DARE TO CHALLENGE AND MAKE A DIFFERENCE: THE SIGNIFICANCE OF TRANSDISCIPLINARITY FOR TRANSFORMATIVE EDUCATION AND KNOWLEDGE MANAGEMENT

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Abstract - The advent of digital era towards Industrial Revolution results in emerging technology-focused trends with changes of landscape in academic settings for science/social science education, language teaching, learning and assessment methods.This paper elaborates part of a larger scale study experienced by the author to enhance transformative educational quality with monitoring and evaluation of transdisciplinary learning outcomes supported by emerging technologies. Review of literature includes aspects of technology-focused Knowledge Management techniques and platforms, Computational Thinking (CT), transdisciplinary learning that promote higher order thinking skills and creativity through science and social science (focusing musical arts) education towards achieving Sustainable Development Goals (SDGs). Mixed-method research designwas implemented integrating 'Design and Development Research' (DDR) to preparetransdisciplinary model as framework.The output was validated through qualitative [e.g.content validation through experts' feedback and 'Exemplary-case Analysis' (ECA)] as well as quantitative [e.g. construct validation of survey through statistical analysis] data collection and analysis techniques. This paper only elaborates on findings of DDR processes from Stage 1 (Needs analysis through literature research and stakeholders' responses) and part of Stage 2 to illustrate design/development of theoretical-methodological framework to bridge the gap of 'Science/Social Science, Technology and Educational Management'(abbreviated as S^3TEdMan). Highlights are made on the framework with elaboration on the needs to cultivate creativity and transdisciplinary learning approaches that reflect SDGs (No.1-17) in all disciplines towards Education for All (EFA) including the underprivileged (such as autistic children from low income families exemplifying learning disability) groups. It is expected that the framework developed could serve as guide forcollaborative researchers from diverse socio-cultural backgrounds who are practitioners for sustainability to design and implement transdisciplinary curriculum as part of sustainable development education.

Keywords - Sustainable Development Education, Transdisciplinary teaching and learning output,Educational quality, DDR, Knowledge Management framework, Exemplary-case Analysis (ECA)