Press Release

E-Inclusion: HKU Speech, Language and Reading Lab study reveals specific online learning challenges and facilitators experienced by SEN students during the pandemic

Although education was already moving in a digital direction, the COVID-19 pandemic accelerated the transformation from face-to-face to online-remote learning. Though not without its benefits, this transformation also created a number of challenges, especially for students with special educational needs (SEN), including autism spectrum disorders (ASD), attention deficits/hyperactivity disorder (ADHD), specific learning difficulties (SpLD), and speech and language impairments (SLI).

To examine specific online learning challenges experienced by Hong Kong primary school students with and without SEN, Professor Shelley Tong from the Faculty of Education, The University of Hong Kong (HKU), and her research team developed an *Online Learning Attitude Questionnaire (OLAQ)* and an *Online Learning Process Questionnaire (OLPQ)*, and conducted in-depth interviews with SEN students, as well as their parents and teachers. For the initial online survey stage, the team recruited 506 parents/caregivers (327 with a SEN child; 179 with a typically developing (TD) child), 254 students from grades 1 to 6 (158 SEN; 96 TD), and 101 teachers to complete the OLAQ and OLPQ online. Following the survey completion, 25 pairs of SEN-child-and-one-parent, and 21 teachers were selected to participate in a virtual interview regarding their thoughts on online learning, including their concerns and perceived difficulties with this remote-learning modality. Funded by the Equal Opportunities Commission (EOC), this study is the first to promote e-inclusion by highlighting specific online learning challenges experienced by Hong Kong primary school SEN students, as well as their parents and teachers, during the COVID-19 pandemic. Our findings underscore principles for optimising SEN students' online learning effectiveness, and provide practical recommendations to stakeholders for creating an inclusive e-learning environment that mitigates the challenges faced by SEN students in Hong Kong.

KEY FINDINGS

Online Learning Attitude and Effectiveness of Hong Kong Primary School SEN Students

1. Relative to their TD peers, SEN students were consistently perceived by parents and teachers as having a higher level of online learning anxiety and a lower level of e-learning effectiveness, including enjoyment, utilisation, and motivation.

2. Compared to other subtypes of SEN students, those with ASD were perceived by teachers as having higher anxiety and lower time management, while those with ADHD were perceived as having both lower time management and learning engagement.

Specific Barriers and Facilitators to Inclusive E-Learning for Hong Kong Primary School SEN Students

1. Parents and teachers identified facilitators and barriers to SEN students' online learning as follows:

Facilitators
   a) Most SEN students demonstrated adequate proficiency using digital technology to perform online learning.
   b) The game-like activities (with their competitive ranking features) and multimedia e-learning platforms (with their instant feedback) kept SEN students engaged during the online learning experience.

Difficulties
   a) SEN students reported lower learning motivation because of the absence of a physical classroom atmosphere coupled with a feeling of being alone.
   b) SEN students experienced difficulties building friendships because of decreased social interactions with teachers and classmates.
   c) Most SEN students reported a decline in their academic performance because of the lack of both handwritten notetaking and in-class practice.

2. Different subtypes of SEN students reported specific difficulties during online classes.
   a) ADHD students experienced the difficulty of staying focused because of the accessibility of non-learning-related online material.
   b) ASD students had fewer opportunities to learn social skills and social rules, causing their social communication to decline.
   c) SpLD students found it difficult to improve their writing skills because of the lack of handwriting practice.
   d) SLI students experienced difficulty expressing ideas because of the limited time of online classes and lack of professional support.
   e) Because of the lack of emotional and attentional management, students with multiple SEN had more difficulties in learning skills and acquiring knowledge compared to students with one type of SEN.

3. Parents of SEN students expressed their concerns on how to monitor their children's online learning processes and the use of different online learning platforms. Teachers reported difficulties in re-designing online class activities to meet the specific needs of SEN students.

RECOMMENDATIONS

For teacher and clinical practitioner training institutions in Hong Kong

1. These institutions are encouraged to incorporate digital technology training into the curriculum, which will enhance their trainees' ability to design online content for students with different subtypes of SEN.
2. These institutions should provide workshops and courses to help their trainees better understand issues of mental health and well-being of SEN students and their parents/caregivers.

For primary schools in Hong Kong

1. These schools should provide digital technology training so that teachers can learn how to create regular structured online learning activities and personalised content for SEN students.
2. These schools should provide professional advice to parents of SEN students on how to facilitate their children's online learning.
3. These schools are encouraged to collaborate with researchers to implement less costly and more timely online assessments and interventions for SEN students, such as the Integrated Dyslexic Interface Design (I-DID) developed by the HKU Speech, Language and Reading Lab.

For teachers and clinical practitioners

1. Teachers may take a proactive role in promoting e-inclusion of SEN students by designing well-structured, online class activities and teaching materials specific to each subtype of SEN students.
2. Teachers may also consider organising online classes into more inclusive groups that pair SEN students with TD students.

For parents of SEN students

1. Parents should take a more proactive role in their SEN children's online learning by providing emotional and social support and effectively communicating their concerns with schools and teachers.
2. Parents are encouraged to play a "teacher" role by familiarising themselves with recent advances in cutting-edge technologies that support the development of SEN students, such as strength-deficits integrated assessment and intervention for SEN students.

For the HKSAR Government

1. The Government may consider increasing the funding for researchers to use cutting-edge technologies and rigorous methods to develop evidence-based, multimedia teaching and intervention interfaces for different subtypes of SEN children.
2. To build a more sustainable and inclusive society, the Government may consider providing additional resources to support the mental health and well-being of SEN students and their families.

For the EOC

1. In accordance with their Code of Practice on Education, the EOC should launch initiatives that support and develop online learning curricula for different subtypes of SEN students.

For details of HKU Speech, Language and Reading Lab, please visit https://slrlab.edu.hku.hk/. To view the e-version of this press release, download related photos and presentation file, please visit http://web.edu.hku.hk/press.

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February 9, 2023