The 7th Asia-Pacific Regional Conference on Service-Learning

Entrenching Empathy: Implementation of a Service-Learning Mindset

within Nursing and Optometry Students

CHONG Ching Liang[1], **Celestine SEET**[2], **Jessie TAN Sze Hui**[3], and **Dr A.M.A Nasirudeen**[4]

[1] School of Health Sciences, Ngee Ann Polytechnic, Singapore
Email address: Chong_Ching_Liang@np.edu.sg

[2] School of Health Sciences, Ngee Ann Polytechnic, Singapore
Email address: Celestine_SEET@np.edu.sg

[3] School of Health Sciences, Ngee Ann Polytechnic, Singapore
Email address: Jessie_TAN@np.edu.sg

4 School of Health Sciences, Ngee Ann Polytechnic, Singapore
Email address: Nasirudeen_AMA@np.edu.sg

Abstract:

This is a descriptive paper of a work-in-progress with in the School of Health Sciences to imbue both the staff and student population to accept the service-learning pedagogy as part of their learning culture. This presentation discusses the conception, implementation and the aspirations of the School of Health Sciences (HS) Service-Learning (S-L) ecosystem. This programme starts with an "Empathy Challenge" in the freshmen orientation and is followed by classes (modules) that are designated S-L modules in the Year 1- 3 curricula of the Diplomas in Nursing (NSG) and Optometry (OPT). The pilot studies of the effectiveness of S-L in these modules will be discussed as part of the discussion on the HS S-L eco-system.

- **Introduction**

Nurses and optometrists are frontline service providers. As such, the training of these future healthcare professionals must not focus simply on technical excellence but also on the soft skills like empathy, social-cultural awareness, critical thinking and social awareness. These are qualities that would be challenging to teach within the confines of classrooms or textbooks alone. Pecukonis (1990) postulated in his study that empathy is linked to the acquisition of social understanding. Such an ability to understand social complexities facing individuals may perhaps allow students to see social injustice *or conversely, social justice) resulting in a better understanding pf patient behaviour. Groh, Stallwood and Daniels (2011) cited the American Association of Colleges of Nursing (AACN) that "[S]ocial justice as core nursing value …and has been identified by the AACN (208) as one of the five professional value that epitomise the caring nurse" (Groh et al, 2011, p401).

Therefore, any training of healthcare professional must be linked to the development of how they see the complexities of a complicated world (Pecukonis, 1990). Their training must therefore also be anchored in a parallel pedagogical structure that allow them to develop a sense

of empathy. Within the context of this paper, empathy is operationalised as being able to see the problems faced by their patients/clients in times of clinical non-compliance.

Tensions Between Domain Versus Social Awareness Knowledge

As an institution training future nurses and optometrists, we have to re-evaluate our emphasis where an over-reliance on technical expertise has taken us. In assessing who is best even within technical skills training, the grading often is assessed ultimately through a summative and individualised environment. This has certain unintended negative side-effects on collaborative psychology. Dolby (2013) cited a study by Konrath, O'Brien and Hsing (2011) that there is a 40% decline of empathy in college-age students between 1972 and 2009. The researchers found that there is a strong link between this decline and dominance of IT and mobile computing within communication between individuals. Dolby contends that this is compounded by the socio-economic changes that is sweeping across the middle-class where the fear of the loss of future financial disability may have positively reinforced a more "selfish" orientation. Dolby retrieved this information from Baugher (2007), a college student writing about the decline of empathy and social action in her generation. Combining the two facts, Dolby then posited this juxtaposition:

> If that culture promotes competition, then our brains become wired to prioritize competition; if our culture promotes cooperation and empathy, our brains respond. (Dolby, 2013, p62-63)

Fostering cooperation can be fixed by having higher number of group projects or using team-based-learning approaches but how to trigger empathy? This constitute a complicated melding of emotions, feelings and knowledge that cannot be easily taught through text books nor a in-class curriculum. To get students to be more empathetic, perhaps the answer would lie with the engagement of students with external population. This would push the acquisition of empathy through experiential learning and less from teaching. The Service-Learning (S-L) pedagogy would facilitate this.

Service-Learning as a Facilitator of Empathy Acquisition

Due to the contending forms of community-engagement in education, S-L initiatives must be clearly defined. In trying to create a working definition, Bringle and Hatcher (1995) clarified that S-L initiatives *must not* be confused with other non-classroom based activities such as internship or volunteerism. So what makes S-L courses an attractive or viable alternative to the training of empathy? Sook & Bloomquist (2015) concluded that any S-L infused course *MUST* have overt goals to achieve BOTH academic and civic learning. The key desirables, is to develop critical thinking skills through service (Sook & Bloomquist, 2015, p204). This then makes S-L instructions highly attractive to those of us who has to prep or guide our students who will eventually work within a socially sensitive service industry such as nursing. However, S-L is not a magic bullet. In order for it to work, there must be some recommended structures to be constructed. Mackinnon and Fealy (2011) postulated that there are "Seven Cs of best Practice" to ensure the desired learning outcome from their literature review. These are: *Compassion, Curiosity, Courage, Collaboration, Creativity, Capacity Building* and *Competence.* These core principles, they argued, would "foster ethical and compassionate experiences" (Mackinnon & Fealy, 2011, p95).

- **Strategic Approach to Implement an S-L Learning Eco-System**

This paper will discuss initiatives mounted within the planned phases of implementation of entrenching S-L into HS curriculum. This qualitative descriptive discussion is supplemented by discussions of quantitative results from the pilot studies conducted on the effectiveness of S-L within classes designated as "anchors" within the S-L ecosystem. These studies use a mixture of instruments drawing from:

    a. Module Experience Survey (MES) conducted by NP,

    b. an adapted survey from European Social Survey (ESS, 2015)

    c. Just World Scale (Rubin, 1975)

    d. Modified Kogan's Attitudes Toward Old People Scale (Alsenany, 2010)

Items (b) to (c) were conducted using the quasi-experimental pre-post test design using either the *independent t-test* or *paired sample t-test* analysis[1]. Item (a) is presented in descriptive form using the means of student responses at the end of the classes.

Phases of Development

The stages of strategic development to achieve a school-wide adoption of S-L as a mode of "natural inquiry" are as follows:

- Phase 1 - Implantation (2015-2017)
  - S-L in curriculum - compulsory and strongly linked to assessment to provide extrinsic motivation to coax students onboard community engagement.
- Phase 2 – Gestation (2016 - on-going)
  - Introduction of an Empathy Challenge to push incoming students to difficulties faced by the visually, hearing and physically impaired during the Orientation week prior to formal classes. This activity is used to explain why healthcare professionals can be better trained using the S-L pedagogogy.
  - Push beyond curriculum. Use of systemic reiteration of formal and informal S-L activities to emplace community engagement as tools of professional knowledge acquisition.
  - Introduction of key "S-L modules" in each year of the HS education (achieved in Diploma in Nursing, on-going development in Optometry)
- Phase 3 – Evolution (2018 – on-going)
  - S-L as a habit of the professional mind.
  - Beyond curriculum and student-driven environment.

In Phase 1, HS started off with an introduction of a designated "S-L modules" within the Optometry and Nursing courses. This move in 2015 was due in part to the adoption of "signature pedagogies" within Ngee Ann Polytechnic across all discipline schools. The Diploma in Health Sciences (Nursing) [now renamed as Diploma in Nursing] were one of the earliest adopter of the S-L within our curriculum. The first anchor module in Nursing was the module Singapore & World Issues (SAWI)which looked at the impact of prejudice and discrimination on the access to healthcare within the second year of studies. Modified version of the *ESS* and *Just World Scale* were used to examine the effect S-L on the students' learning

---

[1] Item (b), the modified instrument was scored at 5-point scale
[None/Not At All   .Very Little   .Somewhat   .A Good Amount   .A Great Amount])

takeaways. In Optometry, the module Low Vision & Community Optometry was the designated S-L module.

In Phase 2 (post 2018), the intent is to expand learning modules that employ the S-L pedagogy to all levels of the HS education. Within in the nursing cohort, a second module was introduced in the first year of the diploma course in the module Gerontology & Community Nursing. The effects of S-L on this module was analysed in its pilot study using the *Kogan's Attitude Towards Old People Scale (modified)* instrument.

In Phase 3 (post 2019), a special interest group are started among the nursing students who had expressed interest in individualized or self-initiated projects. Year 1 nursing students who had exceptional *GCE "O" Levels* results were also roped into this grouping. The students within this grouping meets bi-weekly and are exposed to the problems and barriers faced by groups that are socially dis-enfranchised. It is hope that this group will eventually evolve into "S-L Champions" who will lead community service projects and form study groups incorporating the theoretical knowledge gained from the classrooms to enhance or understand their service experiences.

- **Results and Discussion**

While this presentation is meant to be descriptive rather than experimental, the exploratory quantitative surveys in our various descriptive studies help to elucidate the value of S-L to HS' learning. Generally, it appears that all teaching modules that have formally implemented S-L as a pedagogy have done well in gaining acceptance from the nursing and optometry students.

Results from the Ngee Ann Polytechnic Module Evaluation Survey (MES)

The MES is a quantitative measure of students evaluation of an academic class over
7 questions namely:
- Q1 S&K   - The module helped me to develop useful skills and knowledge
- Q2 Thinking   - This module stretches my thinking
- Q3 T&L   - The teaching and learning approaches are appropriate for this
                  module/project
- Q4 Feedback - I received useful feedback in a group/individually on my progress in this
                  module/project/internship
- Q5 Materials - The module materials (including materials on MeL and other online
                  platforms) helped me understand the content of the module.
- Q6 Activities   - The module activities enhanced my overall learning
- Q7 Overall   - Overall, this module provided a good learning experience

The S-L modules often perform very well in the question "This module stretches my thinking" (Q.2). The results for the pioneering S-L module (Year 2 module: Singapore and World Issues) range between 4.93-5.19 in a 6-point scale (over a 3 year period) placing it within the top quartile among all modules within HS and Ngee Ann Polytechnic. This is the MES scores of SAWI (now in into its *8th* semester of implementation).

AY/Sem	Q1 Skills & Knowledge	Q2 Thinking	Q3 Teaching & Learning	Q4 Feedback	Q5 Materials	Q6 Activities	Q7 Overall
15/16 S2	4.93	5.15	4.98	5.02	4.91	4.97	5.07
16/17 S1	5.02	5.19	5.04	4.94	4.94	5.03	5.13
16/17 S2	4.94	5.07	5	4.96	4.97	5.03	5.08
17/18 S1	4.92	5.06	5	4.91	4.95	4.99	5
17/18 S2	5.12	5.16	5.1	5	5	5.08	5.11

Below is a summary of the latest *MES* scores of the HS classes that had formally incorporated S-L into their curriculum.

Q1 S&K	Q2 Thinking	Q3 T&L	Q4 Feedback	Q5 Materials	Q6 Activities	Q7 Overall
LOW VISION & COMMUNITY OPTOMETRY						
5.45	5.35	5.45	5.3	5.38	5.43	5.43
PAEDIATRIC CLINICAL PRACTICE						
5	4.91	4.79	4.74	4.77	5	5.02
PAEDIATRIC VISION MANAGEMENT						
5.19	5.06	4.94	4.69	5.09	5.13	5.16
SINGAPORE & WORLD ISSUES						
5.12	5.16	5.1	5	5	5.08	5.11
GERONTOLOGY & COMMUNITY NURSING						
4.82	4.83	4.78	4.74	4.77	4.83	4.81

The quantitative surveys of the nursing students also suggests that the S-L approach is enabling them to acquire social understanding of the migrant workers community that they engaged within their S-L activity.

Results from the Modified European Social Survey (ESS)

The results from 4 consecutive SAWI cohort (2015 – 2017) from the modified ESS instrument. In the *Empowerment to Change* suite of questions, the Pre-Post test yielded significant results:

	This survey is done	N	Mean	Std Deviation	Significance
Empowerment/Action (Total)	Before	454	12.74	2.107	0.006
	After	213	13.22	2.047	

As did the *Knowledge of External Communities* suite, the Pre-Post test also yielded significant results.

	This survey is done	N	Mean	Std Deviation	Significance
Knowledge of external communities (items 16-18)	Before	454	8.58	2.094	0.000
	After	213	10.04	1.873	

The Cronbach alpha for this instrument is 0.79 indicating that there is acceptable internal consistency.

Exploratory descriptive studies using instrument Items (c) (Just World Scale) and (d) (Kogan's Attitude towards Older People) were completed and the results looks promising. Preliminary analysis from informal feedback from students suggests that they are seeing the benefits of S-L on helping them to learn.

Results from the Modified Just World Scale (JWS)

In the case of getting student nurses to understand the life of disenfranchised foreign workers, the impact is exciting. With a world changed by growing xenophobic anti-globalisation sentiments, S-L appears to tone down discriminatory tendencies. In a sense, S-L succeeds because it triggers empathy (Scott & Graham, 2015; McKinnon & Fealy, 2011; Geller,Voight,Wegman & Nation,2013) and empathy triggers pro-social behaviour (Pecukonis, 1990).

The results from a modified JWS indicates surprising but interesting results from our *Paired Sample T-Test* analysis.

	95% Confidence Level	t	df	Significance (2-tailed)
Distributive Justice - Others	0.771	0.537	241	0.592
Procedural Justice - Others	0.465	-0.310	241	0.757

Procedural Justice (PJ) refers to the fairness in the administration of social and legal judgment while *Distributive Justice* (DJ) refers to the allocation of social goods and resources (Rubin, 1975). The fact that the results of PJ & DJ (Migrant Workers) were not significant was surprising given the fact that the students all seemed impacted by the S-L engagement and through the conversations they had with the migrant worker population. This could be a Type 2 error as there might have been a reluctance of the students to appraise their society negatively or acknowledge their own prejudice.

However, in the PF & DJ (Self) analysis, it appears that the students have understood the concept of "invisible privileges" (Kimmel, 2015) that their citizenship or immigrant statii have accorded them. The students appraised themselves as being fairly treated or rewarded in the post S-L survey.

	95% Confidence Level	t	df	Significance (2-tailed)
Distributive Justice - SELF	-0.133	-2.520	241	**0.012**
Procedural Justice - SELF	-0.219	-2.918	241	**0.004**

This is an on-going study to look at succeeding cohorts of SAWI students.

Results from the Modified Kogan's Attitude Towards Older People (KATOP)

The pilot study looking at the impact of a S-L engagement measuring the shift in attitudes towards the elderly community of first year nursing students in the Gerontology & Community Nursing (GCN) module also yield significant result in the Kogan instrument.

The S-L engagement involved 2 activities. The students either participated in the organisation of a Health Carnival with the elderly community or conducted a home interview with elderly members of their group members. The Pre-Post KATOP scores of the Health Carnival Group and the Home Interview group are analysed within the subscales of (1) Cognitive abilities and style, (2) Intergenerational relationship and (3) Feelings caused by living with older people.

Interestingly, the negative portion of these sub-scales were all non-significant. This could be attributed to the traditional Asian cultural programming that prevented forming negative views of the elderly.

Results from the Intergenerational Relationship subscale

Experiment Group 1: HS Carnival Team				
	n	Before (Mean)	After (Mean)	P-value
Negative attitude towards older people	317	8.89	8.55	0.051
Positive attitude towards older people	317	10.04	10.75	0.000***

Experiment Group 2: Home Interview Team			
	n	Before (Mean)	After (Mean)	P-value
Negative attitude towards older people	215	8.69	8.45	0.300
Positive attitude towards older people	215	10.25	10.80	0.003***

Results from the Cognitive Abilities & Style subscale

Experiment Group 1: HS Carnival Team			
	n	Before (Mean)	After (Mean)	P-value
Negative attitude towards older people	317	6.19	6.02	0.181
Positive attitude towards older people	317	6.35	6.86	0.000***
Experiment Group 2: Home Interview Team			
	n	Before (Mean)	After (Mean)	P-value
Negative attitude towards older people	215	6.20	5.96	0.119
Positive attitude towards older people	215	6.25	6.85	0.000***

Results from the Feelings Caused by Living with Older People subscale

Experiment Group 1: HS Carnival Team			
	n	Before (Mean)	After (Mean)	P-value
Negative attitude towards older people	317	5.66	5.66	0.978
Positive attitude towards older people	317	6.70	7.29	0.000***
Experiment Group 2: Home Interview Team			
	n	Before (Mean)	After (Mean)	P-value
Negative attitude towards older people	215	5.49	5.31	0.252
Positive attitude towards older people	215	6.61	7.32	0.000***

- **Conclusions and contributions to theory and practice**

HS first started with one S-L module to test S-L's efficacy at engaging learners in Phase 1 of our S-L curriculum implementation in both of HS' diploma courses. With the encouraging results from the pioneering classes from both Optometry and Nursing, we moved on to Phase

2 of our implementation which was to integrate S-L into all three years of studies. In this Phase, we structured in an Empathy Challenge in the freshmen orientation programme to acquaint the students to the importance of S-L and what it can do for them. This Phase will also see the rollout of S-L into another anchor class in Year 1 of the Diploma in Nursing. This model of multiple "appearances" S-L within the students' curriculum lays the foundation for the next phase.

While it is early days yet, the initial quantitative studies indicated that Phase 1 of the attempt to instil a HS-wide S-L learning environment is moderately successful both in gaining students acceptance of the infusion of S-L activities into the formal curriculum and the acquisition of empathy and social awareness of the S-L communities that they had engaged.

HS' aspiration is the students will develop the academic habit to enter voluntary S-L engagements in order to scaffold their learning. Idealised examples would be that of a HS student in this phase would be a student in *Mental Health Nursing & Palliative Care* class doing non-graded extra-credits volunteer work at a hospice in order to engineer his or her learning in that subject or an optometry student volunteer with a children's home within *Binocular & Paediatric Vision* class to learn from the children they are serving.

The key to a successful implementation of S-L is to integrate it into curriculum. Bringle and Hatcher (1995, 1996, 2009) advocated the hyphenated Service-Learning to connote the equal importance of both elements. HS hopes to push beyond this.

Keywords: Service-Learning, Empathy, Nursing Education, Optometrist Education, Critical Thinking

References:

Alsenany, S. (2010) An exploration of the attitudes, knowledge, willingness and future intentions to work with older people among Saudi nursing students in baccalaureate nursing schools in Saudi Arabia. PhD thesis, University of Sheffield

Bringle R.G. & Hatcher J.A. (1995) Service-learning curriculum for faculty. *Michigan Journal of Community Service Learning 2* , 112–122.

Bringle, R. G., & Hatcher, J. A. (1996). Implementing service learning in higher education. *Journal of Higher Education*, 67(2), 221-239.

Bringle, R. G., & Hatcher, J. A. (2009). Innovative practices in service-learning and curricular engagement. *New Directions for Higher Education*, 2009(147), 37-46. doi:10.1002/he.356

Caldwell, P., & Purtzer, M. A. (2015). Long-term learning in a short-term study abroad program: 'Are we really truly helping the community?'. *Public Health Nursing*, 32(5), 577-583. doi:10.1111/phn.12168

Chong, C. L., Seet, C. S. H., Nur Farzana, J., Sarah F. M. N., Nur Adilah, M., Siti N. S. H. Nur Adilah, M. S. (2017) Hearing the Voice of the Voiceless: Service-Learning and its

Impact on Aspects of Social Awareness on Nursing and Optometry Students. Paper presented at the *6th Asia-Pacific Conference on Service-Learning.*

European Social Survey (2015) Round 7 module on attitudes towards immigration and their antecedents - question design final module in template. London: Centre for Comparative Social Surveys, City University London.

Groh, C. J., Stallwood, L. G., & Daniels, J. .. (2011). Service-learning in nursing education: its impact on leadership and social justice. *Nursing Education Perspectives* (*National League for Nursing*), 32(6), 400-405.

Kimmel, M. (2015). Why gender equality is good for everyone. Retrieved from https://www.ted.com/talks/michael_kimmel_why_gender_equality_is_good_for_everyo ne_men_included/transcript?language=en

Pecukonis, E. V. (1990). A cognitive/affective empathy training program.. *Adolescence*, 25(97), 59.

Rubin Z, Peplau LA (1973). Belief in a Just World and Reactions to Another's Lot: A Study of Participants in the National Draft Lottery. Journal of Social Issues, Volume 29, Issue 4, pages 73–93, Fall 1973

The 7th Asia-Pacific Regional Conference on Service-Learning

Biographical sketch of each presenter

Presenter 1:
 i.   Last name followed by first name: Chong Ching Liang
 ii.   Position/department/organisation/country: Senior Lecturer, School of Health Sciences, Ngee Ann Polytechnic, Singapore

iii.   Short biography
       Ching Liang challenges his students to discover the impact of the pressure of discrimination on the Singapore society. He has the firmest of belief that his students will grow into the solutions of the future. Ching Liang has worked as a social worker, an oral history researcher, a labour researcher and broadcast journalist. All these past jobs have a common thread… his optimism in society's potential to solve inequalities.

 iv.   Contact information (address, email address, homepage)
       Email: Chong_Ching_Liang@np.edu.sg
       Website: http://www2.np.edu.sg/hs/aboutus/staff/Pages/hs-chongcl.aspx
       Address: School of Health Sciences, Ngee Ann Polytechnic, Block 81, Level 7, 535 Clementi Road, Singapore 599489

Presenter 2:
 i.   Last name followed by first name: Seet Celestine Siew Hua
 ii.   Position/department/organisation/country: Lecturer, School of Health Sciences, Ngee Ann Polytechnic, Singapore

iii.   Short biography
       Celestine Seet is a psychologist by training and has previously worked in a research and development capacity at the Singapore Examinations and Assessment Board. Celestine has previous teaching experience at secondary school levels and with adult learners. Celeste wants her student-charges to learn about the world around them in the hope that as they succeed in doing so, her students will acquire the roadmap to become lifelong learners.

 iv.   Contact information (address, email address, homepage)
       Email: Celestine_SEET@np.edu.sg
       Website: http://www2.np.edu.sg/hs/aboutus/staff/Pages/hs-sce2.aspx
       Address: School of Health Sciences, Ngee Ann Polytechnic, Block 81, Level 7, 535 Clementi Road, Singapore 599489

Presenter 3:

   i.   Last name followed by first name: Tan Jessie Sze Hui

   ii.   Position/department/organisation/country: Lecturer, School of Health Sciences, Ngee Ann Polytechnic, Singapore

   iii.   Short biography

Jessie Tan worked in the industry prior to joining HS. Her scope of work then ranges from conducting eye screenings to assisting doctors in minor surgical procedures to counselling patients to prepare them for surgery. Jessie's academic achievements are impeccable. She has consistently won awards from polytechnic to university. Jessie hopes she can fill the shoes of a good role model of both a high-achieving student as well as a consummate professional to her students. Jessie is the pioneer of implementing S-L .

   iv.   Contact information (address, email address, homepage)

Email: Jessie_TAN@np.edu.sg

Website: http://www2.np.edu.sg/hs/aboutus/staff/Pages/hs-tsh32.aspx

Address: School of Health Sciences, Ngee Ann Polytechnic, Block 81, Level 7, 535 Clementi Road, Singapore 599489

Presenter 4:

   i.   Last name followed by first name: Nasirudeen A M A (Dr.)

   ii.   Position/department/organisation/country: Senior Lecturer, School of Health Sciences, Ngee Ann Polytechnic, Singapore

   iii.   Short biography

Dr Nasir worked as a research fellow at the Institute of Molecular and Cell Biology before joining Ngee Ann Polytechnic as a lecturer. He has always been passionate about teaching. Imparting knowledge and mentoring students are two aspects of teaching that Dr Nasir finds most fulfilling and interesting.

   iv.   Contact information (address, email address, homepage)

Email: Nasirudeen_AMA@np.edu.sg

Website: http://www2.np.edu.sg/hs/aboutus/staff/Pages/hs-anm2.aspx

Address: School of Health Sciences, Ngee Ann Polytechnic, Block 81, Level 7, 535 Clementi Road, Singapore 599489