

Sign language communication training: Impact on dental students' empathy, learning experiences and attitudes towards people with disability

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INTRODUCTION

People with hearing and/or speech impairments (HSI) demonstrated:

- poor oral health status
- high burden of oral diseases
- low dental attendance

(Sandeep 2016)



INTRODUCTION

PATIENTS' PERCEPTION:

- Difficult to communicate with the dental team
- Dentists demonstrated
 - ✓ Lack of empathy
 - ✓ Lack of competence

(AlShehri 2018)

DENTAL STUDENTS' PERCEPTION:

- Lack of comfort in managing patients with HSI
- Inadequate clinical exposure and training at undergraduate level

(Ahmad 2015)



INTRODUCTION

Dentists need to learn an effective method to communicate with HSI patients

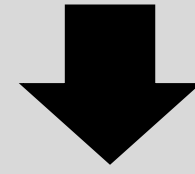
SIGN LANGUAGE COMMUNICATION TRAINING



↑ DENTAL
ATTENDANCE



↑ TREATMENT
PROVISION



↑ CHAIRSIDE
COOPERATION
& ATTITUDE

(Jones 2018, Renahan 2017)



INTRODUCTION

Impact of sign language communication training on learners (i.e. dental students) has NOT been thoroughly explored





OBJECTIVES

- To evaluate the impact of training in sign language communication (SLC) on dental students' empathy and attitudes towards people with disabilities;
- To determine dental students' perceptions of training in SLC.

METHODOLOGY

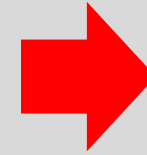


28 first year dental students were randomly selected to participate in the SLC course in the first semester of the 2019/2020 academic year.



PRE-INTERVENTION:

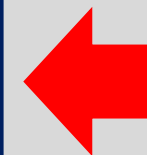
Participants answered the
1. Toronto Empathy Questionnaire (TEQ);
2. Attitudes towards Disabled Persons (ATDP) questionnaire.



Participants underwent the SLC training program.

Program content:

1. A 14-hour hands-on practical session (delivered over 7 weeks);
2. A 3-hour field trip to a Deaf school to conduct activities in sign language.



POST-INTERVENTION:

Participants answered the
1. Toronto Empathy Questionnaire (TEQ);
2. Attitudes towards Disabled Persons (ATDP) questionnaire.

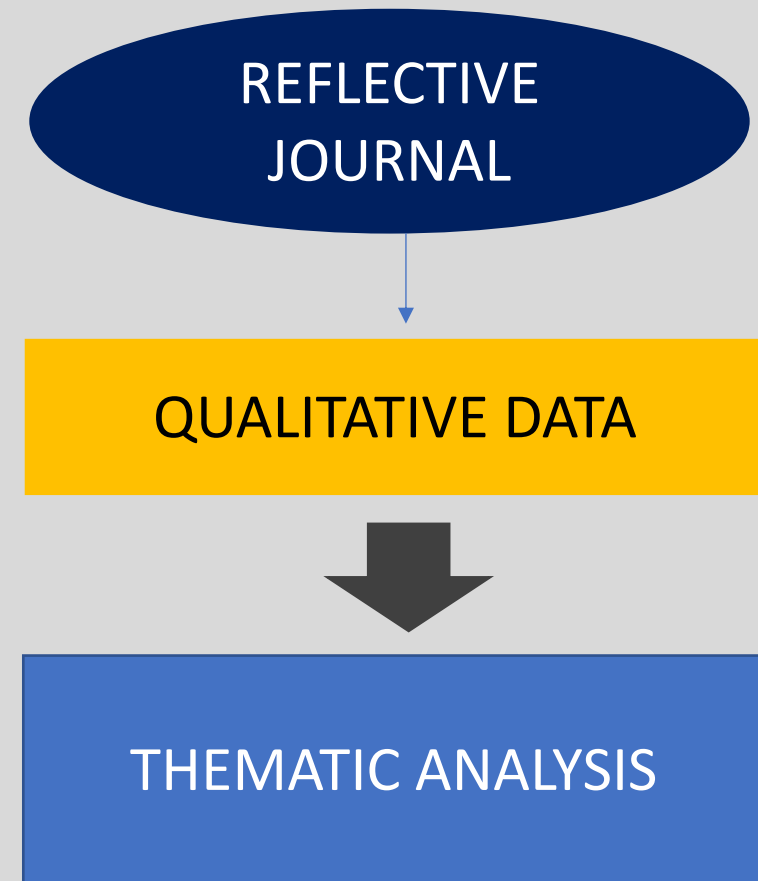
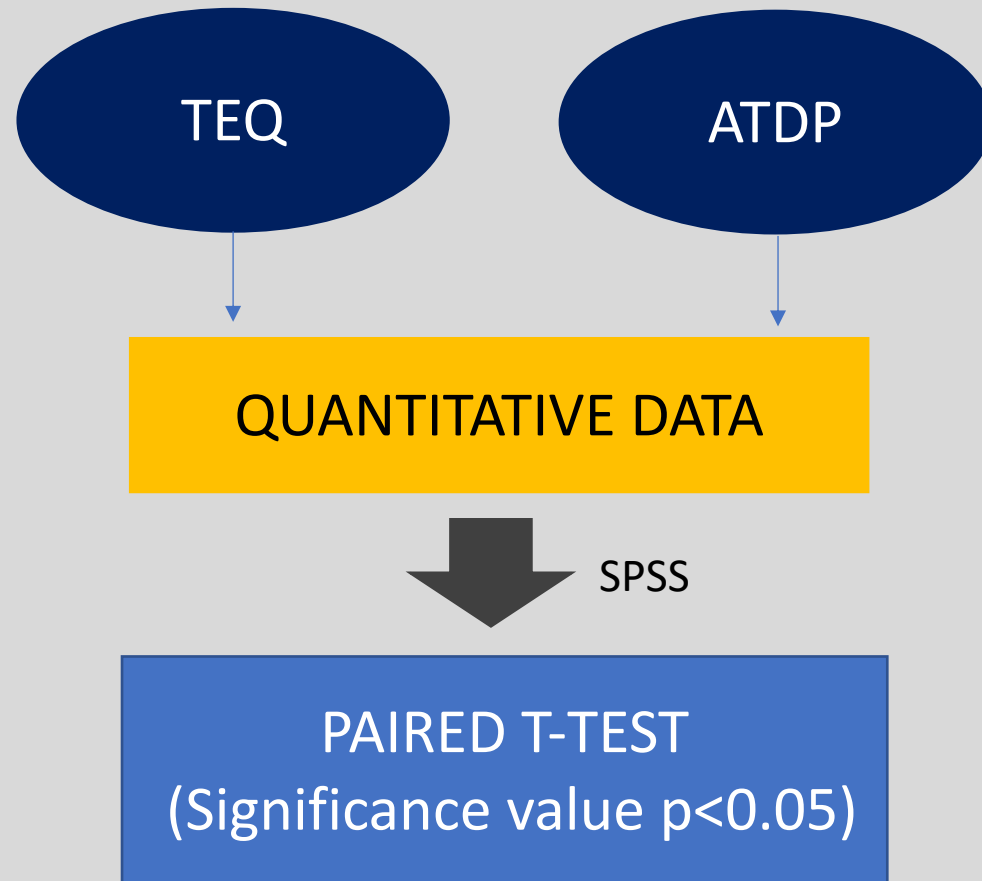


POST-INTERVENTION:

Students also wrote a reflective journal to note their perceptions of the learning program and experiences during the visit to a Deaf school.



DATA ANALYSIS





RESULTS

1) Improvements of students' level of empathy:

Following the program, participants demonstrated a **SIGNIFICANT INCREASE** in:

- total mean empathy score of the TEQ
($p=0.002$, 95% CI of mean difference -8.219, -2.138).

Pre-test score (SD)	Post-test score (SD)	Mean difference (95% CI)	t statistics (df)	p value
47.1 (± 6.99)	52.3 (± 4.88)	-5.18 (-8.22, -2.14)	-3.50 (27)	0.002



RESULTS

1) Improvements of students' level of empathy:

Following the program, participants demonstrated a **SIGNIFICANT INCREASE** in:

- individual mean scores for 9 (out of 16) items of the TEQ ($p < 0.05$).



Individual items of the TEQ with significant increase in mean empathy score ($p < 0.05$)

Item Number	Item description	Pre-test score (SD)	Post-test score (SD)	Mean difference (95% CI)	t statistics (df)	p value
2	<i>Other people's <u>misfortune</u> does disturb me a great deal</i>	2.46 (± 0.64)	3.00 (± 0.67)	-5.36 (-0.89, -0.18)	-3.07 (27)	0.005
5	<i>I enjoy making other people feel <u>better</u></i>	3.50 (± 0.51)	3.79 (± 0.42)	-0.29 (-0.54, -0.03)	-2.30 (27)	0.030
6	<i>I have tender <u>concerns</u> for people less fortunate than me</i>	3.11 (± 0.74)	3.54 (± 0.64)	-0.43 (-0.75, -0.11)	-2.71 (27)	0.011
9	<i>I find that I am '<u>in tune</u>' with other people's moods</i>	2.36 (± 0.87)	2.86 (± 0.76)	-0.50 (-0.92, -0.09)	-2.47 (27)	0.020
10	<i>I feel <u>sympathy</u> for people who cause their own serious illness</i>	2.64 (± 1.03)	3.29 (± 0.66)	-0.64 (-1.06, -0.23)	-3.20 (27)	0.003



Individual items of the TEQ with significant increase in mean empathy score ($p < 0.05$)

Item Number	Item description	Pre-test score (SD)	Post-test score (SD)	Mean difference (95% CI)	t statistics (df)	p value
11	<i>I do not become <u>irritated</u> when someone cries</i>	2.43 (± 1.00)	3.11 (± 0.57)	-0.68 (-1.14, -0.22)	-3.02 (27)	0.005
12	<i>I am not really <u>interested</u> in how other people feel</i>	2.89 (± 1.03)	3.43 (± 0.50)	-0.54 (-1.00, -0.07)	-2.36 (27)	0.026
13	<i>I get a strong urge to <u>help</u> when I see someone who is upset</i>	3.04 (± 0.88)	3.50 (± 0.51)	-0.46 (-0.85, -0.08)	-2.46 (27)	0.021
14	<i>When I see someone being treated <u>unfairly</u>, I do not feel very much pity for them</i>	3.39 (± 0.63)	3.68 (± 0.48)	-0.286 (-0.54, -0.05)	-2.30 (27)	0.030



RESULTS

2) Improvements of students' attitudes towards people with disability:

Following the program, participants demonstrated a **SIGNIFICANT INCREASE** in ATDP mean score

($p=0.048$, 95% CI of mean difference -11.020, -0.051).

Pre-test score (SD)	Post-test score (SD)	Mean difference (95% CI)	t statistics (df)	p value
62.5 (± 13.51)	68.0 (± 7.13)	-5.54 (-11.02, -0.05)	-2.07 (27)	0.048



RESULTS

3) Students' perceptions of learning experience

Students opined that the learning program:

Theme 1: Enhanced disability awareness

Subtheme 1: Awareness of Deaf culture and disability issues

"I learned to understand the do's and don'ts in the life of Deaf people. For example, how to 'call' them and where to touch them to alert them. This is very important for us, future dentist to know".



RESULTS

3) Students' perceptions of learning experience

Students opined that the learning program:

Theme 1: Enhanced disability awareness

Subtheme 2: Empowerment of disability advocacy

"I would use this experience to reach out to more special needs community to provide my services, to help those who feel disadvantaged to meet healthcare providers due to communication barriers".



RESULTS

3) Students' perceptions of learning experience

Students opined that the learning program:

Theme 2: Encouraged acquisition of skills

Subtheme 1: Communication skill

“Previously, I do not have the experience with people with disability. After the program, I am glad that I get to experience communicating and interacting with them. I feel more confident now if I were to meet another deaf kids again”.



RESULTS

3) Students' perceptions of learning experience

Students opined that the learning program:

Theme 2: Encouraged acquisition of skills

Subtheme 2: Thinking and memorising abilities

"It was not easy to remember the signs for each words, which demands good memories and consistent practice. It gives my brain a good workout".



RESULTS

3) Students' perceptions of learning experience

Students opined that the learning program:

Theme 2: Encouraged acquisition of skills

Subtheme 3: Teamwork

"Everyone was committed and contributed well when planning and preparing for the visit. It was a good experience".



RESULTS

3) Students' perceptions of learning experience

Students opined that the learning program:

Theme 3: Improved their personal values or beliefs

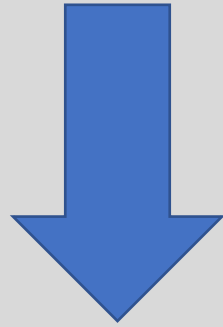
"This experience makes me feel very humble and grateful for the things I have".

"I believe that being a doctor or a dentist requires you to be kind and empathetic towards other people, especially those with special needs".



DISCUSSION

SIGN LANGUAGE COMMUNICATION TRAINING



IMPROVED
EMPATHY

Dental students
demonstrated declining
level of empathy as they
progressed through their
studies

- Narang 2019

DISCUSSION



SIGN LANGUAGE COMMUNICATION TRAINING



IMPROVED PERSONAL VALUES
& BELIEFS;
IMPROVED ATTITUDES
TOWARDS PEOPLE WITH
DISABILITY;
ENHANCED DISABILITY
AWARENESS



Values that define
professionalism in dental
practice:
Fairness, integrity,
responsibility, respect,
service-mindedness,
competence.

*- American Dental Education
Association 2009*

DISCUSSION



SIGN LANGUAGE COMMUNICATION TRAINING



ESSENTIAL & VALUE-
ADDED SKILLS



- SURVIVAL
- SUCCESS
- EMPLOYABILITY

- Hanks 2018



DEVELOPMENT:

- Personal
- Educational
- Profesional



FUTURE RECOMMENDATIONS

01

Introduce SLC training as part of the undergraduate or postgraduate training program in Special Care Dentistry.

02

Collaborate with organisations offering SLC training program

- Develop program;
- Encourage social integration between the dental profession and the Deaf community.



STUDY LIMITATION:

Cross-sectional study

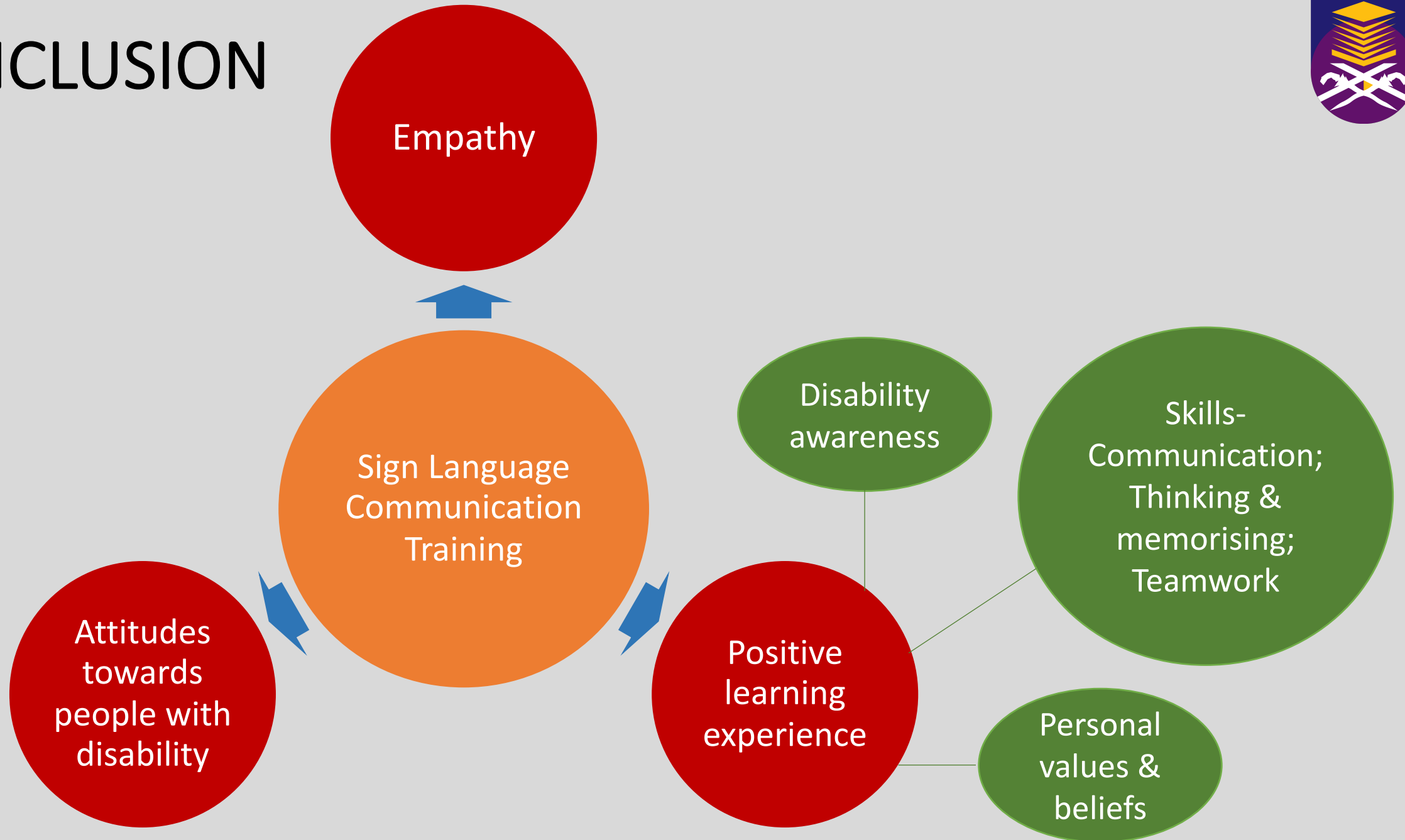
(Only measure
immediate impact)

FUTURE RESEARCH:

Longitudinal study

(Measure long-term
impact)

CONCLUSION



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Ethics approval was granted by the Research Ethics Committee at the Universiti Teknologi MARA, Malaysia (Reference Number REC/08/2020 (MR/192); 600-TNCPI(5/1/6)).

