Implementation of diagnostic focus in the Degree Program in Nursing:
transition from Carpenito's bifocal clinical practice model to Nanda-I-Noc-Nic (NNN) taxonomies.

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Introduction

Since the academic year 2000/2001, our Degree Program in Nursing has used Gordon's health patterns for assessment and Carpenito's bifocal model in nursing process education. We found that students, applying Carpenito's bifocal clinical practice model, were rarely able to grasp the nursing focus in care planning. In fact, the use of collaborative problems led students to focus mainly on medical data at the expense of nursing data. So, we decided to use a single-focal model to foster the acquisition of the discipline-specific nursing competencies.

Yesterday: from 2000 until 2019	Today: since 2019
Gordon's 11 functional health patterns for assessment	Gordon's 11 functional health patterns for assessment
Carpenito's bifocal clinical practice model in nursing process education	Single-focal model with Nanda-I-NOC-NIC taxonomies in nursing process education
Problem based learning	Case method
Ø	Care planning labs
Ø	Critical thinking workshops
Paper nursing record	E-learning platform www.i-florence.it (© 2019 CEA - Casa Editrice Ambrosiana)

Case method

Definition: Teaching methodology based on the analysis of a clinical case - description of a real situation, rich in data of nursing interest.
Target audience: 1st, 2nd and 3rd year students, in plenary session.
Aim: To identify case diagnostic indicators and plan nursing care using GNNN taxonomies.
Running task: The student, after having individually researched in the classroom the definitions of unknown terms, answers the questions provided in advance by the teacher, gradually sharing the outcome of his or her research with the rest of the class. In this way the analysis of the case results from a guided process of comparison and discussion, where the teacher stimulates students to think about the data in their possession, interpreting them in the light of the new information available, in order to explain the phenomena described in the text. The next steps involve, with the use of the three books or the e-learning platform Florence, identifying the dysfunctionality of one or more Gordon's health patterns, hypothesizing and validating NANDA-I nursing diagnoses, and planning nursing care with NOC and NIC.

Care planning labs

Definition: Learning method used to acquire cognitive skills.
Target audience: 1st, 2nd and 3rd year students, in small groups.
Aim: To identify diagnostic indicators through assessment; to identify nursing diagnoses, nursing outcomes and nursing interventions.
Running task: The method involves administering a clinical care situation based on real cases, searching for unknown terms and prerequisites necessary for understanding the text; identifying diagnostic indicators for defining NANDA-I nursing diagnoses and subsequent care planning with NOC and NIC, using the e-learning platform Florence or the three books.

Critical thinking workshops

Definition: Workshops based on the "iterative hypothesis" method, a step-by-step process where a "databank student," assisted by a clinical tutor and an educational tutor, presents a real-life clinical case to the other students to plan nursing care together.
Target audience: small group of students (10-12), 2nd and 3rd year.
Aim: To identify nursing diagnoses through assessment; to identify nursing diagnoses, nursing outcomes and nursing interventions.
Running task: After reading a very brief description of the case, participants ask questions to the database student, justifying the rationale for each one; they proceed by discussing, confirming and/or discarding the various diagnostic hypotheses, finally completing the nursing care planning using the three books ort the e-learning platform Florence.
The nursing care plan drawn up by the participants is discussed with the database student and the clinical tutor, who confirm or reject the care interventions, comparing them with the care actually delivered to the person. The educational tutor provides supervision of the method, stimulates the group to ask questions, and manages timing and communication.

E-learning platform www.i-florence.it (© 2019 CEA - Casa Editrice Ambrosiana)

It is an e-learning platform organized into three linked modules (NANDA-I, NOC, NIC, constantly updated). It is designed for students, faculty, professionals and institutions, and allows them to practice care planning using the nursing process.
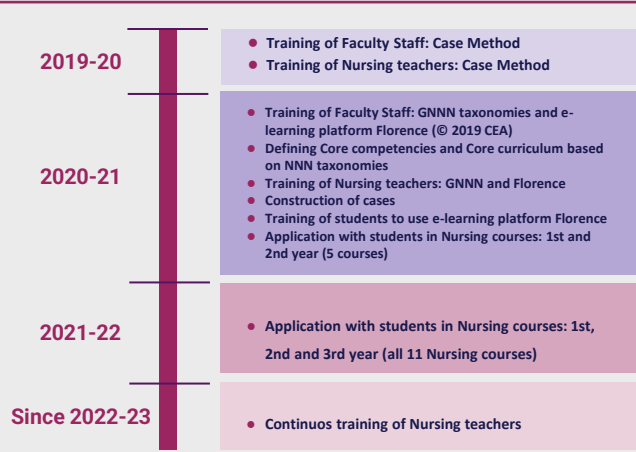Florence uses specially designed clinical cases to simulate different care situations, Gordon's 11 health patterns for assessment, NNN taxonomies. The clinical cases are accompanied by multimedia content to enhance the learning experience: videos; audio files to listen to the narration of the person being cared for and/or their family members; and self-assessment exercises.

Aims

The aims of this project are to improve students' ability to use standardized nursing terminology and to identify nursing phenomena in Italy, where the role of nurses is often limited to the collaborative realm with physicians at the expense of their own autonomous realm of professional competence and accountability. In accordance with the latest definition of nursing diagnosis (2019) and Gordon's functional health patterns, nursing phenomena in our project are the human responses of individuals, caregivers, families, groups, or communities to health conditions/life processes, or a susceptibility to that response.

2019-20
- Training of Faculty Staff: Case Method
- Training of Nursing teachers: Case Method

2020-21
- Training of Faculty Staff: GNNN taxonomies and e-learning platform Florence (© 2019 CEA)
- Defining Core competencies and Core curriculum based on NNN taxonomies
- Training of Nursing teachers: GNNN and Florence
- Construction of cases
- Training of students to use e-learning platform Florence
- Application with students in Nursing courses: 1st and 2nd year (5 courses)

2021-22
- Application with students in Nursing courses: 1st, 2nd and 3rd year (all 11 Nursing courses)

Since 2022-23
- Continuos training of Nursing teachers

Methodology

Performance indices at the cognitive station of the Objective Structured Clinical Examination (OSCE), obtained by students in September 2019 and 2022, were analyzed and compared. The sample consisted of 144 students (52 first year , 42 second year, 50 third year) for 2019 and 121 students (45 first year, 30 second year, 46 third year) for 2022.
Inclusion criteria are internship attendance and its positive evaluation.
The OSCE involves assessing clinical competence acquired in internship by passing a different number of examination tests. Specifically, the first station is the cognitive station and consists of a structured triple jump exam: each student analyzes a clinical case, identifying significant data (diagnostic indices) through Gordon's health patterns and planning nursing care through NANDA-I, NOC and NIC taxonomies, with use of the three books or platform Florence (© 2019 CEA). The cases are consistent with the content covered during the year in the Nursing courses and laboratory teaching activities and are representative of the actual cases faced during the internship. The nursing care planning carried out by the students are evaluated through special forms; the score ranges from a minimum of 8 to a maximum of 15 points. Time allotted is 30 minutes for case analysis, and 15 minutes for oral discussion of nursing care planning.
The performance indices considered to evaluate the achievement of the study objectives are exam pass rate, passing the exam on the first attempt, number of times needed to pass the exam, and rating obtained.

Results

Comparison of performance indices of OSCE exam cognitive station between the year 2019 (Carpenito) and the year 2022 (GNNN) shows improvement in the first and third year.
The second year, on the other hand, shows a slight decline in all performance indices except for the average times for passing the exam.
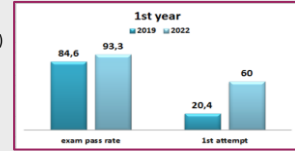
Performance indices of the cognitive station of the OSCE in September		
FIRST YEAR	2019	2022
exam pass rate	84,6%	93,3%
1st attempt	20,4%	60%
average times to pass the exam	2,3	1,38
average rating	not available	14,07/15
SECOND YEAR	2019	2022
exam pass rate	76,1%	73,3%
1st attempt	46,8%	40,9%
average times to pass the exam	1,71	1,63
average rating	not available	12,41/15
THIRD YEAR	2019	2022
exam pass rate	82%	100%
1st attempt	41,4%	80,4%
average times to pass the exam	1,8	1,26
average rating	not available	13,85/15
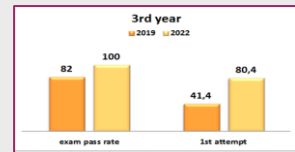
Discussion

Students, using GNNN taxonomies, demonstrated better ability to use standardized nursing terminology and to identify nursing phenomena, rather than focusing mainly on the signs and symptoms of medical diagnoses.
We believe that the performance of second year students was affected by the fact that the COVID-19 pandemic suddenly made it necessary to use distance learning tools, now established but previously rarely used in our setting. This cohort, compared to the others, received full distance education the first year and blended education the next one, and demonstrated worse outcomes in all course exams.
Considering the positive results of the implementation project, we believe that an important role was played by the use of the e-learning platform Florence (© 2019 CEA) dedicated to nursing care planning with GNNN taxonomies.
We have measured process indices related to students' ability to plan nursing care in the educational setting; the next step could be to measure indices of impact in the clinical practice through a research study.

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