Digital Technology in the Music Lesson: Creating Flow

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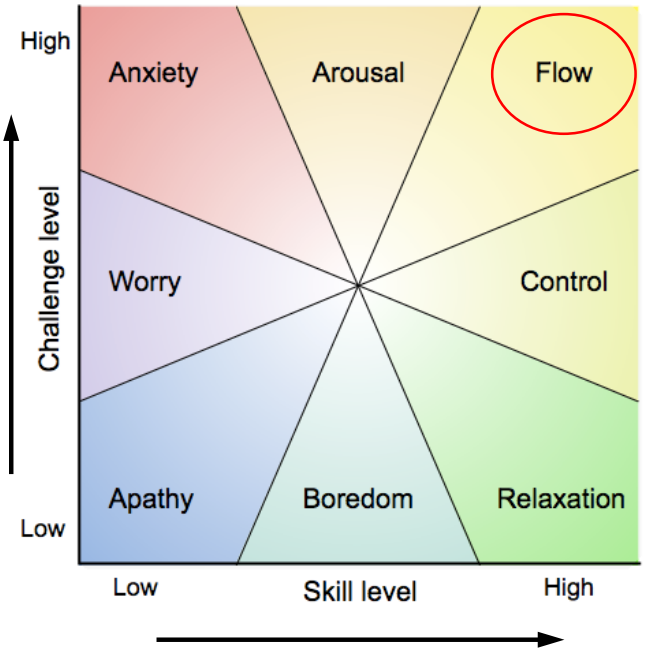
Flow

Flow is a feeling of total engagement where the challenges of the activity and a person's skills to meet them are balanced and high.



Learn more:

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper and Row.

Elements of flow:

1) A Challenging Activity that Requires Skill
2) The Merging of Action and Awareness
3) Clear Goals and Feedback
4) Concentration on the Task at Hand
5) The Paradox of Control (failure is a real possibility but the person feels in control)
6) The Loss of Self-Consciousness
7) The Transformation of Time (appears to speed up or slow down)
8) Autotelic Experience (The experience is an end in itself. *Auto* means self and *telos* means goal. An activity that produces flow is something the person would do even if he or she did not have to.)

Carolyn's Research

The Phenomenology of Flow in Young Piano Learners as they Practice the Piano and Play Video Games

Methodology:
Phenomenological interviews with five teen piano students who play more than seven hours of video games per week. Participants favoured visually intense adventure-type games that transported the players to a virtual world. The interviews asked about lived experiences of piano practice and video gaming, focusing on the four existentials: lived body, lived place, lived time, and lived human relationships.

Results:
Most participants did not experience flow in piano practice but had the most flow-like experiences during video game play.

Three key differences between piano practice and video gaming:

1) Music learning is viewed as work and not play; video games are viewed as pure play with no real-world benefit.
2) Video games present endless challenges; music feels limited by what is visible on the printed page.
3) Video games involve perceived mortal danger, as there are real-time personal and social consequences for mistakes and failure; piano practice is comparatively safe, with no consequences for mistakes.

Learn more:

Wagner, C. (2016). *The phenomenology of flow in young learners and video gamers.* (Master's thesis). Fredericton, NB: University of New Brunswick. https://unbscholar.lib.unb.ca/islandora/object/unbscholar%3A7759

The Myth of the Digital Native

Do not assume your students' cellphone and Internet use at home and at school will automatically translate into a willingness and ability to use digital technology effectively in music learning. Teachers have a responsibility to curate, test, and demonstrate digital tools for their students.

Learn more:

Senkbeil, M., & Ihme, J. M. (2017). Motivational factors predicting ICT literacy: First evidence on the structure of an ICT motivation inventory. *Computers & Education. 108*(May 2017), 145-158.

Digital Technology in Music Instruction

Affordances:

- Instantaneous assessment and feedback
- Independent learning

Limitations:

- Cocktail Party Problem aka Computational Auditory Scene Analysis (CASA): A digital device can only "hear" and decode one note of acoustic music at a time.
- Many music apps can be "gamed" by players who aim to score points rather than learn the skills the app is meant to teach.

Instructional Design Tips for Digital Technology Use

- What is the problem for which this technology is the solution?
- What other technology and activities might this digital technology replace?
- Know your learner! Test digital technology before assigning to students.

Using Digital Technology to Create Flow for Students: Lessons from my Research

1) Provide a visual dimension
    - Apps to organize and record home practice
    - Coach's Eye to show students what they are doing
    - ScoreCloud to show students what they are hearing
    - Decibel meter apps to show students their dynamic variations
    - Metronome apps that show beats & divisions
2) Produce challenges that feel limitless
    - Use digital practice tools to let students "level up" to a new challenge.
    - Have students record or video their polished performances to share with family or peers.
3) Treat music practice as work and not as play
    - Use digital tools to assist in the work, not to gamify practice explicitly
    - To produce beautiful music is its own reward
4) Add a little danger (hard to do with digital tools just yet, but important for flow)
    - Stop students when they make mistakes (like dying in a video game)
    - Loss-aversion can help build concentration skills

References

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper and Row.

Duke, R. A., & Simmons, A. L. (2006). The nature of expertise: Narrative descriptions of 19 common elements observed in the lessons of three renowned artist-teachers. *Bulletin for the Council of Research in Music Education*, *170*, 7-19.

Parkes, K.A., & Wexler, M. (2012). The nature of applied music teaching expertise: Common elements observed in the lessons of three applied teachers. *Bulletin of the Council for Research in Music Education, 193*, 45-62.

Senkbeil, M., & Ihme, J. M. (2017). Motivational factors predicting ICT literacy: First evidence on the structure of an ICT motivation inventory. *Computers & Education. 108*(May 2017), 145-158.

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