

Inter-professional Virtual Classroom Education during COVID-19 Pandemic and Beyond: An Insight from Cerebral Palsy Cases

Chan K.C.¹, Ng Y.M.²

¹The Chinese University of Hong Kong, Hong Kong

²The University of Hong Kong, Hong Kong

Introduction:

The COVID-19 crisis provides opportunities for innovation, and virtual classroom education is popular all over the world. As a joyful heart is a good medicine, some cerebral palsy (CP) cases can play music through an inter-professional virtual classroom to promote holistic health. This inter-professional team is composed of health, social, music, and technical professionals who can help CP cases improve the motor skills, enjoy the musical life, meet the spiritual needs and communicate with societies around the world.

Methods:

A well-designed program, like a musical variation can help CP cases playing the piano in a face-to-face interactive virtual classroom. The program is modified from a 3-step virtual classroom approach for hand hygiene during COVID-19 (Ng & Or, 2020). The method includes:

- 1) assessing perceptual abilities and motor skills of the CP cases,
- 2) designing an effective curriculum plan (with specific and challenging goals) by the inter-professional team
- 3) collaborating with the caregivers or volunteers to assess the outcomes.

Findings:

The preliminary research is ongoing. The anticipated quantitative and qualitative findings include that this inter-professional interactive virtual classroom not only helps promote the holistic life of CP cases, but also enhances the professional competence of the inter-professional team to improve patient care in a collaborative team environment during the COVID-19 and beyond.

Pilot project

- 1) **Rehab centre** – select CP children from The Harmony Charity Centre for Children with Disabilities in Wuhan



CP children's profile

Child	DOB	SEX	Diagnosis	MACS*	Learning capacity
WSJ	21-11-2009	M	Dyskinetic CP	III	Age appropriate
CZC	27-2-2012	M	Epileptic	II	Mild limitation
ZMC	23-1-2014	M	Spastic diplegia CP	II	Age appropriate
LZR	2-8-2006	F	Spastic diplegia CP	II	Age appropriate
ZWQ	28-2-2008	F	Spastic quadriplegia CP	III	Age appropriate
WXS	5-2-2009	F	Dandy walker syndrome	II	Mild limitation
XJJ	18-8-2010	F	Dyskinetic CP	IV	Age appropriate
ZCX	24-12-2011	F	Spastic diplegia CP	II	Age appropriate

*MACS (Manual Ability Classification for children with cerebral palsy):

Level 1 – Handle objects easily and successfully

Level 2 - Handles most objects but with somewhat reduced quality and/or speed of achievement.

Level 3 - . Handles objects with difficulty; needs help to prepare and/or modify activities.

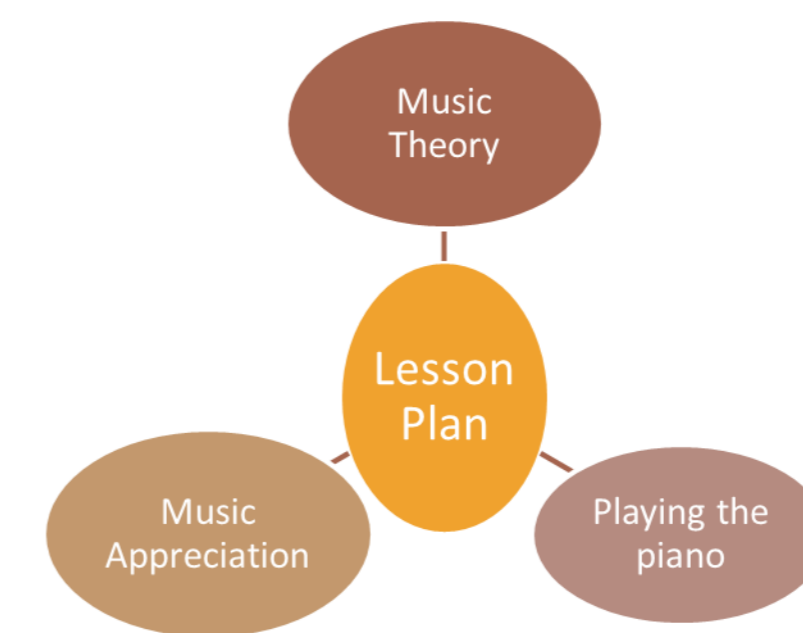
Level 4 - Handles a limited selection of easily managed objects in adapted situations.

Level 5 - Does not handle objects and has severely limited ability to perform even simple actions.

- 2) **Partnership** – conduct the program by

the professional piano teacher teach CP children the musical knowledge, the physiotherapist assists CP children doing their muscle relaxation, and the IT technologist control the electronic devices to operate the virtual classroom smoothly.

- 3) **Curriculum** – design a comprehensive lesson plan and select an appropriate method book for CP children.



- 4) **Sponsorship** – find a donator or music store to donate digital piano for CP children.



Motivation

- Teach a new musical knowledge in each lesson would keep their interest learning to play the piano.
- Record the schedule of their practice would encourage CP children playing the piano.
- Give feedback after watching their performance videos would improve their learning.
- Provide an assessment would enforce their challenge.

Impact

- **Parental support** that parents should schedule the CP children practice records and take videos to the inter-professional team for review their progress.
- The physiotherapist can provide some muscle relaxation exercises to **solve** CP children's motor difficulties.
- The professional piano teacher should help CP children to **develop self-confidence**.
- Give **more encouragement** in order to concern their spiritual need.
- **More patience** to accept CP children as the slow learners.

Observation

- Eight cerebral palsy children show eager learning to play the piano.
- Six cerebral palsy children can follow the program and their motor skills have improvement
- ZWQ withdrew after 2 months due to lack of parental support
- XJJ withdrew after 3 months due to difficulty in individual finger control on the keyboard

Conclusion:

Research has shown that even when considered in physical boundaries (social distance) during the COVID-19 pandemic, an interactive virtual approach can promote the holistic lives of CP cases. Meanwhile, through a collaborative working environment, professional competences can be improved to another level. This insightful approach is important for turning crises into opportunities. It can be extended to other areas such as artificial intelligence medicine, palliative care and well-being collocation.

Key reference:

Ng, Y. M., & Or, P. L. P. Coronavirus (COVID-19) prevention: Virtual classroom education for hand hygiene. Nurse Education in Practice 45, May 2020, 102782. <https://doi.org/10.1016/j.nepr.2020.102782>

This project is sponsored by:

