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ProInCa

**Promoting the Innovation Capacity of Higher Education in Nursing during
Health Services' Transition**

D2.1.3

Design e-platform for Center of Nursing Excellence

WP2.1 Center of Nursing Excellence



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1 Background

The aim of WP2.1. is the development of mechanisms for collaboration and knowledge sharing within the Centre of Nursing Excellence between academic national and international nursing community (universities and other educational institutions) and society. These mechanisms involve for example creation of an e-platform, formalized national and international networks and working groups. The use of e-platforms in international cooperation in nursing science contributes to improvement of nursing practice and the increase of evidence-based interventions in health care.

In this WP the e-platform will be designed, developed, tested and disseminated. The e-platform is the heart of the Centre of Nursing Excellence (CNE). CNE will focus on the transfer of research outcomes into nursing practice and the research ideas to the universities for research and educational purposes.

The E-platform of the CNE is to support the CNE in its mission statement. The mission statement defined is:

*"The Center of Nursing Excellence Kazakhstan contributes to the **improvement of nursing practice by empowerment of nurses** to enhance quality of the healthcare for better health of individuals.*

The CNE brings theory to practice and enhances development of nursing science

*The CNE it serves as a **collaboration and networking** platform between nursing practice, nursing education and nursing research.*

The CNE actively collects, promotes and shares

- evidence based nursing clinical guidelines*
- educational materials for nursing*
- nursing research"*

2 E-platform

An e-platform in this context is defined as the underlying software or hardware used to facilitate e-learning and knowledge exchange. In general, a platform is a basic technology, on which other technologies are developed and if these technologies are equipped with tools that enable the creation of virtual learning environments, we can speak of e-learning platforms, inside of which the issuing of learning modules as well as the management and monitoring of skills.



An e-platform is therefore an integrated set of interactive online services that provide a community of learners and facilitators with information, tools and resources to support the delivery and management of teaching and learning activities.

In general, an e-platform can have the following features (all together or individually):

- a) be a content management system (CMS), guaranteeing the access to didactic materials for the students;
- b) be a learning management system (LMS), where the use of learning objects makes easier the learning of a given topic;
- c) be a computer-supported collaborative learning system (CSCLS), which makes easier the use of collaborative and situated teaching/learning strategies; and
- d) build a virtual community of students, tutors, and professors using knowledge management (KM) strategies³.

2.1 Design of the CNE E-platform

The CNE e-platform will be built on two parts

1. A website for presenting general information about the CNE. This will be developed in Wordpress.
2. An e-learning and collaboration environment This will be developed in Moodle.

The e-platform can be easily found and entered through the internet.

The internet address should be easy to remember for nurses and other other target groups. The address choosen is: www.nursekz.com.

Moodle

Moodle is a Learning Platform or course management system (CMS) - a free Open Source software package designed to help educators create effective online courses based on sound pedagogical principles. With customizable management features, it is used to create private websites with online courses for educators and trainers to achieve learning goals. It is available in many languages: also in Russian and Kazakh.



In the Moodle environment users can find educational materials and collaboration facilities. The first educational materials will be for the target group of teachers about the main topics of the ProInCA project: Evidence Based Nursing; Nursing Research and Nursing Leadership.

Wordpress

Although Moodle will be the main platform to build the CNE on, a general web development tool will be used to develop some webpages to present general information about the CNE. The tool used for the development of the website is Wordpress. Reasons for choosing Wordpress is that the software is free and open-source; it is quite easy to learn and to use; it adapts so you can make any type of website; It supports numerous media types; there is a huge community where information can be find; You can scale up and expand your website with themes and plugins; it is not difficult to manage.

For the development of the internet site we also start with information about the main topics from the ProInCA project and the Nursing Clinical Guidelines.

Information is open for all users: nurses; nursing students; nursing teachers and nursing researchers.

Information will be available in 3 languages: English; Russian and Kazakh. In the first stage of the development process we will only work in English and Russian; Kazakh will be added later on, because translation of all draft versions and continues changes take a lot of time.

The table below outlines the global design of the CNE e-platform.

	Aim	Content	Developed in
Website Open for everyone	Inform nurses/nursing teachers/nursing researchers....	Information about Evidence Based Nursing Nursing Clinical Guidelines Nursing Research Nursing Leadership	Wordpress
E-learning environment Log in	Learning and collaboration	Teaching materials Collaboration facilities	Moodle



3 Design and development process - requirements and features

For the design and development process we use an agile development method and an iterative process. This means that we already start with developing quick and dirty first drafts while still working on the analysis of the needs and requirements. We make updates and next versions regularly based on the results of the activities in the needs and requirements analysis phase; the feedback from the ProInCa's project members; feedback from the participants of the masterclasses.

For the design we work with the preliminary list of needs and requirements. This list is verified in two Delphi rounds. Results are being analyzed and will be available soon.

Within the WP2.1 project team we use this information to decide which of the requirements / features will have a high priority and be developed first.

Requirements are organized in 4 categories. These are: A) content requirements (e.g., based on mission statement), B) functional requirements, C) usability requirements; and D) technical requirements.

3.1 Design and development of content

The e-platform will have in the Moodle environment

1. educational materials about evidence based nursing
2. educational materials about nursing research skills
3. educational materials about nursing leadership
4. evidence based nursing clinical guidelines for use in practice
5. webinars about nursing topics
6. forum discussions for nurses on nursing topics
7. links to international websites with additional nursing guidelines
8. links to electronic databases with scientific nursing publications

The e-platform will have on website (Wordpress environment)

1. general information about evidence based nursing
2. general information about nursing research skills
3. general information about nursing leadership
4. general information evidence based nursing clinical guidelines for use in practice
5. an overview of national and international institutions working together with the CNE
6. an overview of important stakeholders for nursing in Kazakhstan such as universities with bachelor and/or master programmes in nursing, university medical hospitals



7. an agenda/calendar with relevant nursing research and nursing educational activities in Kazakhstan and beyond
8. a blog about several nursing topics, updated once a month (minimum)

Education, research, and clinical guidelines are about different nursing content. Nursing content on the e-platform can be organised using the seven domains of the Nursing Interventions Classification (NIC).

1. Physiological: Basic (such as physical activity, nutrition support)
2. Physiological: Complex (such as care for cancer; optimize neurological function)
3. Behavioural (such as dementia and depression)
4. Safety (such as hygiene, prevention of falls and medication safety) - eg russian video found on handhygiene instruction.
5. Family (such as child baring care and care to support families)
6. Community (such as health promotion and prevention of health risks)
7. Health System

3.2 Functional requirements and design

For the CNE e-platform we defined the following functional design criteria:

for collaboration purposes

1. includes tools for online discussions - part of Moodle
2. includes tools for online collaboration - part of Moodle

for educational purposes & knowledge acquisition

3. includes distance learning courses - in the Moodle environment
4. includes instruction films for explanation and instruction of nursing skills and interventions. - on the open website and in Moodle
5. distinguishes between different target groups (eg bachelors, masters, phd students, clinical nurses)
6. includes educational materials for use in classroom settings (online and/or to download) - Moodle courses for teachers.

3.3 Functional management requirements and design

For the CNE e-platform we defined the following functional management requirements:

1. tools to manage user management accounts. - We will make clear procedures to manage the users in the Moodle environment and distinguish between different rights for teachers and students.
2. content management tools so it is easy to add and change information
3. secured personal data for log in, and administration of courses is secured



4. rapport functions with the option to monitor the number of users and popularity of the different items and improve the site content

This will be the responsibility of CNE office at AMU.

3.4 Usability requirements and design

1. Users have open and free access to information relevant for the nursing profession.
2. Log in is provided for some educational and collaboration purposes
3. There is a clear site structure
4. Navigation is clear and simple
5. Is well designed and attractive
6. Text on each page is not too much and easy to read
7. Information is available in Russian and English and Kazakh
8. Contact information is easy to be found

This is for the whole e-platform: website and Moodle environment.

3.5 Technical requirements and design

1. uses a scalable platform so it can be used at a computer, tablet, and mobile phone.
2. can be used in different browsers
3. the technological infrastructure guarantees technological support which is not restricted to time, place, or cost.

3.6 Other requirements and design features

During the masterclass in April 2019, the following possible requirements and features are added:

- Information pages and options for the regional CNE working groups.
- information about laws and regulations - where to find
- overview of job vacancies
- information about nursing research groups in Kazakhstan
- summary of the master thesis
- active links to national standard operational procedures
- links to open educational resources

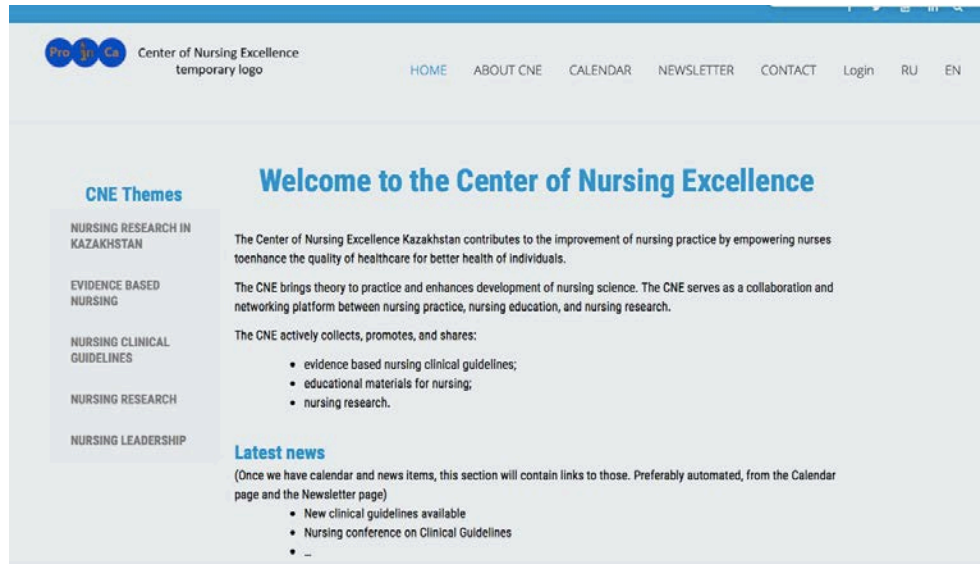
It still has to be decided what we will include in the CNE e-platform and what will be developed first and what later. This will be part of the planning for the further development of the CNE



4 Design

Below the first drafts of the design of the e-platform. This contains screenshots from the e-platform - website part and ideas about the general structure of the Moodle environment.

4.1 Home page



4.2 Main topics - landing pages

Website: screenshot of one of the landing page of one of the main topics, for example Evidence Based Nursing.

Center of Nursing Excellence
temporary logo

HOME ABOUT CNE CALENDAR NEWSLETTER CONTACT Login RU EN

Topics

- EVIDENCE-BASED NURSING IN GENERAL
- HOW TO APPLY EVIDENCE-BASED NURSING
- HOW TO ENHANCE EVIDENCE-BASED NURSING
- EVIDENCE-BASED NURSING MODELS
- HOW TO TEACH EVIDENCE-BASED NURSING
- LEARN MORE

What is evidence-based nursing?

Evidence-based nursing (EBN) is integration of the **best available evidence, nursing expertise, patient preferences and resources** (Figure 1). The aim of EBN is ensuring that patients receive high quality nursing care. EBN is a foundation for nurse's critical thinking and decision-making.

In EBN PICO(T) format (Table 1) is often used to frame a research question. Framing the question helps brake down the clinical question into smaller parts and identify keywords and therefore to find best available evidence. Best evidence available consists of research evidence, evaluated based on the same levels of evidence as in medicine. Levels of evidence are arranged in a ranking system to describe the strength of the research study. Careful reading, critical appraisal and clinical reasoning still has to be used when applying evidence.

Best evidence available

Nursing expertise

Patient preferences

Resources

Evidence-based nursing

Figure 1. Evidence-based nursing

PICO(T)	
P = Problem/Patient/Population)	hospital acquired infection
I = Intervention/Indicator	hand washing
C = Comparison	no hand washing; other solution

4.3 Moodle - introduction page

To enter the Moodle environment - log in is required. Users can request for a login through www.nursekz.com. This webaddress is used to enter the Moodle environment.

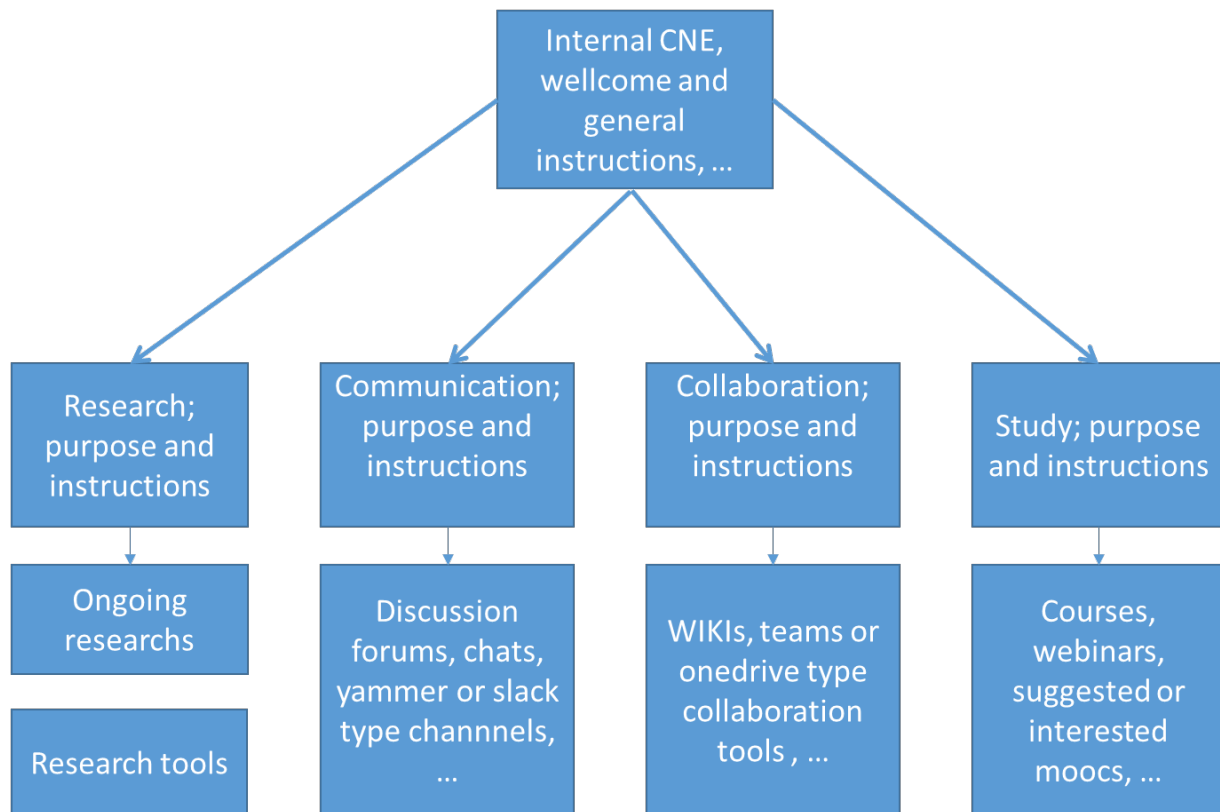
After log in users see a general welcome text and description of the purpose of internal CNE e-platform (Moodle).

First idea is to structure Moodle into four upper level activity areas; research, communication, collaboration and study area.

Each activity areas has certain tools for it's activity.

Different kind of option to active research, study, communication and collaboration:

WIKI, discussion forum, voting tools, questioner tool, news for internal users, etc.



This preliminary design idea will be discussed and further developed in an agile working method. Moodle has plug inn options to realize this.

