Validation process of Clinical Learning Environment, Supervision and Nurse Teacher (CLES+T) scale

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A question presented often; How relevant person a student is as evaluator of learning environment?

According the meta-analysis of the studies in the CLES development process:

- in the 60% of the analysed studies, as informants of the study have acted only students
- in the 28% of the analysed studies, as informants have acted students, supervisors and teachers
- in the 12% of the analysed studies as informants have been other than students (supervisors, ward managers, teachers)
Theoretical background of the CLES+T scale

The theoretical framework of the origin CLES scale draws on empirical research into clinical learning environment and supervision undertaken during the 1980-1998
(67 empirical studies and 5 audit instruments)

The new sub-dimension (Nurse Teacher) is basing on literature review undertaken during 1990-2006
(22 empirical studies, 4 literature reviews and 4 discussion papers)

⇒ CLES+T is basing approx. on 100 papers published between 1980 and 2006
Validation of a new research instrument – role of empirical samples in the process (case of CLES/CLES+T)

The pilot version was tested (using a small sample and expert panel as well)
Second instrument version was modified --> testing with a ‘real’ empirical data

Serious statistical studies were started (….and cooperation with a statistician)
Reliability was estimated using the test-retest method
=> third version was modified (excluding poor items, making better wording etc), search a concurrent-validity-instrument for parallel testing

Construct validity was tested using explorative factor analysis

2nd development phase: new sub-dimension (Nurse Teacher)

The more representative sample was collected, more sophisticated statistical analyses were used

Few international tests were operated using the fourth instrument version (!! Careful 3-steps’ translation process!!)
The samples used in the development process of CLES and CLES+T scales (N= ~4’000 respondents)

- Pilot (1994)
- Expert panel (1995)
- Test-retest (1995)
- Basic testing of the instrument (1997)
- UK-data (1997)
- Evaluation of a development project (2004)
- Explorative data from 8 schools in the EU (2005)
- CLES+T validation in Finnish sample (2007)
- CLES+T validation in W-European context (2009)
- Testing the CLES in 4 new EU countries (2011-12)

- n=162
- n=9*
- n=38
- n=416
- n=142
- n=214
- n=411
- n=549
- n=1’903
- n=418

= CLES (and its versions)
= concurrent validity instrument CLE scale (Dunn 1995)
= CLES+T version (2008)
= EmpNURS project
Theoretical framework and the structure of the CLES+T scale

Contexts of empirical studies

- Ward culture
- Teaching activities by nursing staff
- Supervisory system

Audit tools and literature reviews

- Atmosphere
- Attitudes and communication
- Supervision, teaching

Structure of the latest version (2008)

- PEDAGOGICAL ATMOSPHERE
- SUPERVISORY RELATIONSHIP
- LEADERSHIP STYLE OF WARD MANAGER (WM)
- PREMISES OF NURSING ON THE WARD
- ROLE OF NURSE TEACHER IN CLINICAL PRACTICE

Role of nurse teacher as expert of health sciences, expertise in pedagogical process

- Working with students
- Liaison, social skills
- Ped. support for staff

Psychometric properties of the scales

Reliability
Test-retest reliability was estimated in Finnish language CLES-version using one month interval (1998, N= 38 nursing students):
the correlation of single items ranged from 0.52 to 0.89 and coefficients of sub-dimensions ranged from 0.71 to 0.91
Cronbachs’ alpha values varied in the European validation study (N=1903) by sub-dimensions between 0.83 and 0.96 (2009)

Validity
The factor models explain this phenomenon with following estimated values:
CLES (2002) – total percentage of the factor model was 64% (N=416)
CLES+T (2008) – the corresponding value was 67% (N=549)
CLES+T in the European study (2010), the value was 73% (N=1383)
CLES+T (or the origin CLES*) has been tested or systematically validated and reported in:


CLES+T validation in a wide European context occurred 2007-2009 (N=1’903), 9 Western European countries joined the study (Belgium, Cyprus, Finland, England, Ireland, Italy, the Netherlands, Spain, Sweden).

There are 23 language versions from CLES and/or CLES+T scales and a researcher link over 40 countries.

Publications produced in the CLES+T validation


