

REPORT D2.1

Report on shared Euro-Angolan experiences around practical nursing training processes
and the selection of key practical competencies for nurses in Angola

Affiliation: IPP - Polytechnic Institute of Portalegre

Date: January 15, 2024

Version: 1.0

Status: draft/final



Universidad
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CLINICALSIM - Clinical simulation practice-based learning in nursing.
Grant Agreement no. 101128330.

Document Control Information

Deliverable number:	Dn.n
Deliverable name:	
WP:	WP1
Delivery due date:	30/11/2023
Actual date of submission:	1/02/2024
Dissemination level:	<Public, Sensitive>
Lead beneficiary:	IPP
Main author:	IPP
Contributor(s):	IPP

Document reviewer(s)/approver(s)

Name	Role	Action	Date
Adriano Pedro	Author	Approve	15/01/2024
CLINICALSIM project's team	Reviewing	Review	29/01/2024
Adriano Pedro	Reviewing	Review	30/01/2024
UNEAT	Translation	Review	31/01/2024
Adriano Pedro and Ricardo Serra	Reviewing	Review	31/01/2024
QA team UNIC	Reviewing	Approve	1/02/2024



Document history

Date	Version	Author	Short description of changes
15/01/2024	1.0	Adriano Pedro	Author
29/01/2024	1.1	CLINICALSIM project's team	Review
30/01/2024	2	Adriano Pedro	Review
31/01/2024	2.1	UNEAT	Translation
31/01/2024	2.2	A. Preto/ Ricardo Serra	Review of the translation
1/02/2024	2.3	QA team UNIC	Review of the structure an English version



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Abbreviations

ECTS - European Credit Transfer and Accumulation System

EHEA - European Higher Education Area

ESS - School of Health

EU - European Union

IES - Higher Education Institutions

IPP - Polytechnic Institute of Portalegre

IP-UJES - José Eduardo dos Santos University - Polytechnic Institute

OE - Order of Nurses

PAT - Tutorial Action Plan

PBL - Problem-Based Learning

UNIC - International University of Kwanza

WHO - World Health Organization



Introductory note

Simulated practice can be understood as a set of structured activities that represent a real or potential situation, in which participants carry out a set of activities in a simulated but realistic environment and using real materials and equipment (Martins, 2017). Simulated practice is not limited to the use of technology, it is a teaching and learning technique that aims to understand, reinforce and disseminate the knowledge, skills and attitudes of health professionals (Sarfati et al., 2019). It is a determining factor in the safety of the people being cared for in a real-life context, as recommended by the World Health Organization [WHO] when it states that institutions that train health professionals should use simulated practice in the education and training of their trainees (WHO, 2013). In this way, students can practice in a simulated clinical practice environment, which helps to reduce the risk of errors in the performance of their duties (Sarfati et al., 2019) by carrying out a simulated situation, either completely or partially, which allows them to develop the skills listed without putting the patient at risk (Pai, 2018).

Educational institutions can use high-fidelity simulation when there are appropriate contexts and resources, and low-fidelity simulation in institutions with limited resources (WHO, 2013). Thus, simulated practice can be carried out in various environments, such as simulation laboratories, virtual reality/digital multimedia or the very environment in which professionals work, using low/medium/high-fidelity simulators or standard patients (Mota et al., 2021; Silva et al., 2022).

Simulated practice essentially consists of three main stages: 1) *prebriefing*, which consists of the information and guidance that is provided to students immediately before immersion in the simulated situation, about learning objectives, equipment, models/mannequins, functions, time and scenario; 2) participation, which is the moment when the student carries out all the interventions in the simulated situation and the outcome of which will depend on the quality of the student's intervention; and 3) *debriefing*, which consists of the reflection that the student and the professor/facilitator make on what happened in the simulated situation and takes place after it has finished (Silva et al., 2022; Oliveira et al., 2018). Although we live in a time of rapid technological development and students are very fond of virtual reality/digital multimedia, it is important to emphasize that the aim of simulated practice is not to introduce the latest technology into learning, but to develop professionals with the skills to lead experiential learning (Bryant et al., 2020).



In nursing education, there has been a great deal of concern over the years about the development of active and differentiating teaching strategies that promote the development of the skills needed for nursing students to provide care and that, at the same time, are safe so as not to expose patients to unnecessary risks (Oliveira et al., 2018). Because it allows us to build a scenario as close as possible to reality in a controlled and safe environment, simulation has been a pedagogical strategy widely used in nursing education (Silva et al., 2022). In this way, simulated practice stimulates the nursing student's clinical and critical thinking in assessing the patient's situation, setting priorities, making decisions and carrying out the most appropriate interventions for the situation, as well as stimulating the student's reflective thinking by analyzing their own actions during the simulation (Oliveira et al., 2018; Mota et al., 2021; Rosa et al., 2020).

The use of simulation in nursing education allows students to take an active role in building their own knowledge, through training in an ideal, controlled environment without fear of the repercussions of their possible mistakes, making it possible to repeat their actions/interventions until they are perfected and their skills are properly developed, so that they have a positive impact on people's health in a real context. At the same time, it promotes the nursing student's self-confidence and responsibility based on a more realistic learning (Oliveira et al., 2018; Mota et al., 2021).

The operationalization of simulation is very important for the teaching-learning process of nursing students, after all it aims to prepare them for the challenging clinical practice they will face when caring for real patients, so each component of the simulation must be carefully prepared and the standards of good practice defined by the *International Nursing Association for Clinical Simulation and Learning* (INACSL, 2016; Nunes et al., 2022) must be met, in order to promote the full potential and success of simulated practice.

The CLINICALSIM project aims to introduce some innovations into nursing education in Angola and aims to improve the practical training of nurses through simulated practice. To this end, the state of the art in the region will be considered, as will the inter-institutional relations of the various bodies involved in the project. Considering the diversity of the institutions involved in the project, it is of interest to know the different experiences related to simulated practice of the entities involved. The aim of this report is therefore to comparatively analyze the simulated practice, and the shared Euro-Angolan experiences regarding practical nursing training processes and the selection of essential practical skills for nurses in Angola.



Co-funded by
the European Union

Project: 101128330 - CLINICALSIM - ERASMUS-EDU-2023-CBHE
Dn.n Deliverable name





1 Nursing Education in Europe

Higher education in Europe has been undergoing changes since the start of the Bologna Process, which emerged in the European Union following the signing of the Bologna Declaration on June 19, 1999, by the ministers responsible for higher education of 29 European countries in the city of Bologna in Italy. It has been a process of intergovernmental reform at European level that aims to reform the European Higher Education Area [EHEA], creating an open space that allows students, graduates and senior staff working in the field of higher education to benefit from mobility, fair, unhindered access and high-quality higher education. This European area is based on the mutual recognition of degrees and other higher education qualifications, transparency and European cooperation as a guarantee of quality.

The European Union [EU] and the European Higher Education Area have unified, harmonized and ensured the consistency of higher education systems across Europe (EU, 2005). This process has been achieved through the adoption of a structure based on three main foundations: the European Credit Transfer and Accumulation System [ECTS] or "Credits", a two-level higher education structure covering undergraduate and postgraduate education, and the establishment of an accreditation system for internal and external evaluation of Higher Education Institutions [HEIs] (Humar & Sansoni, 2017).

Within this framework, the consolidation of nursing education in Europe has also been promoted, with European countries agreeing on nursing policies to achieve better and higher qualifications for nurses. This has had an impact on nursing education in most European countries, with the implementation of a new education structure based on three levels: bachelor's, master's and doctorate. More than 20 years after the signing of the Bologna Declaration, higher nursing education in Europe has been keeping up with these changes, introducing the necessary changes to be a competitive education in a global market. Directive 2005/36/EC of the European Parliament and of the Council of the European Union (2005) on the recognition of professional qualifications aims to facilitate the free movement of EU citizens, making it easier for qualified nurses from each Member State to practice the nursing profession in another Member State (Humar & Sansoni, 2017).

Currently, nursing education is offered in almost all European countries, and the Qualifications Frameworks in the European Higher Education Area have proposed introducing changes to the curricula of nursing courses in the various European countries in order to achieve greater uniformity; however, there are still differences, as each country has its own legislation, culture, healthcare



needs, healthcare philosophies and structures, and economic situations (Salminen et al., 2010). In general, the number of nursing HEIs is directly proportional to the size of each country's population, but this is not directly proportional to the number of nurses trained.

In Europe, most countries have Nursing Education integrated into University Education, require 12 years of previous education and 18 years of age to access the Nursing education, other countries, such as Germany and Ireland, require only 10 years of previous education and allow access at the age of 17, France also allows access by curricular appreciation of professional experience. Germany, Spain, Italy and Portugal are the countries with the most HEIs offering nursing degrees, 1,500, 58, 42 and 39 respectively. On completion of the nursing degree, most HEIs in Europe award a bachelor's degree, although some countries (Estonia and Russia) only award a diploma or certificate. In some countries (Germany, Latvia, Sweden and Switzerland) certification depends on the Higher Education Institution and the type of training provided, awarding a degree or just a diploma (Taneva et al., 2023).

Directive 2005/36/EC of the European Parliament and of the Council of the European Union (2005) sets the duration of a nursing degree at between 3 and 4 years, but this duration also varies in European countries, although in most it is 4 years. In Germany and Latvia, the duration is 3 or 4 years. Russia has the shortest duration of education, 2 years and 10 months, while the northern countries (Denmark, Finland, Estonia) have set the duration at 3.5 years, in Mediterranean countries such as Spain, Portugal, Greece, Cyprus, Bulgaria and Ireland it is 4 years (Patelarou et al., 2009; Tóthová & Sedláková, 2008). In other member countries, including Italy, North Macedonia, France, Czechia, Sweden and Switzerland, the duration of the nursing education is 3 years.

Directive 2005/36/EC of the European Parliament and of the Council of the European Union (2005) also establishes the minimum requirement of 4600 hours of theoretical and practical training, which is met by all EHEA member countries (Råholm, 2010). The duration of practical training or clinical simulation is the characteristic of training that shows the most uniformity between European countries, despite differences in the total number of ECTS or total workload required, there is a consistent rule of at least 50% of hours with clinical practice activities.

Almost all countries offer postgraduate programs for nurses, except for North Macedonia. Estonia, Latvia and France do not offer doctoral programs specifically for nurses.

We can therefore see that there are still significant differences in nursing training in Europe, although most countries have set the duration of the course at between 3 and 4 years, leading to a degree and including 50% of the workload in clinical practice activities. Also noteworthy is the asymmetry in the number of institutions offering nursing degrees in each country.



In order to fully implement the Bologna Process, it would be essential to standardize nursing education in the EHEA so that students can obtain similar academic training and nurses can practice their profession throughout the EU.

1.1 Nursing Education in Portugal

Undergraduate nursing education in Portugal is taught in Higher Schools of Health, integrated into Universities, Polytechnic Universities, or non-integrated Higher Schools of Nursing, and is called the Nursing Degree Course. (Silvestre, 2009). The Nursing degree course, according to article 5 of Decree-Law no. 353/99 of the Ministry of Education (1999):

"1 - ...aims to ensure scientific, technical, human and cultural training for the provision and management of general nursing care to the person throughout the life cycle, the family, groups and the community, at the different levels of prevention.

2 - The course also aims to ensure the necessary training: a) To participate in the management of health services, units or establishments; b) To participate in the training of nurses and other health professionals; c) To develop research practice within its scope."

The Directive 2005/36/EC of the European Parliament and of the Council of the European Union (2005) on the recognition of professional qualifications, and Article 28(3) of Law no. 9/2009 of the Portuguese Parliament (2009) state that "The training of nurses responsible for general care shall comprise at least three years of study or 4600 hours of theoretical and clinical teaching, the coordination of the entire study program being the responsibility of the institutions providing the training, of which the theoretical teaching shall constitute at least one third and the clinical teaching at least half."

The schools that teach the Bachelor's Degree in Nursing, in compliance with the above-mentioned legislation and other national legislation in force, are responsible to draw the study plans. The Ordem dos Enfermeiros [OE], a public professional association representing nurses, in the exercise of its attributions, namely participation in official accreditation processes and the evaluation of courses that give access to the nursing profession, in accordance with Law 156/2015 of the Assembly of the Republic (2015).

According to the OE, the Nursing Degree Course must meet the following cumulative requirements:

- The studies' cycle must correspond to 240 ECTS;
- The total duration of the course is 4 academic years;





- Each academic year must include 60 ECTS;
- Each academic year should last between 36 and 40 weeks of teaching activities;
- One ECTS should correspond to a total of between 25 and 28 hours, divided between face-to-face contact hours and hours of autonomous work by the student, within the scope of each course unit;
- An academic year should have a total of between 1500 and 1680 hours, corresponding to 60 ECTS;
- Theoretical teaching must correspond to at least 80 ECTS (one third of the total ECTS of the course);
- Clinical teaching must correspond to at least 120 ECTS (half of the course's ECTS);
- The syllabus must include theoretical and clinical teaching in a properly articulated manner;
- Each ECTS credit corresponds to a number of hours dedicated to face-to-face teaching activities of between one-third and two-thirds of the total theoretical teaching, with the remainder dedicated to the student's autonomous work;
- Theoretical teaching may include the following teaching modalities: Theoretical (T), Theoretical-practical (TP), Practical (P), Laboratory practice (PL), Tutorial guidance (OT), Seminars (S);
- Clinical teaching, with a minimum of 2000 contact hours, includes the teaching modality: Internship (E) or Clinical Teaching (CE), and may consider other modalities such as Tutorial Orientation (OT), Seminars (S), Theoretical (T), Theoretical-Practical (TP), Practical (P) and Laboratory Practical (PL). The hours of teaching other than Internship (E) or Clinical Teaching (CE) may not exceed 20% of each Curricular Unit (CU) of the clinical component, for a maximum total of 200 hours.

In addition to the title of nurse, responsible for providing general care, the OE also recognizes the title of specialist nurse which, according to article 8 of the Statute of the Order of Nurses (Law no. 156/2015 of the Portuguese Parliament, 2015):

"3 - The title of specialist nurse recognizes scientific, technical and human competence to provide specialized nursing care in the areas of nursing specialty recognized by the Order.

4 - The title of Specialist Nurse is awarded to the holder of the title of nurse, after consideration of the training processes and certification of skills, in a clinical area of specialization, under the terms of the



specialty regulation, approved by the Order and approved by the member of the Government responsible for the health area."

A specialist nurse "is a nurse who has graduated from a specialization course in nursing or from a Higher Specialized Studies Course in nursing who has been awarded a professional title that recognizes his or her scientific, technical and human competence to provide, in addition to general nursing care, specialized nursing care in the area of his or her specialty". (Decree-Law no. 161/96 of the Ministry of Health, 1996). Postgraduate training leading to the title of specialist nurse corresponds to a master's degree course in a clinical area of specialty, recognized and approved in advance by the OE, the Higher Education Assessment and Accreditation Agency and approved by Order of the Ministry of Education and Science. (Normative Circular CN-CD/2018/2 of the Board of Directors of the Order of Nurses, 2018).

The OE currently awards the title of Specialist Nurse in the following clinical areas:

- Specialization in Community and Public Health Nursing,
- Specialization in Family Health Nursing,
- Specialization in Medical-Surgical Nursing in the area of Critical Care Nursing,
- Specialization in Medical-Surgical Nursing in the area of Palliative Care Nursing,
- Specialization in Medical-Surgical Nursing in the area of Perioperative Nursing,
- Specialization in Medical-Surgical Nursing in the area of Nursing for People in Chronic Situations,
- Specialization in Rehabilitation Nursing,
- Specialization in Child and Pediatric Health Nursing,
- Specialization in Maternal and Obstetric Health Nursing,
- Specialization in Mental Health and Psychiatric Nursing.

1.1.1 Portalegre Polytechnic University Health Scholl

Nursing education in Portugal is taught through two cycles of studies: Bachelor's Degree (1st cycle) and Master's Degree (2nd cycle).

The Bachelor's Degree in Nursing (1st cycle), conferring the degree of Licenciado em Enfermagem, is taught entirely at the Escola Superior de Saúde [ESS] of the Instituto Politécnico de Portalegre [IPP]. It lasts 4 academic years and includes 240 ECTS in a total of 6240 hours of work, of which 4819 contact





hours, distributed in 1053 theoretical hours, 532 theoretical-practical hours, 92 tutorial hours, 14 seminars, 438 hours of laboratory practice (simulated practice) and 2704 hours of internships.

Of the total number of contact hours (4819), 3937 are specific nursing curricular units, of which 261 are theoretical-practical hours, 75 are tutorial hours, 366 are work practice hours (simulated practice), 531 are theoretical hours and 2704 are internship hours.

The syllabus is organized in increasing order of complexity.

The maximum number of admissions is 80 at the beginning of each academic year and the specific entry conditions are one of the following (subjects taken in the higher education entrance exams): Biology and Geology or Biology and Geology + Physics and Chemistry or Biology and Geology + Portuguese and also as a prerequisite Interpersonal Communication (Absence of a psychic, sensory or motor disability that seriously interferes with functional capacity and interpersonal communication to the point of impeding one's own learning or that of others).

The Nursing Degree Course aims to:

- To train highly qualified professionals in Nursing, with cultural, scientific, pedagogical and technical preparation, capable of responding to the health needs of the population in accordance with the social function they will perform;
- Encouraging research and investigation activities;
- Enable a close relationship between the school and the community, with regard to the provision of services and exchanges between the school, health institutions, educational institutions and others;
- Encourage the development of training and updating projects in Nursing;
- Promote cultural, scientific and technical exchange with other institutions, whether public or private, national or foreign, that pursue similar objectives with a view to mutual enrichment;
- Responding to contemporary challenges associated with the need for entrepreneurship in nursing and healthcare;
- To promote the mastery of a second language which, together with the skills already mentioned and from an empowerment perspective, will facilitate integration into different labour markets, thus responding to the challenges of globalization.

The Master's Degree in Nursing (2nd cycle) conferring the Master's Degree in Nursing was created in association between five Schools and is taught on a rotating basis at each one. It lasts 3 semesters, with a total average of 120 ECTS, of which around 108 ECTS are specific Nursing curricular units in the different specializations.





The aim is to train masters in seven areas of specialization in Nursing: Community and Public Health Nursing, Rehabilitation Nursing, Family Health Nursing, Child and Paediatric Health Nursing, Mental Health and Psychiatric Nursing, Medical-Surgical Nursing - The Critically Ill Person, Medical-Surgical Nursing - The Palliative Person, with the aim of qualifying professionals to provide differentiated care and increased quality. It has a total of 30 admissions for each area of specialization and the conditions for access are: holding a degree in Nursing or legal equivalent; holding a foreign higher academic degree that is recognized as satisfying the objectives of the degree by the statutorily competent scientific body of the Higher Education Institution where they wish to be admitted; holding an academic, scientific or professional curriculum, which is recognized as attesting to the ability to carry out this cycle of studies by the statutorily competent scientific body of the Higher Education Institution where they wish to be admitted.

This Master's degree aims to develop knowledge and skills for specialized intervention in a field of Nursing, evidenced by high levels of clinical judgment and decision-making, taking into account human responses to life processes and health problems; to promote the improvement of the quality of health care, using research, evidence-based practice and ethical and deontological benchmarks; to train for clinical governance, team and project leadership, as well as supervision and care management, in the different contexts of clinical practice; to contribute to the development of the discipline and specialized training. As a professional master's degree, it is intertwined with research and community outreach. With a focus on high-level training and qualification, the objectives defined for this master's degree are included in the educational, scientific and cultural project of the HEIs involved, associating the dimensions of community outreach as well as cultural, scientific and technological cooperation and exchange with regional, national and international entities, from a perspective of mutual appreciation that fosters the development of knowledge and enhances society's capacity for intervention.

Simulated Nursing Practice at the Portalegre School of Health

The Nursing Practice Simulation Center is a space for practical activities integrated into the different Nursing curricular units of the Bachelor's and Master's Degree courses in Nursing and for providing services to the community. It is divided into three different laboratories for training in nursing care:

- Hospital Care Laboratory - consisting of a ward/nursing workroom and an adapted bathroom, using common areas that include the clean area and the dirty area. This laboratory is mainly



dedicated to teaching activities within the Laboratory Practice typology of the Fundamentals of Nursing (I and II), Medical-Surgical Nursing (I and II), Emergency Nursing and Dialysis Nursing courses. The ward consists of three care units, individualized by curtains, made up of an electric hospital bed with a patient care simulator, a bedside table (with a tray attached to the bed), a chair, lighting, oxygen ramps and suction;

- Maternal and Child Health Laboratory - consists of a room designed to provide a simulated environment for developing skills in the areas of Obstetric and Pediatric Nursing. The space has recent equipment, namely an obstetric stretcher and anatomical models to simulate the different types of delivery and the simulation of the mother's and child's vital signs during delivery and in situations of obstetric risk, including a real Cardiotocography (CTG) machine. The laboratory also has an incubator with a ventilator, a resuscitation table with a defibrillator monitor and other work tables for simulated obstetric and pediatric procedures;
- Community Care and Mental Health Laboratory - consists of a room and an observation space with a one-way mirror. It allows for the development of group dynamics, simulated consultations, interviews, health education sessions and the establishment of a helping relationship.

To support teaching activities, material resources are also available, such as a simulator for caring for geriatric and hemiplegic patients, various technical aids and simulators for auscultation, resuscitation, trauma and monitoring, among others.

Community Service

The ESS has extensive experience in providing services to the community in the field of health promotion and disease prevention. Some of the activities that are carried out in this area stand out:

- Every academic year, the students of the 3rd year of the Nursing Degree Course, together with the respective professors of the Community Nursing Curriculum Unit, hold face-to-face health education sessions (during the COVID-19 pandemic, they were online) for students from all IPP courses. Generally, these sessions are about healthy eating and regular physical activity, personal and environmental hygiene, prevention of addictive behaviors (alcohol and tobacco consumption) and during the COVID-19 pandemic, topics on personal protective procedures were covered.



- The ESS took part in a national project entitled: "Training Programme (Action) for Higher Education Students for punctual responses to emergencies of a social and health nature", which was organized by the Ministry of Labour, Solidarity and Social Security and the Institute for Employment and Vocational Training. In this project, the ESS played the role of trainer for the students enrolled on the course. ESS professors delivered the training via videoconference.
- The ESS was a partner in a regional project entitled "Intermunicipal Project - Network for Promoting School Success in Alto Alentejo", which aimed to evaluate health and oral health indicators and develop health education actions for students in the 1st cycle of basic education (1st year to 4th year - children aged 6 to 10) from the 5 (five) municipalities involved in the Portalegre District (Duration 02/09/2019 to 30/06/2020). Students from the 3rd year of the Nursing Degree Course were involved in this project, along with their professors from the Community Nursing Curriculum Unit.
- The ESS took part in the international project "CORRECT IT! - International corrective VET training for obesity prevention and healthy lifestyle promotion", in which professors from the Nursing Course were part of the research team. The aim of this project was to create an intervention program for obesity prevention and healthy lifestyle promotion and also to promote the training of community professionals in this program (nurses, professors, social workers, ...). This program included theoretical training via e-learning and a part of practical training that was face-to-face (Duration 01-07-2017 to 31-08-2020). It was a project funded by the European Commission - Erasmus+ (project code: 2017-1-RO01-KA202-037373).
- Participation in the Health Fairs promoted by the school groups in the Portalegre district, with the aim of developing health education sessions on a wide range of topics, with the 3rd and 4th year students of the Nursing Degree Course, as well as monitoring the health indicators of the adolescent population, with the 1st year students of the Nursing Degree Course.
- Collection of COVID-19 antigen tests from the IPP academic community in the 2021/2022 academic year.



2 Nursing Education in Angola

According to Angola's Legal Framework for Nursing Careers (Presidential Decree no. 187/18 of August 6), nursing professionals are classified into professional groups according to their level of qualification. The Higher Nurse group includes university graduates and those with a Bachelor's degree in Nursing, who must register with the Angolan Order of Nurses in order to practice the profession. The Medium Nursing Technician group includes Medium Nursing Technicians who have graduated from Technical-Vocational Education Institutions. The Nursing Auxiliary group is made up of Nursing Auxiliaries and are trained in basic nursing schools. Only Graduates and Bachelors in Nursing are registered with the Angolan Order of Nurses, so we are only focusing on university education in Angola.

According to the 2022 Report of the Angolan Order of Nurses, there are 67 university HEIs that offer the Nursing Degree Course, of which 12 are public universities and 55 are private universities.

The Angolan universities participating in the CLINICALSIM project are representative of the needs of HEIs in terms of capacity building. The International University of Kwanza (UNIC) represents a recent university that is graduating around 500 students in Nursing (since 2021) with scarce infrastructure to provide practical training, while the José Eduardo dos Santos University (IP-UJES) represents a consolidated university with around 350 students and the need to improve laboratory performance with a focus on future master's courses. In both cases, professor training remains an important issue.

2.1 International University of Kwanza [UNIC]

At UNIC, the Nursing Degree course lasts 5 years (10 semesters) and has a workload of 6000 hours, which corresponds to 360 credits, considering 15 hours per credit.





Referring to the pedagogical project of UNIC's Degree in Nursing, it states that "the Degree in Nursing (...) seeks to train highly qualified professionals to provide nursing care, covering the entire life cycle, the family and the community, with a solid ethical basis that allows graduates to make successful decisions.) seeks to train highly qualified professionals to provide nursing care, covering the entire life cycle, the family and the community, with a solid ethical and social basis that allows graduates to make successful decisions; guaranteeing the quality of promotion, prevention, recovery, rehabilitation, reintegration, palliative care and the process of dying with dignity, in accordance with the health needs and epidemiological profile of the population" (UNIC, 2023, p. 2).2). It defines strategic objectives in line with Angolan policies, seeking to make training more competitive at national and international level.

Out of a total of 6000 hours of the degree course, 740 hours are practical classes, representing 12.33% of the total hours of the course. Of these 740 practical hours, the predominant scientific area of the study cycle - Nursing - includes 460 hours (130 hours in a simulated context and 330 hours in a real context). An analysis of the curricular unit sheets does not reveal the use of simulation in the training of students on the Nursing degree course. This could be identified as an area for improvement and investment in this project, despite the fact that the University has a simulated practice center that offers a healthcare environment similar to the real thing, set up and equipped with high technology (UNIC, 2023, p.3).

UNIC uses learning methodologies centered on the development of competences, promoting *PBL* formative methodologies, the resolution of exercises, the discussion of cases, the development of projects, cooperative/group work, autonomous student work, the expository method, among others. Practical classes develop the student's ability to solve problems and apply previously acquired knowledge to practice, without any reference to the use of simulated practice.

The UNIC model is materialized in a series of training activities which, taking the student's degree of autonomy as a reference, are distributed as follows:

Directed activities - Face-to-face teaching-learning activities in the classroom that respond to a specific program, developed in a group (large or small) and that require leadership and face-to-face guidance from a professor.

This group of activities includes the following techniques:

a) Expository classes, in which the professor presents a logically structured topic with the aim of providing a large group of students with information organized according to criteria appropriate to the intended objective. The professor's role is that of a "scientific authority" who verbally and wisely



explains the contents of a subject. Lectures also become a way of transmitting certain values to students which, although they are not specific to the subject, contribute to their integral formation.

This methodology makes it possible to transmit knowledge to a large number of people; to develop generic skills, such as the capacity for analysis and synthesis or organization and planning; and to offer the student a first synthetic approach to the knowledge of the subject. However, it has some disadvantages, since it offers a single view of the subject (that of the professor), sees the student as a passive receptacle in which knowledge is stored and therefore makes it difficult for students to acquire habits of autonomous learning. For this reason, in the context of UNIC, this methodology tends to be used less and less.

b) Practical classes, usually organized in large groups of students, favoring a close relationship between theory and practice, developing the student's ability to solve problems and apply theoretical knowledge to practice.

This type of class includes case study and analysis activities, simulation exercises, laboratory or clinical practice, problem-solving activities and specific practical exercises.

c) Seminars and Workshops, in which the professor and a small group of students work interactively. In the case of the seminar, students and professor meet to research a topic through dialog and discussion. Seminars can be held to delve into monographic topics based on information previously provided by the professor or topics identified by the student based on their research.

The workshop consists of a teaching methodology in which, just as in practical classes, a close relationship is established between theory and practice, but in this case working in small groups emphasizing cooperative learning. The student takes an active role in interacting with their classmates, while the professor plays several roles throughout. First, the professor is a "facilitator" who strengthens the students' confidence and participation, then they become a "role model" for the students by showing, through their own behavior, the most positive interaction skills and later, the professor is a "monitor" and "observer", identifying and helping to resolve problematic situations. Finally, the professor is an "evaluator" who provides continuous feedback on the work carried out in the group.

Supervised activities - Teaching-learning activities that, although students can carry out autonomously, inside or outside the classroom, require the supervision and accompaniment of a professor.

This group of activities includes the following:





- a) Correction of Exercises, which include the tasks that the student does outside or inside the classroom and which are reviewed by the professor in the classroom.
- b) Tutoring (individual/group). At UNIC, tutoring is not seen merely as support that the professor provides to students to help them overcome learning difficulties, but as a more far-reaching action, becoming a key part of the university's educational quality. The university has a Tutorial Action Plan [PAT] of a guiding nature, the aim of which is to accompany the student's teaching-learning process with the continuous support of tutoring, which focuses on the student's comprehensive training. To this end, the academic and personal support of each student is recorded at two levels: academic tutoring (carried out by each of the professors who teach the subjects) and personal tutoring (each degree course is assigned a professor-tutor who carries out training, academic support and personalized training guidance). This PAT makes it possible to reinforce personalized support for students and strengthen their ability to work independently.
- c) External Practices/Curricular Internship, understood as a set of actions that the student carries out in the real context of practicing the profession. They allow students to complement their training and are in themselves a unique learning opportunity. The student receives support and advice from a professional tutor (externship tutor) throughout the course.

Autonomous Activities - In which students organize their time and work autonomously, either individually or in groups.

This group of activities includes the following:

- a) Preparing lessons, in which the student must prepare the targeted activities (lectures, practical lessons, seminars and workshops). These include: reading teaching materials and specific texts, watching videos, trying out certain experiments, researching literature and documents, among others.
- b) Personal study and reading, understood as the time student dedicates to personal appropriation of the contents of a subject, reading the compulsory bibliography and researching and consulting other documents. This item also includes the tasks the student carries out to manage their learning process.
- c) Work (individual/group), consisting of the preparation and presentation of a document, in written, oral and/or audiovisual format, the nature and requirements of which vary according to the content of the subject and the objectives set for its completion. The work can be done individually or in collaboration with the members of a group.
- d) Work on the Virtual Campus, which includes all the tasks that the student must carry out on the Virtual Campus, such as reading and replying to messages, participating in forums, solving certain exercises and activities, following the professor's instructions, among others.



2.2 José Eduardo dos Santos University - Polytechnic Institute [IP-UJES]

At IP-UJES, the Nursing Degree course lasts five years (10 semesters), with a workload of 5200 hours, following the Cuban study plan model, taking into account training needs, Angola's epidemiological profile and the country's specific conditions.

Of the total 5200 hours of the degree course, 2576 hours are practical classes, representing 49.53% of the total hours of the course. Of these 2576 practical hours, the predominant scientific area of the study cycle - Nursing - includes 2480 hours (960 hours in a simulated context and 1520 hours in a real context).

The course is structured in two levels (technical and professional), with intermediate exits. At the end of the third year, the student is in a position to work as a Technical Nurse, who can continue their university studies for a further two years and leave as a Nursing Graduate. This model is characterized by a premature employment relationship for the student, since the beginning of the course, through work-based training activities as a Nurse Technician. Once the student has completed this level of training, the continuation of the studies is subjected to an employment relationship with an institution in the National Health System. The uniqueness of this model is that an important part of the training in the main subject (Nursing) takes place in a real context, with the relevant participation of a professor who takes on the role of tutor.

The training strategy of this study plan has the following characteristics:

- a) guides the training of a professional with a broad profile, based on in-depth basic training, which will enable him/her to solve the main problems that arise in the different spheres of the nurse's professional activity;
- b) the fundamental principles underpinning this training are the permanent relationship between study and work, using a *learning-by-doing* methodology;
- c) dialectical unity between aspects of an essential or invariant nature and those of a more dynamic or changing nature;
- d) the collective work of the professors takes shape during the methodological work that takes place at the different levels of systematization of the course, as a fundamental way of continuously improving the training process;



e) the establishment of interdisciplinary curricular strategies, geared towards comprehensive training for nurses, who develop skills for clinical practice, teaching, research and management, based on ethical principles and who are able to use information and communication technologies and use another language (English).

In defining the syllabus, IP-UJES sought to strike a balance between scientific training and the development of professional skills during the training process, with a different approach throughout the course. The first cycle of training focuses on technical skills, with a minimum level of scientific training. As the course progresses, scientific training gains in importance, reaching its maximum expression in the final cycle, where graduate training is completed. On the other hand, it seeks to develop action-research skills in students, making them capable of designing research projects as a response to an identified problem.

The course is structured according to nursing disciplines, to train professionals capable of responding to the different levels of care and at the different stages of the life cycle. The subjects are taught in practical and theoretical classes, with the practical classes taking place in nursing laboratories that are equipped to support teaching activities, in groups of up to 15 students, to train practical procedures. Methodological support for students focuses almost exclusively on tutoring, both to meet learning needs and so that students can delve into the content they have studied independently.



3 Comparative view

The aim is to briefly give a comparative view of nursing education in Portugal (the case of the Universidade Politécnica de Portalegre) and Angola (the case of the Universidade Internacional do Cuanza and the Universidade José Eduardo dos Santos).

Table 1 - Comparison of practical teaching between IPP, UNIC and UJES

PLACE OF EDUCATION	PORTUGAL ESS-IPP	ANGOLA UNIC	ANGOLA IP-UJES
	School of Health	International University of Kwanza	Polytechnic Institute - José Eduardo dos Santos University
ACADEMIC DEGREE - PRE-GRADUATE TRAINING	Degree in Nursing	Degree in Nursing	3rd year completed - Nurse Technician 5th year completed - Degree in Nursing
REGULATING TRAINING AND THE PROFESSION	Order of Nurses	Order of Nurses	Order of Nurses
COURSE DURATION	4 years 240 ECTS (1 ECTS per 25 hours) 6000 hours	5 years 300 credits (15 hours per credit) 6000 hours	5 years (does not indicate number of credits) 5200 hours
DURATION BY TYPE OF UC IN THE SCIENTIFIC AREA OF NURSING	Theoretical teaching: minimum 80 ECTS (2000 hours). Includes theoretical-practical classes, laboratory practices and others. 366 hours of practical lessons in a simulated context. Clinical Teaching: minimum 120 ECTS (3000 hours)	5260 hours of theoretical classes Practical classes: 740 hours, of which 460 in Nursing - 130 in a simulated context and 330 in a real context.	2624 hours of theoretical classes: 2480 hours of practical classes, of which 960 in a simulated context and 1520 in a real context 4th and 5th graders in a real-life context with the guidance of a professor.
METHODOLOGIES USED IN PRACTICAL CLASSES	<ul style="list-style-type: none"> • Demonstration method • Simulated practice 	<ul style="list-style-type: none"> • Case study and analysis activities • Simulation exercises • Laboratory or clinical practice • Problem-solving activities • Specific practical exercises 	<ul style="list-style-type: none"> • Demonstration method • Predominance of real-world practice



Table 1 shows that the three nursing courses award a bachelor's degree, with a duration of 4 years (8 semesters) in Portugal and 5 years (10 semesters) in Angola. All the courses are analyzed by the Order of Nurses of the respective country and require a favorable opinion for authorization to operate. The total number of the student's working hours are identical in the courses offered by IPP and UNIC and lower at UJES.

In Portugal, at least half of the teaching hours must be in real-life practice, meaning that students provide care to people throughout the life cycle and in different care settings, for a minimum of 3000 hours (120 ECTS). In addition to these hours of practice in a real context, there are hours of simulated practice (366 hours), which always precede practice in a real context. Students do not begin any clinical teaching without first having simulated practice at the School's laboratories, so that the procedures and techniques to be developed in a real context are properly trained and the necessary instrumental skills for that care context are acquired.

In Angola, the number of practical hours is clearly lower than in Portugal. At UNIC, students only have 740 hours of practical work, of which only 460 are in the scientific area of Nursing. Of these, only 130 hours take place in a simulated context (including other methodologies described in addition to simulated practice) and 330 hours in a real context of care for the person and family. The UJES has a ratio of practical classes more similar to the Portuguese case. Of the 2480 hours of practical classes, 960 hours take place in a simulated context and 1520 hours in a real care context, mainly distributed over the final years of the course. It is not clear that these 960 hours of simulated practice predominantly use methodologies associated with simulated practice, although they do mention that the demonstrative method is used.



4 Training Objectives and Key Competences

After describing the profile of each HEI involved in this project and comparing the practical nursing training processes, it is important to define the training objectives through simulated practice, both for students and professors, as well as the key competencies for this project.

Therefore, tables 2 and 3 below present the proposed objectives for practical nursing training through simulation and the respective key competencies for CLINICALSIM, based on the *Nursing Skill Development and Clinical Judgement Model* of the Nursing Association for Clinical Simulation and Learning (Meakim et al., 2013) and the Global Strategic Direction for Nursing and Midwife 2021-2025 (WHO, 2021).

Table 2 - Objectives of practical nursing training through simulation and the corresponding key competences for nursing students

OBJECTIVES OF PRACTICAL NURSING TRAINING THROUGH SIMULATION	KEY COMPETENCIES
NURSING STUDENT	
ONS1. Collect and process relevant information about the patient's clinical situation. ONS2. Define priorities.	CNS1. Clinical reasoning skills
ONS3. Making correct decisions in different contexts/scenarios.	CNS2. Clinical judgment competence
ONS4. Develop a set of actions (technical, ...) in order to provide the best care for the patient/family. ONS5. Implement quality assurance and risk management strategies to create and maintain a safe environment.	CNS3. Competence in technical skills
ONS6. Relate knowledge to relevant clinical aspects in order to formulate a solution to the problem/need identified.	CNS4. Problem-solving skills
ONS7. Analyze their own actions during the simulation and reflect on their skills.	CNS4. Critical thinking skills
ONS8. Establishing effective interpersonal relationships with the client and/or family through the use of clear and appropriate communication. ONS9. Communicate relevant, correct and understandable information about the client's state of health, orally, in writing and electronically. ONS10. Establish and maintain constructive teamwork relationships with colleagues.	CNS5. Communication skills and effective interpersonal relationships

Key: **ONS** - Objective for Nursing Student; **CNS** - Competence for Nursing Student.



Table 3 - Objectives of practical nursing training through simulation and the corresponding key competences for nursing professors

OBJECTIVES OF PRACTICAL NURSING TRAINING THROUGH SIMULATION	KEY COMPETENCIES
NURSING TEACHER	
<p>ONP1. Design complete scenarios, of increasing complexity, for the practical training of nursing students</p> <p>ONP2. Select the most suitable type of simulated practice (simulation laboratory or virtual reality/digital multimedia or standard patients) for the scenario created.</p>	<p>CNP1. Competence in planning simulation-based experiments</p>
<p>ONP3. Apply complete scenarios of increasing complexity in the practical training of nursing students</p> <p>ONP4. Carry out structured, clear and unambiguous <i>prebriefing</i></p>	
<p>ONP5. Lead a structured <i>debriefing in order to</i>:</p> <p style="padding-left: 20px;">ONP5.1. encourage student reflection in and on action</p> <p style="padding-left: 20px;">ONP5.2. positively reinforce the student's interventions, emotions and appropriate behavior during the simulation</p> <p style="padding-left: 20px;">ONP5.3. promote discussion about the student's interventions, emotions and less correct behavior during the simulation</p> <p style="padding-left: 20px;">ONP5.4. promote the transfer of knowledge learned by the student to future situations</p>	<p>CNP2. Competence in applying simulation-based experiences</p>
<p>ONP6. Encourage students to work collaboratively with their colleagues during the simulation, promoting teamwork.</p>	

Caption: ONP - Objctive for Nursing Professor; CNP - Competence for Nursing Professor.

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