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Face Validation of Learning Malaysian Sign Language Questionnaire (L-MySL-Q): Malaysian Sign Language (MySL) Pro Forma as a Third Language for Adolescents

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Abstract

Malaysian Sign Language (MySL) uses visual-manual modalities for delivering information and communicating involving movements of the finger, hand, arm gestures, and facial expressions. A newly-developed instrument tool: Learning-MySL-Questionnaire (L-MySL-Q) from validated questionnaires [Rogers 1995; ELQ, University of Nottingham, UK] consisting of the diffusion model to gauge willingness and readiness for students to adopt MySL as a third language undergone face validation upon completion of Introduction to MySL Pro Forma lesson. Findings showed positive feedback from respondents compared to pre-intervention among typical children and adolescents. This comprehensive pro forma inculcates a fun learning process while inculcating patriotism among learners.

Keywords: inclusive communication, Malaysian Sign Language, third language, adolescents

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1.0 Introduction

Hearing Loss (DPHL), with a total number of 38, 676 people from a total of 548, 195. In addition, Fellingner et al. (2012) reported that Deaf signers have higher complex mental health needs rates. This issue is compounded by poor mental health access as they lack communication with healthcare personnel. Hence, leaving their social well-being issues unaddressed.

Inclusive Communication in the Community (ICC) amongst children and adolescents can bridge the gap between hearing individuals and individuals who are Deaf, People with Hearing Loss, Speech or Learning disabilities Hindley (2005) stated that children with early-

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onset, severe to profound deafness are more vulnerable to mental health problems than their hearing peers. Since 1970, MySL is the preferred language for communication in Malaysia for the DPHL community. MySL was adopted from ASL (75%) since the 1960s and has linguistics and mannerisms according to different states in Malaysia. The Persons with Disabilities Act 2008 has acknowledged Malaysian Sign Language (Bahasa Isyarat Malaysia – BIM) as an official language for the DPHL in Malaysia. However, its adoption is low, as teachers are still teaching Manually Coded Bahasa Malaysia in Malaysian schools.

2.0 Objectives

This paper aims to explore the best instrument to gauge willingness and readiness for educators and students to adopt MySL as a third language in mainstream schools and the feasibility of nurturing fundamentals for community engagement activities via Inclusive Communication in the Community – ICC from an earlier start among typical and atypical children and adolescents.

3.0 Literature Review

3.1 Inclusive Communication in the Community (ICC)

To decipher ICC, we hypothesized that hearing students will be able to communicate with persons who are Deaf, People with Hearing Loss, or persons with speech or learning disabilities. Hence, communication between these two groups may create a sense of belonging amongst students with disabilities and motivate and encourage atypical students to be more engaged in school activities, i.e. learning and extra-curricular activities. In addition, DPHL faces communication challenges such as lack of information, poor communication, and unnecessary difficulties on a daily basis within the comforts of home, during their journey to work, at their schools or workplace, and in significant places such as the clinic or hospital; at banks, government offices (i.e., National Registration Council, Department of Social Welfare, Police Station).

Primarily, literature reviews substantiated the connection between the theoretical constructs of education and inclusive education environments. Based on recent worldwide studies, local Sign Language (SL) has been introduced as a language option in some states in the United States (2004) and Scotland (2014). This has clearly demonstrated the introduction of local sign languages as a specific combination of adaptive and ubiquitous learning formats that may be able to produce an Inclusive Communication in the Community network.

Dingwall Academy, a Scottish high school, introduced BSL as a language option and promotes volunteering in the community. Kinsman (2014) showed that several students were actively involved in the National Deaf Children Society (NDCS), befriending other deaf students and hearing siblings. In addition to providing volunteer services, students find further opportunities to practice and develop their BSL skills. An example of ICC was portrayed when BSL students assisted a local Brownie pack in helping with communication, and a deaf Brownie was able to join in without relying on her mother.

3.2 Language Deprivation and Emotional Behaviour Difficulties

Studies show a correlation between language deprivation and its effects on emotional perspective, especially to atypical children. Kelly et al. (2009) explored whether gestures played a role in andragogy language learning. The main findings in the study demonstrated that words learned with gesture produced a larger indexing recollection termed as Late Positive Complex in bi-lateral parietal sites than words learned without gesture. Consolidating the benefit of sign language in language acquisition.

3.3 Introduction to MySL Pro Forma

The Introduction to MySL Pro Forma was created by content experts and insights provided by MySL instructors. Innovation in the pedagogy of Malaysian Sign Language includes incorporating Malaysia's national anthem, Negaraku, and culturally relevant sub-topics where students learn how to sign the names of States in Malaysia. These subtopics in MySL pro forma include citizenship education and patriotism to learners incredibly adaptive to both auditory and kinesthetic learners. In addition, inculcating inclusive communication among typical (hearing) and DPHL (deaf and people with hearing loss) children and adolescents.

3.3.1 Delivery of the Introduction to MySL Pro Forma

Multiple revisions of pro forma were made over the past two years during the pandemic. All MySL instructors involved in this study were calibrated prior to Face Validation of the selected instrument tools. 66.67% of the calibrated MySL instructors for this pro forma in this study are DPHL.

4.0 Instrument Tool for Innovative Education Pro Forma

The introduction of a new third language Pro Forma by an educator and education system is a consequence of multiple factors. Research on the diffusion or adoption of innovations suggests that several themes come into the game. Hence, we initiated an empirical investigation by sieving through instruments best used to portray the success of an innovative education pro forma introduced at all tiers of the Malaysian

community. In 2019, Lefèvre et al. advocated using qualitative methods for research in adolescent healthcare. Hence, researchers substantially vetted the pro forma and assessment tools utilised in this study.

4.1 Development of Learning Malaysian Sign Language Questionnaire (L-MySL-Q)

A quantitative instrument tool from validated questionnaires [Rogers 1995; ELQ, University of Nottingham, UK] consisting of the diffusion model to gauge willingness and readiness for students to adopt MySL as a third language was developed. Preparation of the Learning Malaysian Sign Language Questionnaire (L-MySL-Q) was done during the first phase of the research.

Table 1.0 Categories in Roger's Diffusion of Innovation Theory.

Adopter Categories	Description
Relative Advantage	The degree to which an innovation is seen as better than the idea, programme, or product it replaces.
Compatibility	How consistent the innovation is with the potential adopters' values, experiences, and needs.
Complexity	How difficult the innovation is to understand and/or use.
Trialability	The extent to which the innovation can be tested or experimented with before a commitment to adopt is made.
Observability	The extent to which the innovation provides tangible results.

L-MySL-Q was designed with Section A inquiring six demographic questions, where Question 6 investigated subjects' current language use for speaking, reading, and writing; familiarity with any sign language; any previous experience in learning sign language; any family members of DPHL group and family support in learning sign language. Section B of L-MySL-Q investigated subjects' feelings prior to the MySL lesson, while Section C estimated how subjects felt after the lesson.

Table 2.0 L-MySL-Q: Section C Domains

Section C: Post-Test		
Part 1	C1-C10	Response to deaf culture and MySL (Mixed Positive and Negative Domains)
Part 2	C11-C20	Response to understanding and knowledge acquisition on what was taught in the new lesson
Part 3	C21-C30	Response in taking the first move to create an inclusive communication (Positive Domains)
Part 4	C31-C40	Response to class environment, delivery of the lesson, duration of the lesson

4.2 Design Construction of L-MySL-Q for Children and Adolescents

Prior to validation of the questionnaire, researchers outlined the design of the questionnaire to be more attractive and less intimidating to respondents as the target participants were children and adolescents. Essential design tips included large, not too crowded with text and legible fonts, Visual Analogue Score (VAS) as per traffic lights' colours depicting levels of agreement from a scale of 1 to 4, ranging from Strongly Disagree to Strongly Agree.

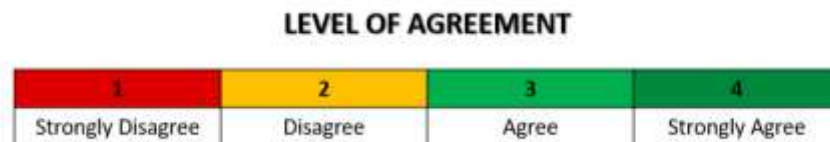


Fig. 1: Visual Analogue Score showing colour-coded scoring based on the perception of young respondents.

4.3 Validation of Learning Malaysian Sign Language Questionnaire (L-MySL-Q)



Fig.2: Questionnaire Validation Process

Validation of Learning Malaysian Sign Language Questionnaire (L-MySL-Q) entails four validation steps: content validation, face validation, construct validation, and criterion-related validation, as depicted in Diagram 1.0. To assess the quantitative content validity of the questionnaire, seven people participated in the panel of experts: 1 education expert for the special needs community, one education expert, one medical researcher, and four academic researchers to review the questionnaire and exchange views in a face-to-face meeting. Experts were told that the questionnaire would be an evaluative tool designed to gauge the willingness and readiness of educators and students to adopt MySL as a third language in mainstream schools. After carefully studying the questionnaire, they were asked to consider and comment on the four criteria of clarity, simplicity, transparency, and relevance of items to access willingness and readiness. Then, L-MySL-Q was amended according to the expert feedback and used in the face validation. Finally, L-MySL-Q was amended according to the expert feedback and used in the face validation.

Face validity is the degree to which a measure appears to be related to a specific construct in the judgment of non-experts such as educators and students (in this study). In other words, face validity refers to researchers' subjective assessments of the presentation and relevance of the measuring instrument as to whether the items in the instrument appear to be relevant, reasonable, unambiguous, and clear. Face validation comprising the instrument tool was conducted in collaboration with Research Group: Sustaining Quality of Life, Universiti Teknologi MARA. The purpose of face validation was to test the reliability, design, grammar, and time spent answering the questionnaire. 15 adolescents ranging from 8 to 17 years old participated in this session. The study included children and adolescents who met the inclusion and exclusion criteria and whose parents agreed to participate in the study. Results obtained from the face validation were used to improve L-MySL-Q to an optimal level for subjects to answer in the second phase of the research. Face validation of L-MySL-Q included kids diagnosed with High Function Autism and Attention Deficit Hyperactivity Disorder (ADHD). Children and adolescents with severe mental illness, physical disability, chronic illnesses, and those confirmed with COVID-19 infection were excluded from the study.

4.4 Ethics

The Education Planning and Research Division, Ministry of Education approved this study [KPM.600-3/2/3-eras (7806)]. Initially, parents or legal guardians who verbally consented to their children's participation in the study received participant information sheets containing all pertinent details regarding the aim and course of the study, possible inconveniences related to participation, and information regarding the possibility of withdrawal at will. Parents signed an informed participation consent form prepared according to the Ethical Commission's guidelines on the day of the study. All personal information related to the study was encrypted by registration number and securely stored in a stand-alone, password-secured computer.

5.0 Findings

International research is currently advocating for a more participatory approach, especially in research pertaining to adolescents' health and health-related behaviour. 27% of respondents were male, with a majority of respondents being female (11 respondents). All respondents responded unanimously that their mother tongue was Bahasa Malaysia and English as their second language. A ratio of 1:3 respondents are able to speak, read and write in two languages; another 5 respondents are learning a third language, mainly Arabic and Mandarin. This paper incorporated a comprehensive literature review and identified the design criteria for the questionnaire from previous studies. Findings showed positive feedback from respondents in comparison to pre-intervention among typical children and adolescents.

Table 3.0 Face Validation Response of L-MySL-Q

	Reliability, Design, Grammar, and Duration of L-MySL-Q	Number of Subjects (Total: 15)
1.	Subjects agreed that simple English was used in the questionnaire	13
2.	Subjects preferred the questionnaire in Bahasa Malaysia	2
3.	Subjects had ample time to answer the questionnaire	15
4.	Subjects preferred to 4-point Visual Analogue Scale (VAS) in the questionnaire	15
5.	Subjects asked for help while answering the questionnaire	2 (<12 years old)

6.0 Discussions

International research is currently advocating for a more participatory approach, especially in research pertaining to adolescents' health and health-related behaviour. Hence, instrument tools must be validated and attain appropriate outcome measures prior to the actual study. Studies are usually conducted based on the researchers' duration of the study and based on levels of research. Quantitative instrument tools routinely measure pre-determined outcomes, comprises "close-ended" questions and specific-related queries such as aptitude test, intelligence test, diagnostic test, and competency test. Utilising a quantitative assessment method for adolescents involved long research protocols, and the actual phase of the study was postponed due to restrictions of movements during the pandemic. Hence, the assessment of diffusion of the Introduction to MySL Pro Forma was further supported by Focus Group Discussions (FGD) in this study, as recommended by Colquhoun et al. (2017). The Introduction to MySL Pro Forma could not be tested in a school environment due to school closures during the COVID-19 pandemic. However, as 1:3 of our MySL instructors in this study were DPHL and learners targeted from 8 to 17 years old, they recommended face-to-face teaching.

The results from this study will contribute to the development of an analytical methodology for a better understanding of the instrument tools utilised in the selected environment by gauging recognition and response to the diverse needs of students while also having a continuum of support and services to match these needs (Snoddon, 2015). Furthermore, results from this study may pave the way for the benefit of community inclusive communication by assessing cognitive variables such as emotional intelligence when atypical school children communicate with typical school children in a common language, namely, MySL. Uniting a nation through a taste of Malaysian Sign Language on the tongue may open hearts and eyes to blossoming inclusivity of equal opportunities for all.

7.0 Future Plan

In this study, researchers designed an innovative "outside-the-box" educational programme to increase communication between typical and atypical children and adolescents. Future studies will assess the criterion-related validity of the questionnaire, and researchers will conduct construct validity and reliability from the pilot data collection in order to measure the L-MySL-Q instrument. Construct validity is a tool routinely used in the field of social sciences, education, and psychology. In Phase 2 of this study, construct validity will determine the degree to which the L-MySL-Q measures the intended aspects and will be assessed using confirmatory factor analysis (CFA). The reliability will be evaluated by comparing the L-MySL-Q from the reliability study to determine test-retest reliability. Furthermore, the internal consistency of the short form will be examined.

8.0 Conclusions

Overall, this paper has met the objectives proposed at the beginning of the study to assess the best instrument tool in gauging the willingness and acceptance of typical children and adolescents in learning a new language, specifically Malaysian Sign Language. Here we can conclude that this questionnaire derived from Rogers's Diffusion of Innovation Theory adequately covers quantitative domains. Moreover, the questions' design and order are suitable for younger respondents to answer within the allocated time. The amended questionnaire consists of 55 items and three conceptually distinct subscales: The first part demographic included language information, the second part focused on subjects' feelings pre-MySL lesson, and the final part was to capture subjects' feelings post-MySL lesson.

9.0 Impact and Implications

From Face Validation, this comprehensive Introduction to MySL Pro Forma inculcates a fun learning process while inculcating locality and patriotism among learners. Most children and adolescents reported that they enjoyed signing names of the states in Malaysia and learning how to sing the national anthem, *NegaraKu*, in MySL. A majority of the participants wanted to learn more MySL. Researchers are grateful and overwhelmed by how the "Introduction to MySL" lesson initiated a positive attitude toward learning MySL and further increased confidence to communicate with PWHd among the respondents. These findings strongly show that by introducing MySL as an alternative language officially at Malaysian schools, we can strengthen social protection against poverty, household consumption, and inequality. Amendments to the Learning Malaysian Sign Language Questionnaire are currently underway before embarking on the actual study, which includes an array of students from diverse economic backgrounds in Malaysia, i.e., B40 (Lower-income class), M40 (Middle-income class), and T20 (High-income class).

Based on this research framework, we aspire toward Malaysia's Sustainable Developmental Goals based on the United Nation's Sustainable Development Goals (2030) by achieving 3 out of 6 strategic thrusts as per below:

- a) Enhance inclusiveness towards an equitable society to ensure all Malaysians benefit from economic growth regardless of gender, ethnicity, socio-economic status, or geographic location;
- b) Improve mental and social well-being for all to promote a socially advanced Malaysia with healthy individuals and happy households, living in cohesive and united communities;
- c) Accelerate human capital development for an advanced nation to improve labour productivity, deliver a higher-skilled workforce, and create a virtuous cycle of job creation, growth, and social development.

In addition, results from this pilot study on L-MySL-Q further supports United Nations' Economic and Social Commission for Asia and the Pacific (ESCAP) disability-inclusion advocacy to leave no one behind in reaching sustainable development goals.

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Paper Contribution to Related Field of Study

Language education does not merely cover the scope of Communications or Community engagement; by creating an avenue for a common language between typical and DPHL, the social psychology of both parties would be enhanced, and reduce unnecessary stress or mitigate uproars and trauma to the deaf community where a sense of belonging and safety is crucial for the development of the mind and physical health. In addition, the findings of this study will support social psychology not only for the PWHd but also for parents and carer(s).

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