

# Southern Regional Hub-funded project

Project Report



## Evaluating the Quality of Workplace Learning for Nursing Students in Community Settings

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## Table of Contents

Executive Summary.....	4
Background .....	4
Aims .....	5
Design & Methods .....	5
Sample Size .....	5
Recruitment .....	5
Data Collection.....	6
The CLES+T Instrument .....	6
Ethical Considerations.....	6
Analysis .....	6
Results.....	6
Recommendations .....	7
Conclusion.....	8
Resource Page.....	<b>Error! Bookmark not defined.</b>
Researchers.....	9

# Executive Summary

## Background

The educational preparation of many professionals includes a practice component where learning is integrated in a workplace setting. The practice component is an important part of teaching and learning in the applied professions (Benner, Sutphen, Leonard, & Day, 2010; Mulholland, Mallik, Moran, Scammell, & Turnock, 2005). Nursing is an applied profession where internationally the educational preparation of registered nurses has moved from a workplace apprenticeship model into the tertiary education sector, either in polytechnics or universities.

In New Zealand the education of registered nurses is a three year Bachelor of Nursing Degree which includes “a minimum of 1100 practice hours ... with all students being entitled to 1500 practice hours in which to demonstrate competence” (Nursing Council of New Zealand [NCNZ], 2005, p. 5). Of these practice hours, some are to include community based workplace settings as distinct from hospital workplace settings.

Sound educational practice requires a process for monitoring and evaluating the quality of student nurses’ clinical placements. Accordingly, the NCNZ (2005) requires tertiary institutions offering nursing programmes to have a process for monitoring the quality of clinical learning environments. Standard 5.3 (NCNZ, 2005) states “An evaluation process for monitoring and evaluating the quality of the practice learning experience for students must exist” (p.7). The NCNZ does not stipulate how this should be monitored. However it would be useful for schools of nursing in New Zealand to have a tool to evaluate students’ perceptions of the quality of workplace learning environments in hospital and community settings. The use of an internationally validated tool would allow national and international comparisons. Until recently, no instruments for evaluating student nurses’ workplace learning experiences in either hospital or community settings had been validated in New Zealand.

Watson, Seaton, Sims, Jamieson, Whittle and Saarikoski (2010) recently reviewed a number of instruments for evaluating student nurses’ perceptions of workplace learning environments. No instruments designed specifically to evaluate student nurses’ community workplace environments were found in their literature search. Their review concluded that the Clinical Learning Environment, Supervision, and Nurse Teacher (CLES+T) scale (Saarikoski et al., 2008) was the most psychometrically robust instrument designed to evaluate student nurses’ perceptions of hospital workplace environments.

Watson et al. (2010) asked an ‘expert’ panel to evaluate each item in the CLES+T for relevance in hospital and community settings. The panel supported the relevance of the items in the CLES+T instrument for evaluating student nurses’ perceptions of their workplace learning environments in hospital and community settings in New Zealand. Subsequently, Watson et al. (2010) used exploratory factor analysis to establish the validity and reliability of the CLES+T in hospital settings in New Zealand. Their analysis found the strongest statistical support for a four factor model. The internal reliability of those factors is strong with all four factors having Cronbach’s  $\alpha > .8$  (highly reliable). Watson et al’s (2010) interpretation of factors was informed by concepts derived from Wenger’s (1998) model of the social organisation of learning. In this model learning is founded on social participation in communities of practice. Based on Wenger’s theory, Egan and Jaye (2009) develop the notion of communities of practice into communities of clinical practice in healthcare workplaces. Watson et al. (2010) named the four factors:

- Connecting with, and learning in, communities of clinical practice
- Nurse teacher
- Supervisory relationship

- Leadership style of the manager

The CLES+T is sensitive enough to detect how different variables affect students' perceptions of their clinical learning environments. Consequently the CLES+T has sufficient validity, reliability, and sensitivity to be used by researchers, educators, and clinicians who wish to monitor the quality of clinical learning environments in hospital settings in New Zealand.

While the construct validity and internal reliability of the CLES+T for measuring student nurses' perceptions of the quality of their clinical learning environments has been supported in hospital settings in Europe and now in New Zealand, it has not been used or validated in community settings. Community workplace settings have different organisational structures, contexts for practice, and learning situations to hospital settings. Consequently it cannot be assumed that tools developed for hospital settings will be valid and reliable in community settings. Therefore, further psychometric testing to assess the construct validity and internal reliability of the CLES+T in community settings in New Zealand was warranted. This study is designed to determine the construct validity and internal reliability of the CLES+T instrument (Saarikoski, Isoaho, Warne, & Leino-Kilpi, 2008) in community workplace settings in New Zealand.

## Aims

The aims of this study were to:

1. Establish the factor structure of the CLES+T when applied in community clinical settings in New Zealand.
2. Evaluate the internal reliability of the CLES+T factors in the context of community clinical settings in New Zealand.
3. Establish whether the CLES+T has the same factor structure when applied in community clinical settings in New Zealand as it does in New Zealand and Finnish hospital settings.
4. Describe nursing students' perceptions of the quality of their clinical learning experiences in community clinical settings in New Zealand.

## Design & Methods

This study used the CLES+T questionnaire in a survey design to elicit information from nursing student respondents.

### Sample Size

Given the previously reported strength of the factor loadings on items in the CLES+T used in the hospital setting in New Zealand and Finland a subject to item ratio of 10:1 is expected to produce replicable results. There are 34 items in the CLES+T plus an additional item related to cultural safety for the New Zealand context. Therefore, a minimum of 350 respondents from community placements were required to explore and confirm the construct validity of the CLES+T in community settings in New Zealand.

### Recruitment

In order to achieve 350 responses, all tertiary education institutions within New Zealand who offer the Bachelor of Nursing were invited to assist with recruitment of students completing community clinical placements. Ten institutions agreed to recruit participants for this research, including polytechnics and universities from across the country representing metropolitan, provincial and rural

communities. Students who were completing a community based clinical placement were sent an email at the beginning of their final week of placement, inviting them to complete the online survey.

### Data Collection

Data collection was undertaken using an internet-based information collection service.

### The CLES+T Instrument

The original 34-item CLES+T with the added culture item was used. To address the potential weakness identified in Saarikoski et al.'s (2008) study in which the items were presented to respondents already divided into components (and thus suggesting a particular structure), the 35 items were randomly ordered for each respondent in this study without reference to the original components. This avoided any chance of respondents having preconceptions that items in each component should be related.

### Ethical Considerations

The study was approved by all participating educational institutions. Measures were taken to minimise potential harm to participants. Potential participants were recruited via an email invitation which allowed them to access the online survey. The survey started with an information sheet. Submitting the completed survey implied participants had read and understood the information sheet, and had given their consent to participate in the study. Measures were also taken to ensure digital security and the confidentiality in the online survey. In order to increase participation participants were informed that at the end of the survey they would find instructions for entering a prize draw for \$100. Information given when entering the prize draw was submitted separately to the completed survey ensuring there was no connection between the two sets of information.

### Analysis

The analysis was conducted using Principal Axis Factoring (PAF) with Direct Oblimin rotation. The internal reliability of the CLES+T factors was ascertained by Cronbach's alpha coefficient. Demographic and placement variables effects on students' perceptions of their clinical learning environment, supervision, and teaching in hospital and community settings were determined using correlation coefficients and ANOVA.

### Results

A total of 359 Bachelor of Nursing students completed the CLES+T scale. This just exceeds the 10:1 ratio recommended for exploratory factor analysis (Costello & Osborne, 2005). Exploratory Factor Analysis found the strongest statistical support for a four factor model which the authors interpret as follows:

- Connecting with a community of clinical practice
- Nurse teacher
- Supervisory relationship
- Learning opportunities in a community of clinical practice

Factor one, named Connecting with a community of clinical practice, includes nine of the 14 items Watson et al. (2010) in hospital settings named Connecting with and learning in communities of clinical practice. In addition it included three items from Saarikoski et al.'s (2008) and Watson et al.'s (2010) Leadership style of the nurse manager factor. Examining these items suggests that in community settings the Leadership style of the nurse manager is integrated with the team that makes up the community of clinical practice. The remaining five items, (items 15-17, 32 and 34) that in the hospital setting were part of Watson et al.'s Connecting with and learning in communities of

clinical practice factor, form a distinct factor. These items comprise factor four; the higher loading items relate to learning opportunities, and taken together with the other items in that factor (which relate to client care), suggest that factor four is about learning opportunities in a community of clinical practice. The items in factor two correspond exactly to the items Saarikoski et al. (2008) and Watson et al. (2010) identified as the Nurse Teacher component/factor in Finnish and New Zealand hospital settings respectively. The items in factor three correspond exactly to the items Saarikoski et al. (2008) and Watson et al. (2010) identified as the Supervisory relationship component/factor in Finnish and New Zealand hospital settings respectively. Thus, there is a Nurse Teacher factor comprising items 18-26, and a Supervisory Relationship factor comprising items 1-8.

All four factors were found to have Cronbach's alpha  $> .8$  (highly reliable). Three of the four factors had excellent alpha values ( $> .9$ ). The fourth factor had a good alpha value ( $> .8$ ). These results demonstrate that the CLES+T has good internal reliability.

Students' perceptions of their clinical learning environments in community settings as measured by the CLES+T were positive. Although all items attracted responses across the spectrum (from 1 'fully disagree' to 5 'fully agree') the most frequent response to every item was 'fully agree'. Mean factor scores could range from 1-5. Mean factor scores ranged from 4.0 to 4.4 and provide evidence that students have high perceptions of connection with a community of clinical practice, their nurse teacher, their supervisory relationship, and the learning opportunities in the community of clinical practice.

Examining the correlations between the duration of the clinical placement and the four factors reveal weak but statistically significant relationships between the duration of placement and students sense of connection with the community of clinical practice and the supervisory relationship. This shows that as the duration of clinical placements tends to increase students feeling of connection with the community of clinical practice also increases as do their ratings of the supervisory relationship.

Examining the correlations between the number of meetings with the nurse teacher, and the four factors, reveal weak but statistically significant relationships between the number of meetings with the nurse teacher and students' perceptions of the nurse teacher. This shows that as the number of meetings with the nurse teacher tends to increase students perceptions of the nurse teacher also increase.

To compare students' perception of the four factors by placement types (child & family health, community health, and mental health) an ANOVA was performed. The ANOVA revealed no significant differences in students' perceptions between the placement types. A comparison of means confirmed this conclusion.

To compare first year, second year, and third year students' perceptions of the community of clinical learning an ANOVA was performed. The ANOVA revealed no significant differences between first, year, second year, and third year students' perceptions of the community of clinical learning. A comparison of means confirmed this conclusion.

## Recommendations

- School of Nursing in Tertiary teaching institutions in New Zealand use the CLES+T and the four factor structure reported here as a tool to evaluate the quality of clinical learning environments in community settings.
- Given this is the first exploratory factor analysis in community settings further research should be undertaken to confirm the factor structure of the CLES+T in community settings.

- Given the strength of the internal reliability of the CLES+T it may be possible to further refine the number of items in each factor.
- Connecting with a community of clinical practice appears to be an important factor in students' perceptions of community clinical placements that warrants further theoretical and empirical research.
- Future research includes a search for other items that may help to give a more complete representation of the factors impact of nursing students' perceptions of community workplace learning environments.
- Research into the relationship between the duration of clinical placements, the amount of nurse teacher input and students' perceptions of their clinical learning environments is warranted.

## Conclusion

The CLES+T is a valid and reliable tool that can be used by tertiary teaching institutions to evaluate the quality of clinical learning environments in community settings. This research project extends Watson et al.'s (2010) study. Together they confirm the CLES+T is a useful tool to evaluate students' perceptions of their clinical learning environment in hospital and community settings in New Zealand. Operationally, these studies confirm that the CLES+T can be applied to both hospital and community settings.



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This research project tested the validity and reliability of the Clinical Learning Environment, Supervision, and Nurse Teacher (CLES+T) scale as a tool for assessing students' perception of the quality of their learning in community settings.