Enhancing self-directed learning among Italian nursing students: A pre- and post-intervention study

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S U M M A R Y

Background: In accordance with Knowles's theory, self-directed learning (SDL) may be improved with tutorial strategies focused on guided reflection and critical analysis of the learning process. No evidence on effects on SDL abilities of different tutorial strategies offered to nursing students during the 1st clinical experience is available.

Objectives: To evaluate the effect of different tutorial strategies offered to nursing students on their SDL abilities.

Design: A pre–post intervention non-equivalent control group design was adopted in 2013. For the treatment group, structured and intensive tutorial interventions including different strategies such as briefing, debriefing, peer support, Socratic questioning, performed by university tutors were offered during the 1st clinical experience; for the control group, unstructured and non-intensive tutorial strategies were instead offered.

Setting: Two Bachelor of Nursing Degree.

Participants: Students awaiting their clinical experience (n = 238) were the target sample. Those students who have completed the pre- and the post-intervention evaluation (201; 84.4%) were included in the analysis.

Methods: SDL abilities were measured with the SRSSDL$_{ITA}$ (Self Rating Scale of Self Directed Learning-Italian Version). A multiple linear regression analysis was developed to explore the predictive effect of individual, contextual and intervention variables.

Results: Three main factors explained the 36.8% of the adjusted variance in SDL scores have emerged: a) having received a lower clinical nurse-to-student supervision (B 9.086, β 2.874), b) having received higher level and structured tutorial intervention by university tutors (B 8.011, β 2.741), and c) having reported higher SDL scores at the baseline (B .550, β .556).

Conclusions: A lower clinical nurse-to-student ratio (1:4), accompanied by unstructured and non-intensive tutorial intervention adopted by university tutors, seemed to be equivalent to an intensive clinical supervision (1:1) accompanied by higher level and structured tutorial strategies activated by the university tutors.

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Introduction

The complexity of the clinical environment, determined among other factors by increasing patient needs, the increasing use of technology, and new evidence as a basis for decision-making, requires the presence of nurses capable of continuing to develop their knowledge through self-directed learning (SDL) (Cadorin et al., 2011).

SDL is essentially the ability to search for new information, to critically evaluate and adopt the information retrieved in the clinical decision-making process (Avdal, 2013). From the andragogical perspective, SDL is a process whereby the learner defines the learning aims,

identifies appropriate methods, and evaluates outcomes, assuming the responsibility for the entire process. Knowles defined the concept of SDL in 1975, emphasising the importance of learner autonomy in 1980 (Knowles, 1989). In its current conceptualisation, SDL is based on specific domains: SDL is connected to learner awareness of personal learning needs; to his/her motivation to learn; to the ability to select appropriate learning resources, aims, and strategies; and to the ability to evaluate achieved outcomes (Cheng et al., 2010).

Since the first definition of the concept, several studies have documented the importance of SDL within nursing education (Avdal, 2013). Aimed at preparing students and future nurses capable of learning-for-life, nursing educators play a key role incorporating the principles of SDL both in theoretical and in clinical practice teaching: they can adopt different tutorial strategies as learning contracts,

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personal support, reflective meetings based upon questions regarding the process of learning rather than its content (Timmis, 2008). Plato and Socrates first adopted these methods, stimulating their students, asking them to reflect on themselves, thinking about life and the learning process (Avdal, 2013); also in the context of nursing education, Socratic questioning is the ability to engage students in critical conversations enhancing their thinking and SDL, by investigating the "why" rather than the content or simply searching for the answers (Avdal, 2013).

Tutorial strategies, intended as those strategies that may be adopted in the context of clinical nursing education, are based on facilitation, guided reflection, questioning, learning through the critical analysis of experience (e.g., Watts, 2011). Tutors may encourage, support, and facilitate the learning process, progressively developing in the students the ability to self-direct the learning process, to achieve autonomy (Hossein et al., 2010). In the first year of nursing education, students may need a more intensive and structured tutorial approach, requiring support, advice, and direction concerning learning priorities (Nolan and Nolan, 1997; Hughes, 2004). Through these strategies, students may progressively develop the ability to control and direct their learning processes, becoming self-directed learners (Pryce-Miller, 2010). Developing SDL abilities during nursing education may increase student motivation, autonomy, interpersonal communication, and the desire to be a life-long learner (Hewitt-Taylor, 2001; O'Shea, 2003). Nursing students with SDL abilities are more likely to use knowledge in different situations, to develop competence when dealing with new clinical problems, to increase their ability to face more demanding clinical roles (Hevit Taylor, 2001; O'Shea, 2003; Williams, 2004).

Despite the importance of SDL abilities, as well as the acknowledged role of tutorial strategies, both in the theoretical and in the clinical practice sessions that should be introduced early in the nursing education, to date no studies have evaluated the influence of different tutorial strategies on SDL abilities. Therefore, evaluating the effect on SDL abilities of different tutorial strategies applied in clinical practice was the main aim of the study.

Methods

Study Design

A pre–post intervention based upon a non-equivalent control group design (Shaughnessy et al., 2000) was adopted on 2013. The study design was decided based upon a quasi-experimental procedure in which comparison was made between control and treated groups that were established on a non-random basis.

Settings, Sample and Sampling

The participants were chosen as a convenience, cluster sample, and were attending their Bachelor of Nursing Degrees studies in two Italian universities. The Bachelors of Nursing Degrees were preliminarily assessed for their homogeneity in the curriculum pathway (theoretical and clinical) as well as in the enrolment criteria of the candidates and in their faculty resources. During the first academic term, starting homogeneously in October, students attended basic courses for around 400 classroom hours and pre-clinical skill laboratory sessions, made up of around 30 h of basic nursing skills (e.g. patient hygiene) involving small groups (10–15 students), under the guidance of a university tutor.

Thereafter, students attended the exams in the 1st term, including basic courses. Similarly for all degrees involved, the 2nd term was dedicated to clinical learning in medical or surgical hospital units for around 200 h. Students awaiting their clinical experience ($n = 238$) were the convenience sample targeted for the study.

Students were approached and informed on the aims of the study. In the pre-evaluation phase, 225/238 was collected (94.5%) and in the post-evaluation phase 214/225 (95.0%). From the pre- to the post-intervention 11 questionnaires were excluded from those students who had not returned the questionnaire completed ($n = 2$) and those who had withdrawn from the Bachelors programme ($n = 9$). Therefore, those students completing the pre- and the post-intervention evaluation were a total of 201.

End-point, Individual and Contextual Variables

The SDL ability was the main end-point of the study. As an individual variable, student-level data (e.g., demographic) was collected. As contextual-level data, the following information was collected: clinical experience attended (medical vs. surgical ward) and clinical nurse-to-student ratio as the number of students followed by each Registered Nurse (RN) at the unit level (from 1:1 to 1:2 or more).

Independent Variable: Intervention

The relevant literature in the field of SDL ability enhancement, and especially those tutorial interventions suggested for implementation at the clinical level (Table 1) was considered as a basis for two different interventions. In accordance with the complex intervention theory (Anderson, 2008), students were treated to two different tutorial interventions: the control group received an unstructured, non-intensive tutorial intervention, while the treatment group received a structured, high intensive tutorial intervention. Both the interventions were delivered by university tutors, RNs with advanced education in nursing and pedagogical sciences, working full-time at the academic level in each degree course. They were experts (Benner, 2001) in tutoring the 1st year students just starting their clinical experience, which is widely recognised as having a strong impact (Brugnolli et al., 2011). The university tutors were on average one for every 15–20 students.

Instrument and Data Collection Process

The SRSSDL_ITA, originally developed by Swapna Naskar Williamson (Williamson, 2007) in its Italian validated version (Cadorin et al., 2011) after having obtained author authorization, was used. The SRSSDL_ITA, consists of 40 items distributed across eight factors: 'Awareness', 'Attitudes', 'Motivation', 'Learning Strategies', 'Learning Methods', 'Learning Activities', 'Interpersonal Skills', and 'Constructing Knowledge'. The tool is based upon the andragogical theory of SDL (Knowles, 1989) which represents the main theoretical rationale of the present study: the first three factors are considered antecedents to effective SDL; factors four, five and six consist in abilities needed to effectively manage the SDL process; the eighth factor reflects the ability to critically evaluate new knowledge (Knowles, 1989). Each factor contained a variable number of items. On the basis of available knowledge of the tool, the Cronbach alpha (α) is 0.929, while for each factor the internal consistency ranges between 0.682 and 0.813 (Cadorin et al., 2013).

The responses for each item were rated by using a five-point Likert scale: 5 = always, 4 = often, 3 = sometimes, 2 = seldom, 1 = never, resulting in a global score ranging from 40 to 200. Data collection was performed before the clinical training experience (April 2013, pre-intervention evaluation) and at the end of the clinical learning experience (June 3013, post-intervention evaluation).

Ethical Issues

A preliminary authorisation to approach the students was obtained from the Dean of the identified Faculties. Then, students were informed regarding the aims of the study, and they were invited to participate. They were free to withdraw from the study at any time. Student written consent was collected and, thereafter, the questionnaires were distributed. In accordance with to the fact that each questionnaire collected in the pre-intervention phase was matched with the questionnaire collected in the post-intervention phase, anonymity was not possible.