

ASSESSMENT OF NURSING TEACHERS' ABILITIES TO FACILITATE ADULT LEARNING*

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ABSTRACT: The aim of this study was to evaluate the performance that the nursing teacher assigns for himself, in his abilities as facilitator for adult's learning. It was a descriptive, comparative, transversal and quantitative study developed with 226 nursing teachers from the nursing graduation in São Paulo. Data were collected from June 2010 to February 2011, with the Likert scale, launched in Excel® spreadsheet and analyzed using descriptive statistics and non-parametric Wilcoxon and Friedman tests. Teachers considered themselves being far from the highest level of abilities they wanted to achieve, and they said having greater control to the design and implementation of learning experience that the conceptual and theoretical references of adult learning. Teachers considered themselves having less than the ideal abilities to facilitate learning.

DESCRIPTORS: Nursing; Higher education; Nursing teachers; Educational models.

AVALIAÇÃO DAS COMPETÊNCIAS DOS PROFESSORES DE ENFERMAGEM PARA FACILITAR A APRENDIZAGEM DE ADULTOS

RESUMO: O objetivo desse estudo foi avaliar o desempenho que o enfermeiro docente de enfermagem atribui a si, na competência de facilitador da aprendizagem de adultos. Tratou-se de estudo descritivo, comparativo, transversal e quantitativo, desenvolvido com 226 docentes enfermeiros da graduação em enfermagem paulistana. Os dados foram colhidos de junho de 2010 a fevereiro de 2011, por meio de escala de Likert, lançados em planilha do Excel® e analisados por meio de estatística descritiva e testes não-paramétricos de Wilcoxon e Friedman. Os professores se consideraram distantes do nível máximo das competências que almejavam alcançar, declararam maior domínio para o design e aplicação experiências de aprendizagem que da estrutura conceitual e teórica da aprendizagem de adultos. Os docentes se consideraram aquém do ideal nas competências para facilitar a aprendizagem.

DESCRIPTORES: Enfermagem; Educação superior; Docentes de enfermagem; Modelos educacionais.

EVALUACIÓN DE LAS COMPETENCIAS DE LOS PROFESORES DE ENFERMERÍA PARA FACILITAR EL APRENDIZAJE DE ADULTOS

RESUMEN: El objetivo del estudio fue evaluar el desempeño que el enfermero docente de enfermería atribuye a si mismo, en la competencia de facilitador del aprendizaje de adultos. Es un estudio descriptivo, comparativo, trasversal y cuantitativo, desarrollado con 226 docentes enfermeros de la graduación en enfermería de São Paulo. Los datos fueron obtenidos de junio de 2010 a febrero de 2011, por medio de escala de Likert, puestos en planilla de Excel® y analizados por estadística descriptiva y testes no paramétricos de Wilcoxon y Friedman. Los profesores se consideraron distantes del nivel máximo de las competencias que deseaban alcanzar, declararon mayor dominio para el design y aplicación de experiencias de aprendizaje que de la estructura conceptual y teórica del aprendizaje de adultos. Los docentes se consideraron inferiores al ideal en las competencias para facilitar el aprendizaje.

DESCRIPTORES: Enfermería; Educación superior; Docentes de enfermería; Modelos educacionales.

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INTRODUCTION

Adult's education has always been articulated to social transformations and man's evolution, their perception and their maturity⁽¹⁾. The Andragogy, a theory that has emerged in this context, consecrated in 1968 when Malcolm Knowles started to use it to name the theory and practice of adult's education⁽²⁻⁵⁾.

A research about Andragogy in health and nursing demonstrated that it is a very important theme that should be highlighted in the future⁽⁶⁻⁷⁾. In Latin American countries, the use of Andragogy began with the W.K. Kellogg Foundation project called "A New Initiative in Health Professionals Education: Union with the Community – UNI", stimulating the exchange of teaching methodologies between Latin American countries from 1990⁽⁸⁾.

One of the andragogy model advantages applied to Nursing is to stimulate adult's educator nurses to change their attitude in teaching relationship, becoming cooperator. This attitude change matches with the Curriculum Guidelines for Nursing Course⁽⁹⁾, aimed to promote in the student, the autonomous and permanent intellectual and professional development ability.

In 1981, Knowles published the "self-diagnosis rating scale for adult's education", based on three abilities categories that the teachers should develop to work with adults: learning facilitator, developer, and manager of educational programs for adults⁽⁵⁾ (Figure 1). In this study, teachers' abilities were addressed to facilitate the learning of adults involving four domains: conceptual and theoretical reference of adult's learning, design and implementation of learning experiences, helping learners to become self-directed, and

teacher's capacity to select methods, techniques and materials for the educational program^(2,5).

Teaching is one of the nursing work processes⁽¹⁰⁾, supported by laws, ordinances and guidelines recommending education, continuing education of nurses and to constantly adapt to changes and to life in the society.

Given the above, the question is: "Do nursing teachers of higher education dominate the abilities to facilitate the adults' learning in an andragogic perspective?"

The growth rate of nurses' education schools in Brazil increased considerably since 1990. According to the Ministry of Education (MEC)⁽¹¹⁾, from 1991 to 2004, in São Paulo, there was a growth of 263.3% in number of courses and, consequently, the number of teachers increased to meet this demand. It is wondered whether this growth was enough to encourage these teachers to graduate with the necessary ability to educate adults in nursing graduation. In addition, from 2004 to 2007, there was a growth of 39.3% of students and 34.8% of courses throughout Brazil⁽¹²⁾, which may also have stimulated the search for teacher training.

The structure of schools is also a concern, since the MEC data regarding the National Exam of Student Performance (Enade), has observed that there are problems in nursing education, since the overall average of Nursing (31, 9%) was lower than the overall average of Health (32.3%) in 2004⁽¹¹⁾. The Enade⁽¹³⁾ results in 2007 were similar to 2004: the overall result showed that the overall average performance was lower than desired, being a worrying situation and showing a necessity for reflection on the effectiveness of educational practices. The Enade grades aim



Figure 1 - Conceptual map about the abilities for adult's education according to Knowles. São Paulo, 2011

to reflect the performance of students and the level of mastery of several skills, knowledge and content provided in the National Curriculum Guidelines⁽⁹⁾. Low grades may indicate nurses' education below MEC's recommendations and low necessary abilities to act professionally. Later, this training will surely reflect negatively on the performance of nursing work processes, and their formation can only occur with quality, in schools that have this concern.

People who wish to teach (teachers) and others who want to learn (students) represent schools that promote good education. Therefore, looking to the teachers and the abilities they should have in the current context is very important. Good nurses are trained by competent teachers, that is, having the abilities to facilitate and promote adult's learning.

It is noteworthy that in the Brazilian literature there are few studies addressing teachers' abilities to work with adult's education. In nursing, there are no studies measuring the abilities of nursing teachers who work in nursing graduation at an andragogic perspective. Thus, it is appropriate to carry out this research.

This study aimed to identify how nursing teaching assessed their abilities to facilitate the adults' learning and which ones are considered ideal, and compare the abilities that the teacher had said with those considered ideal to have.

METHOD

Descriptive, comparative, transversal study with a quantitative approach, developed in Nursing Undergraduate face-to-face, authorized and running courses in São Paulo in 2010. According to MEC⁽¹⁴⁾, during that year there were 27 courses in this condition and 20 higher education institutions participated in this study. Four courses were excluded because at the time of the research, they did not have classes in progress, one by refusing to participate, two for not answering the request to participate and for having exclusively online nursing courses, not answering the inclusion criteria.

The study population were nursing teachers of face-to-face undergraduate courses in Nursing located and working in São Paulo; possessing at least one face-to-face undergraduate Nursing course at least two years of operation and was in operation, and authorizing through their directors/coordinators, the teachers approach. Teachers participating signed a free and informed

consent form (TCLE); were not out of their activities and were teaching in higher education for a period exceeding six months.

The project complied with Resolution 196/1996 of the National Health Council of the Ministry of Health (MS), effective at the time of data collection, submitted to the Ethics Committee on Human Beings Research of the Federal University of São Paulo (UNIFESP) and approved under number 1620/10.

Coordinators of the courses provided the participants' contacts, providing by the total number of teachers totaling 653 subjects. There were 653 questionnaires distributed and 226 (34.61%) instruments answered and with the consent form signed.

The data collection instrument was composed of two parts: characterization data of the population (age, gender, weekly hours of work, teaching experience, education, graduation) and Likert measure scale about the abilities for the role of the educator/trainer of adults. The scale used was proposed and tested by Malcolm Shepherd Knowles and its permission to use was granted without limitation⁽²⁾.

The instrument called "Self-diagnosis Rating Scale of abilities for the role of the adult educator", is composed of three abilities groups with 54 assertions. The group or ability to facilitate learning was the focus of this article and can be understood in four domains: I - conceptual structure and theoretical reference of adult's learning, II - design and implementation of learning experiences, III - helping learners to become self-directed and IV - selecting methods, techniques and materials. Each domain had a skill set.

Each ability description was a six grades measuring scale, 0 - absent, 1 - very low knowledge, 2 - poor knowledge, 3 - moderate knowledge (conceptual understanding), 4 - high knowledge and 5 - highest knowledge (expert or specialist). Thus, the teachers researched noted using the letter "A", evaluating the way they were at that moment, and the letter "D", how they he wanted to be, to work with adults in teaching and learning processes.

Data collection began in June 2010, after obtaining the authorization of the directors/coordinators of the courses and by signing the informed consent form by the teachers and ended in February 2011.

Information was collected through the instrument described and were transcribed into a database built with Excel® tool, composed of 119 columns, with the characterization data of the population and results of scale. After the database was completed, the worksheet data were transported to software for statistical analysis called Minitab® version 16. In this study, only the characterization data of the population and the scale focusing on the abilities will be reported.

The analysis of the study population used descriptive statistics - simple frequency (absolute number) and relative frequency (percentage), measures of central tendency and variability, that is, average, median, standard deviation, minimum and maximum values⁽¹⁵⁻¹⁶⁾.

Data from self-diagnosis rating scale for the role of adult educator were treated in three stages: 1. The current and desired levels of nursing teachers for each ability that makes up the domain of a particular ability are significant. 2. The current and desired levels of nursing teachers for the abilities within each domain alone (I, II, III and IV) and 3. The current and desired levels of nursing teachers for abilities between domains. As the skills of each ability did not follow a standard, nonparametric tests were used to assess the significance.

Thus, each scale line was treated separately, using descriptive statistics – sum, ratio (%), average, standard deviation, minimum, median and maximum and, then to compare the current levels of ability (“A”) and desired ability (“D”), non-parametric Wilcoxon test was used⁽¹⁵⁻¹⁶⁾ for the first and second stage, and Friedman⁽¹⁵⁻¹⁶⁾ for the third stage. The significance level, which determined if the difference between them was relevant or not, was considered for $P < 0.05$ or 5%.

The data that resulted from detailed analysis above were faced with the literature on the topic.

RESULTS

The 226 teachers (Table 1) were between 27 and 67 years old, with 119 (52.65%) between 41-55 years old and most of them, 198 (87.61%), were female, 158 (69.91%) working 31-40 hours per week and having six to 10 years of teaching. There were 176 (77.88%) subjects working on theoretical and practical subjects. Regarding the education (Table 2), 122 (53.98%) have graduated from public school, 201 (88.94%) were specialized mainly in Education, Administration and Maternal and Child Health, 180 (79.65%) had Master

degree, especially in Adult Health Nursing and in Management, 77 (34.07%) teachers were doctors, especially in Nursing, only three (1.33%) reported being free-teachers and 28 (12.39%) attended another graduation.

Self-diagnosis rating scale data treatment for the role of adult’s learning facilitator showed that with regard the ability to facilitate learning in the conceptual and theoretical structure of adult’s learning, the teachers, although they said they were below the desired level of ability (significance level 0.0000), they said they have a moderate current ability (A) and desired more ability (D) to conceptualize and explain the teacher’s role as facilitator and resource for self-directed learners (average A = 3.17 and average D = 4.72) than ability to describe learning theories and

Table 1 – Nursing teachers according to sociodemographic variables, operating time, working hours and type of subject ministered. São Paulo, SP, Brazil, 2011

Variable	Frequency (total =226)	Percentage (%)
Age group		
41 to 55 years old	119	52.65
Gender		
Female	198	87.61
Working hours and time teaching		
31 to 40 hours/ 6 to 10 years	158	69.91
Type of subject		
Theoretical and practical	176	77.88

Table 2 - Nursing Teachers according to education and continuing education. São Paulo, SP, Brazil, 2011

Variable	Frequency (total =226)	Percentage (%)
Education		
Public school	122	53,98
Private school	101	44,69
Not informed	3	1,33
PG Lato-senso		
PG Stricto-senso		
Master degree	180	79,65
Ph.D.	77	34,07
Free-teaching	3	1,33
Other graduations		
Yes	28	12,39

assess their relevance to the specific situations of adult's learning (average = 2.23 A). Regarding the desire, the lowest score scale was ability to describe the differences between youth and adults as learners, and the implications of these differences for teaching (average D = 4.40).

In the facilitator of learning ability in the domain of design and implementation of learning experiences, the less ability was attributed to the ability to describe the difference between content plans to design processes. This was also the least desired to develop (average A = 2.40 and average D = 4.43). Teachers have signaled more ability to create environments (physical and psychological) of respect, trust, sincerity, mutual support and security, being the ability they most wanted to develop (average A = 3.61 and average D = 4.86).

For the third domain of facilitator of learning ability, called helping learners to become self-directed, the biggest and also the smallest desire to grow was found in the ability to shape their role as self-directed learning in their own behavior (average A = 2, 58 and average D = 4.46). The smaller domain was signaled for the ability to plan and conduct self-directed learning experiences (average A = 2.53). The ability of teachers most desired to develop was to explain the conceptual difference between didactic instruction and self-directed learning (average D = 4.52). It is worth noting that the differences between the current level (and also between the desired level of ability) among the abilities in this domain have been very close, almost tied.

Finally, in the IV domain as facilitator of learning ability, called selecting methods, techniques and materials, the smallest domain ability, relative to the other, it was to build and use tools and procedures for the evaluation of the necessity of developing abilities (average A = 2.56), while the largest domain was the ability to use dynamic groups and small group discussion techniques (average A = 3.14). The greatest desire to develop was signaled in the ability to invent new techniques in order to adapt them to new situations (average D = 4.75), and less desire was the ability to use audience participation methods (average D = 4.50).

The result of the relationship between issues of each domain identified that teachers were far from the level wanted to achieve (significance level (P) = 0.0000), concentrating the answers in the range of three to current ability (A) and five for desired ability (D).

Regarding the significance rates between domains, it was observed relevance between the facilitator of learning ability. The ability by domain had less emphasis on conceptual and theoretical reference of adult's learning (I) (median A = 2.60) and greater emphasis on design and implementation of learning experiences (II) (median = 3.07 A). The desire to develop by domain had less emphasis on conceptual and theoretical reference of adult's learning (I) (median A = 4.60) and greater emphasis on design and implementation of learning experiences (II) (median A = 4.85). These data are shown in Figure 2.

DISCUSSION

As for the identification data, it was predominantly a female population of middle-aged, with a postgraduate degree, working about 40 hours per week and teaching theoretical and practical subjects.

Regarding the facilitator of learning ability, discussed below, for all of the domains, most teachers declared moderate domain and maximum desire to develop.

Conceptual and theoretical reference of adult's learning

The Andragogy is not a process that emphasizes content as the traditional theory. However, its proposal is to emphasize the acquisition of abilities and self-direction of the student. Thus, to facilitate learning, it is essential that the teacher becomes able to recognize and manage the needs, interests, motivations, abilities and characteristics of adults as learners. Therefore, the teacher must adapt to the characteristics of students recognizing their level of maturity and heterogeneity in each classroom.

Most teachers learned throughout their lives through the traditional theory or pedagogy, and they do not have experience in conducting and facilitating adult's learning through an andragogic conception. In addition, teachers have little preparation for the teaching domain, their activities are guided by models they had when students and they value the domain contents to be taught⁽¹⁷⁾. Maybe courses and subjects with educational and learning topics, offered in master and doctors education and in undergraduate programs can contribute to the development of abilities for adult's education, but not all teachers have access to them.

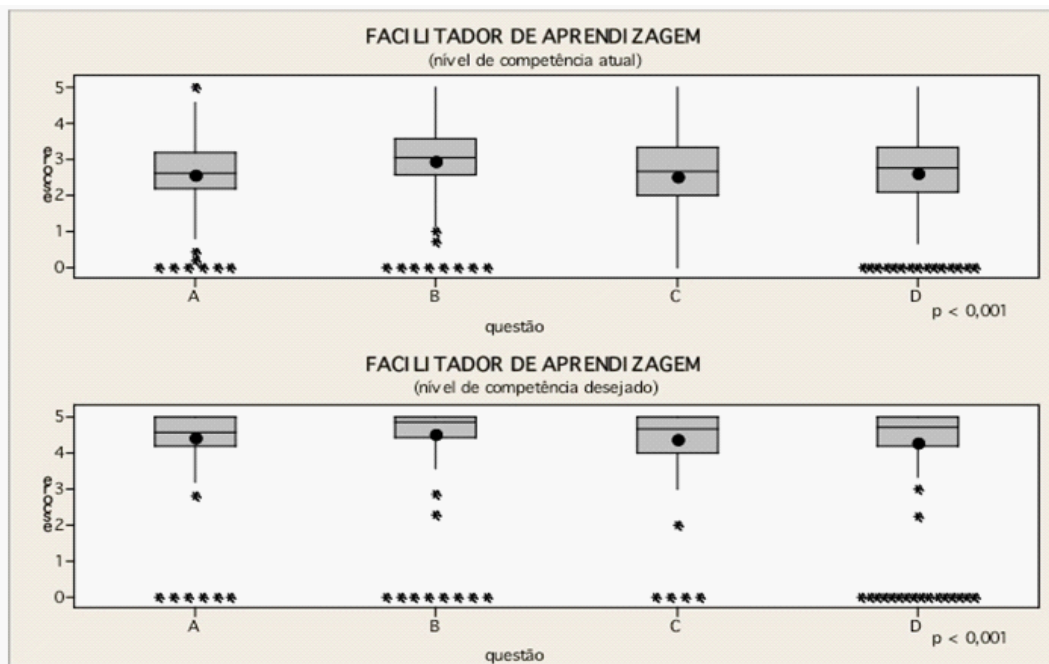


Figure 2 - Results of “Learning Facilitator” ability, relationship between domains, current and desired level for adult’s education according to the nursing teachers working in undergraduate nursing courses in São Paulo, in 2011.

Design and implementation of learning experiences

Teachers are used to working with content, since pedagogy values the knowledge. The focus on teaching and learning process and the use of methodological resources are not common in the daily practice of teachers who learned to value content. The process of teaching and learning and therefore the use of methodological resources require that the teacher recognizes that each learner has previous experience to be considered for planning proposals to consider these experiences as a starting point and involves great adaptability, creativity and mastery of various resources. There is no doubt this is a challenging task for content teachers.

Friendly environments are promoted by teachers who facilitate the adaptation of learners in order to guide and monitor routines, considering the previous experience, planning learning programs and involving the student in this planning by inserting repetitions, rest periods, choices, offering daily feedback, encouraging self-assessment and encouragement of strengths⁽¹⁸⁾. In this sense, the nurses’ education has the essential skills in interpersonal relationships; thus, the nurse has this ability, which is a prior experience that will influence the exercise of teaching.

Helping learners to become self-directed

The task of preparing the learner for self-direction was added to the andragogic process

in 1995 by Knowles⁽²⁾, due to the high level of responsibility that the student would have to take to become self-directed and also the success of learning to the learner becoming subject of the educational process. The self-direction encourages students to develop self-confidence and independence to learn, but there are limits that should be considered in the task of leading the student to self-direction.

The learner, in the current context, is not prepared to take the self-direction nor develop questioning and self-directed posture because, throughout his educational career, he has learned under the foundation of classical pedagogy. This creates culture shocks when exposed to programs that require self-direction. To minimize this fact, andragogic teachers should incorporate modules, courses or preparatory courses on self-direction, involving the differences between proactive and reactive learning, research on the capabilities of learners (previous experiences), establishing interpersonal relationships with small groups and self-direction practices⁽³⁾. These may be unusual tasks in the reality of the subjects of this study and perhaps by least domain them, they wanted to develop them more.

Selecting methods, techniques and materials

Techniques of active education, that is requiring the student to reflect, practice, critique and engage, enabling the educator and the student to observe the learning progress through

demonstrated abilities with the topic. The domain techniques, methods and materials is directly related to the learning styles and characteristics of adult's learners, that is each individual processes information differently⁽¹⁹⁾. The teacher should be aware of this fact and adapt education to the reality of students. Thus, selecting methods also implies knowing the learner and take on different roles to suit the level of maturity of the student⁽¹⁷⁾.

The domain of methods, techniques and materials brings together a group of facilitator of learning abilities to students acquire abilities through cognitive and psychomotor reinforcement on the topic. An experience report⁽²⁰⁾ found that students become more skilled and confident when they observed experience and practical methods of venipuncture. The teacher should have the ability to classify, select and apply methods, techniques and materials appropriate to each teaching-learning process.

Comparison of the four ability domains for facilitating learning

On the current perception of teachers among the four ability domains for facilitating learning, the answers analysis allowed diagnose that there was greater control design and implementation of learning experiences and smaller the conceptual and theoretical references of adult's learning. This may be linked to the practice methodologies, even for a few teachers, such as questioning, the problem-based learning, the use of learning contracts, portfolio and online learning, as movements in response to the need to invest in more critical, reflective and proactive professionals training.

However, the reasoning of educational practice is still predominantly traditional teaching, responding to the smaller domain of adult's learning theory. It is also important teacher training be guided by the graduate and neglect teaching subjects and thus teachers perpetuating models they had when students.

Teachers are currently experiencing a traditional teaching transition to models and theories that meet the needs of the student, because this way learning has shown improved results. To this end, the teacher must also domain the educational process, adult's education, involving conceptual and theoretical references of adult's learning, the design and implementation of learning experiences, self-direction of programs and methods, techniques and materials. This implies focusing on the teaching process in the individual

who is learning.

The adult's learning theory has documented its success by meeting the cognitive (intellectual), affective (emotional) and psychomotor student (experience) demands⁽²¹⁾.

FINAL CONSIDERATIONS

This study found the abilities to facilitate adult's learning according to the teachers who worked in São Paulo nursing graduation, through self-diagnosis rating scale of andragogic abilities to the role of adult educator, developed by Knowles. The instrument evaluates the profile of teachers regarding the abilities to work in adult's education.

Generally, the subjects of this study declared to be at an intermediate level compared to most they wanted to reach when grouping the learning facilitator abilities, that is, most of nursing teachers found far from the ideal of maximum competence level they want. Thus, as this grouping values and greatly influences the success of learning in nursing, it is suggested the intervention in the processes of training and development of nursing teacher in these abilities for the improvement of education.

The global analysis of the results indicates that, before any intervention to consider the Andragogy as a basis for teacher training is implemented, it is necessary to measure the current level of abilities of these individuals. This was done in this research precisely because there is, in nursing, abilities measurements in an andragogic perspective.

The limits of this study should be considered by readers and researchers, since it is a work in schools and groups of teachers characteristic of São Paulo and others that do not fit the different realities.

It is considered that the study will be useful to facilitate the planning of programs for individual and institutional development of teachers and educational institutions by the directors regarding the relevant abilities to enhance the performance of teachers and students.

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