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Title: Augmentative and Alternative Communication Devices and Assistive Technology in Music Therapy: How they complement each other

Description: The presentation summarizes an ongoing one-year-long research project, approved by Institutional Review Board's approval of Southwestern Oklahoma State University and financially sponsored by the Oklahoma Center for the Advancement of Science and Technology (OCAST) Intern Research and Development (R & D) Partnership Grant, investigates the effectiveness and identify potential of Augmentative and Alternative Communication (AAC) Devices and Assistive Technology (AT) Devices currently adapted by the treatment team of The Children's Center Rehabilitation Hospital (TCCRH) of Bethany, Oklahoma, in the Music Therapy Setting by first surveying all therapists (Physical Therapists/PT, Occupational Therapists/OT, Speech Therapists/ST, Recreational Therapists/RT, Music Therapist/MT), Special Education Teacher, and Patient Activity Aids who work with children receiving music therapy services. The project will primarily focus on 3 devices and their extended adaptations: the MyTobii (proportional sensor control/PRO via eye movement detections), Big and Little Step-by Step (Switch-Based Control/SBC via physical contacts to the switch), and Vantage Communication Devices (PRO/SBC--touch screen) (Pinheiro, 2011). The survey questions are to clarify the following research questions: (1) How appropriate the currently adopted AAC/AT devices at TCCRH are especially during the music therapy treatments: (a) the biomachanical and bioelectrical signals required to operate the devices in addressing the expressive communication needs, (b) the physical features of the devices: various sizes available for patients with different physical sizes/functioning/strength, etc. (c) accuracy in reflecting clients' communication needs: the amount of vocabularies, the efficiency for clients to access the needed vocabularies, the efficiency for therapists to program the devices to reflect the communication needs of clients? (2) What are other identified concerns on adapting the selected AAC/AT devices in music therapy setting: price, software, hardware, appearance, knowledge and professional supports to the devices, etc.? (3) If there are additional AAC/AT devices the participating professionals are aware of that are operated by other bioelectrical signals in a non-intrusive manner for more effective and efficient communication outcomes? And (4) Do music therapy treatment interventions, if any, help maintain or increase the motivation, frequency, and duration of residents in operating the AAC/AT devices? The Music Therapy Intern will (1) help distribute the survey at the designated staff

meetings, (2) collect the completed surveys from the volunteering participants, (3) help enter the survey results for further analysis by the primary investigator, and (4) monitoring the effectiveness of adjustment in device programming or researching for additional AAC/AT devices for potential adoptions based on the result of first survey. Hypotheses: (1) There will be identifiable factors for improvements from the application of Augmentative and Alternative Communication (AAC) Devices and Assistive Technology (AT) Devices by participating healthcare professionals in the survey study for future technical researches and developments on currently adapted by the Music Therapy program at The Children's Center Rehabilitation Hospital (TCCRH), (2) Music Therapy Treatment Interventions are perceived to help maintain or increase the motivation, frequency, and duration of residents in operating the AAC/AT devices.

References:

- Coyne, D. (2014). *Augmentative and Alternative Communication (AAC) Guidelines for Speech Pathologists Who Support People with a Disability*. New South Wales, Australia: Clinical Innovation and Governance, Ageing Disability and Home Care, Family and Community Services.
- Dymond, S. (October 1995). Augmentative communication assessment. *Four Runner*, 11(2).
- Niemeijer, D.; Donnellan, A. M. & Robledo, J. A. (April 16, 2012). *Taking the Pulse of Augmentative and Alternative Communication on iOS*. Amsterdam, Netherlands: AssistiveWare.
- Pinheiro, Jr., C. G.; Naves, E. L. M.; Pino, P.; Losson, E.; 1, Andrade, A. O. & Bourhis, G. (2011). Alternative communication systems for people with severe motor disabilities: a survey. *BioMedical Engineering OnLine*, 10:31. Retrieved Jan 18, 2016, from <http://www.biomedical-engineering-online.com/content/10/1/31>.
- Visvader, P. (2013). *AAC Basics and Implementation: How to Teach Students who "Talk with Technology"*. Boulder, CO: Assistive Technology Team, Boulder Valley School District.

Abstract: The presentation summarizes a research project investigating on the effectiveness of and identifying potential of Augmentative and Alternative Communication (AAC) Devices and Assistive Technology (AT) Devices, and how music therapy may motivate/improve young clients' usage of AAC/AT in communication. Questions are encouraged after the presentation

Presenter's Short Biography: ChihChen Sophia Lee, PhD, MT-BC, Director of Music Therapy & Professor at the Southwestern Oklahoma State University (USA) and Past President of Southwestern Region of American Music Therapy Association (SWAMTA) is scholarly

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Keyword: (1) Music Therapy, (2) Augmentative and Alternative Communication (AAC), (3) Assistive Technology (AT), (4) Efficiency, (5) Devices

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