*
 - *tracking progress*
 - *reviewing teacher feedback*
 - *avoiding injury*
- communication skills (e.g. stage presentation)
- career skills (e.g. networking, budgeting, advertising)
- life skills related to musical activities (e.g. mental and physical health, nutrition)

25. **Imagine the following scenario:** you have a phone, tablet, or laptop with an application that can record and analyse audio and video of your practice sessions, providing feedback on the execution of technical skills to augment what is learned from weekly lessons with your teacher.

What is your spontaneous reaction to such a scenario? [1 = not at all, 7 = very]

- this scenario is likely to happen.
- this scenario would be useful for learning.
- I would be likely to use this.

26. **Imagine the following scenario:** as above, you have a phone, tablet, or laptop with an application that can record and analyse audio and video of your practice sessions and provide feedback. Your teacher can customize the feedback given and track your progress from their own phone or computer.

What is your spontaneous reaction to such a scenario? [1 = not at all, 7 = very]

- this scenario is likely to happen.
- this scenario would be useful for learning.
- I would be likely to use this.

Section 6: You, technology, and your teaching activities [shown to those who self-reported as active music teachers]

27. How many students do you currently teach? (open response)

28. How does your use of and attitudes toward technology as a **music teacher** compare with your previous responses as a **music performer**? [*less as a teacher; the same; more as a teacher*]

- the amount of technology I use.
- how willing I am to try new technologies.
- the amount of time I have to try new technologies.
- how useful technology is.
- how useful I think technology could be.

29. How often do you use technology (of any kind) when doing the following activities related to **teaching** your primary instrument? [*1 = never, 7 = always*]

- scheduling lessons
 - organizing students' practice time
 - tracking how students spend their practice time
 - tracking students' progress
 - providing feedback
 - advertising for new students
-

*Adapted from Davis (1989)

**Adapted from Gilbert (2015)

***Adapted from Williamon et al. (2017)