

Supplementary materials

Table S1. Competence of nurse educators and educator candidates before and after the study programme

Total competence scale N= 42, Pre n = 29, response rate 69%, Post n = 17, response rate 40%	Mean (SD) pre	Mean (SD) post	Mode pre/post
Competence in evidence-based practice	3.26	3.51	3/4
Utilizing evidence-based knowledge	3.21 (0.86)	3.59 (0.62)	3/4
Ability to explain the importance of evidence-based practice in social and health care	3.48 (0.63)	3.64 (0.61)	4/4
Ability to critically evaluate the validity of research	3.24 (0.64)	3.53 (0.62)	3/4
Ability to identify the process of evidence-based practice	3.17 (0.76)	3.59 (0.62)	3/4
Ability to search research evidence.	3.59 (0.68)	3.70 (0.59)	4/4
Ability to guide students in finding the best possible knowledge for decision making	3.28 (0.65)	3.41 (0.80)	3/4
Continuously following scientific publications to develop competence	3.00 (0.93)	3.24 (0.97)	4/4
Ability to produce scientific knowledge	3.07 (0.75)	3.41 (0.71)	3/4
Pedagogical competence in teaching and guidance	3.05	3.51	3/4
Acting accordance with ethical principles	3.50 (0.88)	3.70 (0.47)	4/4
Ability to integrate theoretical knowledge into practice in teaching	3.11 (0.74)	3.71 (0.47)	3/4
Ability to interactively collaborate with students during teaching and supervision	3.03 (0.74)	3.69 (0.48)	3/4
Ability to motivate students to strive for continuous professional development	3.11 (0.74)	3.47 (0.51)	3/3
Knowing how to provide constructive feedback on students' learning and competence	3.07 (0.73)	3.70 (0.47)	3/4
Ability to evaluate students' learning and competence based on evaluation criteria	3.04 (0.64)	3.65 (0.49)	3/4
Using student-centered methods in teaching or guidance	3.11 (0.74)	3.47 (0.62)	3/4
Ability to guide students in different stages of their learning process	3.04 (0.79)	3.47 (0.71)	3/4
Ability to collaborate with mentors of students completing clinical or on-the-job learning placements	3.00 (0.68)	3.47 (0.80)	3/4
Knowing how to support clinical mentors in challenging mentoring situations	2.75 (0.70)	3.12 (0.99)	3/4
Knowing how to individualize teaching and guiding	2.96 (0.81)	3.35 (0.70)	3/4

Knowing pedagogical foundations of collaborative learning	2.93 (0.77)	3.29 (0.77)	3/4
Administrative and curriculum competence	2.37	3.39	3/4
Knowing the responsibilities assigned by the organization	3.37 (0.63)	3.76 (0.43)	3/4
Knowing the curriculum of the degree program	3.22 (0.75)	3.38 (1.09)	3/4
Adapting to rapid changes in educators' work	2.93 (0.68)	3.53 (0.62)	3/4
Ability to manage work (i.e. schedule, priorities, tasks)	3.31 (0.66)	3.29 (0.77)	3/3
Having competence in management and leadership	3.00 (0.65)	3.53 (0.62)	3/4
Ability to adhere to the principles of competence identification and recognition	2.93 (0.83)	3.41 (0.94)	3/4
Ability to develop the curriculum	2.78 (0.89)	3.19 (1.05)	3/4
Knowing the legislation and guidelines relating to the work of educators	2.93 (0.81)	3.24 (0.83)	3/4
Ability to complete financial tasks related to educators' work	2.56 (0.89)	3.18 (0.88)	2/3
Education technology competence	2.86	3.40	3/3
Ability to use a variety of tools for collaborative work and interaction in virtual learning	2.96 (0.65)	3.41 (0.62)	3/3
Ability to manage communication channels	3.14 (0.76)	3.64 (0.49)	3/4
Knowing the role of educator in virtual teaching	3.04 (0.74)	3.41 (0.62)	3/3
Ability to design virtual learning that promotes students' collaborative building of knowledge	2.71 (0.85)	3.35 (0.61)	3/3
Knowing how to identify students' needs for guidance in virtual teaching	2.46 (0.79)	3.18 (0.53)	2/3
Networking and social competence	2.78	3.05	3/3
Ability to collaborate with various organisations	2.86 (0.85)	3.29 (0.69)	3/3
Ability to guide interprofessional student groups through clinical or on-the-job learning placements	2.79 (0.74)	2.82 (1.01)	3/3
Knowing how to utilise diverse opportunities for working life cooperation	2.86 (0.76)	3.18 (0.88)	3/4
Competence of teaching interprofessional student groups	2.64 (0.87)	2.88 (0.99)	2/3
Knowing how to exert social influence	2.71 (0.85)	3.06 (0.90)	3/3
Cultural competence	2.92	3.50	3/4
Ability to treat culturally and linguistically diverse students equally	3.11 (0.63)	3.65 (0.61)	3/4
Ability to identify cultural differences in students' learning	2.86 (0.71)	3.29 (0.85)	3/4

Knowing how to guide culturally and linguistically diverse students	2.79 (0.79)	3.29 (0.85)	3/4
Knowing how to collaborate internationally	2.93 (0.81)	3.76 (0.44)	3/4

Table S2. Competence in digital pedagogy competence before and after ELENE

Competence in digital pedagogy N = 41, Pre n = 22, response rate 54%, Post n = 11, response rate 27%	Mean (SD) pre	Mean (SD) post	Mode Pre/post
Digipedagogical competence	5.59 (2.06)	5.91 (2.34)	6/5
Interest in utilising digital technology in education	8.23 (2.16)	8.82 (1.40)	10/10
Professional engagement	3.43	4.00	4/4
Using digital technology for communication	3.62 (1.16)	4.45 (0.52)	4/4
Using digital technology for collaboration	3.73 (1.08)	4.27 (0.65)	4/4
Ability to evaluate own digital competence	2.90 (1.18)	3.45 (0.93)	2/4
Utilising digital resources for professional development	3.50 (1.14)	3.82 (0.87)	3/4
Digital resources	2.91	3.66	2/4
Ability to take into consideration the suitability of digital resources to teaching and learning	3.39 (0.89)	4.09 (0.70)	4/4
Ability to create digital learning materials considering their suitability for teaching and learning	3.13 (1.21)	3.91 (1.04)	3/5
Ability to protect the privacy of the learners and any collaborators participating in processes resulting in digital materials	2.87 (1.18)	3.82 (1.17)	2/4
Having knowledge of how to use digital resources respecting copyright and creative commons licenses	2.83 (1.11)	3.82 (1.17)	2/4
Having knowledge of how to protect digital teaching materials according to appropriate licenses	2.65 (1.19)	3.18 (1.08)	2/3
Ability to guide learners to protect their digital materials with appropriate licenses	2.57 (1.27)	3.18 (1.08)	1/4
Teaching and learning in digital pedagogy	3.11	3.89	3/4
Having knowledge how to use digital technology to enhance learning outcomes	3.17 (1.03)	3.91(0.70)	3/4
Having knowledge how to use digital technology to guide learners	3.17 (0.98)	4.00 (0.77)	3/4
Knowing how to enable collaborative learning in digital teaching and learning	3.17 (1.19)	4.00 (0.63)	4/4
Knowing how to support learner's self-efficacy in digital teaching and learning	2.91 (1.08)	3.64 (1.12)	3/4

Assessment	3.03	3.39	3/4
Ability to use digital technology in evaluation according to different evaluation strategies	2.78 (1.13)	3.27 (0.90)	3/3
Ability to use digital learning analytics for evaluation	2.78 (1.04)	3.18 (1.17)	3/4
Ability to use digital technology for learner feedback	3.52 (1.02)	3.73 (0.90)	4/4
Empowering learners	3.26	3.55	4/3
Having knowledge how to take into consideration the accessibility	3.30 (1.04)	3.64 (0.92)	4/3
Having knowledge how to individualize learning in digital teaching and learning	3.22 (1.14)	3.27 (1.10)	4/3
Having knowledge how to motivate learners in digital learning environment	3.26 (1.10)	3.73 (1.27)	4/4
Facilitating learners' digital competence	2.98	3.53	3/4
Having knowledge how to support learners' information literacy	3.13 (1.06)	3.45 (0.93)	4/4
Having knowledge how to guide the learners to use digital media in critical manner	3.13 (1.16)	3.45 (1.13)	3/4
Having knowledge how to support collaborative learning in digital environment	3.09 (0.98)	3.45 (0.93)	4/4
Having knowledge how to guide the learners to produce digital content responsibly	3.04 (0.98)	3.45 (0.82)	4/4
Having knowledge how to guide the learners to safe use of digital technology	2.77 (1.11)	3.73 (0.79)	3/4
Having knowledge how to enhance the problem-solving skills of the learners in digital environment	2.73 (1.03)	3.63 (1.03)	3/4

Table S3. Global health competence before and after Global Health Issues

Global health competence N = 22, Pre n = 9, response rate 41% Post n = 11, response rate 50% The abilities required from nurse graduates	Mean (SD) pre	Mean (SD) post	Mode pre/post
Global burden of disease	3.50	3.48	4/4
Describe the global risk of disease and morbidities	3.56 (0.73)	3.45 (0.82)	4/4
Describe the major actions to reduce disparities in health	3.38 (0.74)	3.64 (0.67)	4/4
Discuss priority, rationing and funding regarding health	3.56 (0.53)	3.36 (0.67)	4/3
Health implications of mobility of people	3.50	3.59	4/3
Understand the health risk of transnational and transcontinental mobility of people	3.44 (0.53)	3.36 (0.52)	3/3
Recognise the implications of the transnational mobility to disease burden and/or appearance	3.22 (0.44)	3.73 (0.67)	3/3

Describe the influence of culture to perceived health and wellbeing	3.44 (0.53)	3.73 (0.47)	4/4
Express cultural sensitivity	3.56 (0.53)	3.45 (0.47)	4/4
Utilising translator services efficiently	3.67 (0.50)	3.45 (0.52)	4/3
Identify risky areas in regards of life-threatening contagious diseases	3.67 (0.50)	3.82 (0.40)	4/3
Health as social and environmental issue	3.60	3.47	4/4
Describe the impact of economical and social issues on health	3.89 (0.33)	3.45 (0.52)	3/4
Recognise major social determinants of health	3.44 (0.53)	3.63 (0.50)	4/3
Describe the impact of economical and social issues on accessibility of health care	3.56 (0.53)	3.63 (0.50)	4/4
Describe the relationship between satisfaction of basic needs to population health.	3.56 (0.53)	3.54 (0.52)	4/4
Describe the relationship between environmental issues and health	3.56 (0.53)	3.09 (0.70)	¾
Globalisation of health and health care	3.26	3.50	3/3
Describe different national health care models and their effect on health and costs	3.00 (0.50)	3.36 (0.67)	3/3
Analyse effect of mobility of people on health and costs	3.33 (0.71)	3.54 (0.52)	3/3
Analyse the mobility and availability of health care staff on global level	3.33 (0.50)	3.54 (0.52)	3/4
Describe health care staff availability locally	3.44 (0.53)	3.36 (0.67)	4/4
Describe common mobility patterns of health care staff and effects of it	3.22 (0.44)	3.70 (0.48)	4/3
Health care in low resource areas	3.49	3.58	4/4
Describe the barriers resulting from low resources	3.56 (0.53)	3.73 (0.63)	4/4
Demonstrate cultural sensitivity in low resource settings	3.78 (0.44)	3.90 (0.32)	4/4
Adapt the skills to low resource settings	3.78 (0.44)	3.73 (0.47)	3/4
Recognise the symptoms of common illnesses even with lack of diagnostic possibilities	3.89 (0.33)	3.20 (0.79)	3/4
Describe the role of clinical algorithms and care based on symptoms	3.00 (0.71)	3.70 (0.48)	3/3
Identify clinical interventions and strategies for health promotion and illness prevention in low resource settings	3.33 (0.71)	3.10 (0.74)	4/4
To demonstrate sufficient training to participate elective practice in low resource settings	3.11 (0.33)	3.73 (0.47)	4/3
Health as a human right	3.67	3.70	4/4
Demonstrate understanding of the link between health and human rights	3.89 (0.33)	3.64 (0.67)	4/4

Demonstrate familiarity with NGOs that promote equality in health and human rights	3.56 (0.53)	3.73 (0.47)	4/4
Describe the meaning of human rights declarations and promotion	3.56 (0.53)	3.73 (0.47)	4/4
Nurse educator competences to educate global health to student nurses	2.98	3.65	4/4
Global burden of disease	2.66 (1.00)	3.27 (0.64)	2/4
Health implications of mobility of people	2.44 (1.01)	3.82 (0.40)	3/3
Health as social and environmental issue	3.22 (0.97)	3.73 (0.65)	4/4
Globalisation of health and health care	2.77 (0.83)	3.73 (0.79)	2/4
Health care in low resource areas	3.22 (0.97)	3.73 (0.81)	4/3
Health as human right	3.56 (0.53)	3.64 (0.80)	4/4

Table S4. Nurse educators ethics and value base before and after Ethics and Nurse Educators' Work

Nurse educators ethics and value base N = 23, Pre n = 8, Post n = 8, response rate 34%	Mean (SD) pre	Mean (SD) post	Mode
Knowing the ethical principles guiding nurse educator's work	4.13 (1.36)	4.50 (0.53)	5/4
Self-evaluated fairness towards others	4.61	5.00	5/5
Being fair to students	4.50 (0.53)	5.00 (0.00)	4/5
Being fair to colleagues	4.75 (0.46)	5.00 (0.00)	5/5
Being fair to superiors	4.63 (0.52)	5.00 (0.00)	5/5
Being fair to clinical mentors	4.57 (0.79)	5.00 (0.00)	5/5
Self-evaluated respect towards others	4.65	5.00	5/5
Respecting the personal views of students	4.75 (0.46)	5.00 (0.00)	5/5
Respecting the personal views of colleagues	4.63 (0.52)	5.00 (0.00)	5/5
Respecting the personal views of superiors	4.75 (0.46)	5.00 (0.00)	5/5
Respecting the personal views of clinical mentors	4.50 (0.55)	5.00 (0.00)	4/5
Fairness from others	4.19	4.57	4/5

Fairness from students	4.00 (0.87)	4.63 (0.52)	4/5
Fairness from colleagues	4.44 (0.52)	4.71 (0.49)	4/5
Fairness from superiors	4.33 (0.71)	4.38 (0.74)	4/5
Fairness from clinical mentors	4.00 (0.63)	4.57 (0.53)	4/5
Perception of respect from others	4.23	4.48	4/5
Respect of personal views from students	4.11 (0.60)	4.63 (0.52)	4/5
Respect of personal views from colleagues	4.44 (0.53)	4.63 (0.52)	4/5
Respect of personal views from superiors	4.22 (0.83)	4.38 (0.92)	5/5
Respect of personal views from clinical mentors	4.17 (0.41)	4.29 (0.95)	4/5
Fairness towards nurse educators in society	3.56 (1.24)	3.43 (0.79)	3/4
Respect of nurse educators views in decision making	2.89 (1.27)	3.28 (1.11)	2/2