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The methodology of preparing a culture-sensitive online/blended course developing knowledge, communication skills and professional competencies in movement analysis

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1. Introduction

Physiotherapy, like many other professions, requires lifelong learning. The continuous and dynamic development of medicine and modern technologies changes the base of knowledge, which allows the creation of new techniques and methods of diagnosis and therapy. The composition of society is also changing, which requires the physiotherapist to be able to effectively cooperate with people of different cultures, beliefs, and customs. It is necessary to supplement the education of physiotherapists with the development of intercultural communication skills in clinical practice.

2. Intercultural communication in physiotherapy

The concept of culture extends beyond the visible elements such as cuisine and attire, as American anthropologist Edward Hall proposes in his exploration of "The Hidden Dimension." Hall identifies three layers of cultural understanding: tertiary, secondary, and primary. Tertiary culture includes observable practices like traditional clothing, while secondary culture encompasses norms known to a group but not explicitly explained. At the primary level, unspoken rules govern behaviour, often leading to unintentional cultural misunderstandings, particularly in contexts like healthcare.

In university settings, effective intercultural communication is crucial. It creates an inclusive learning environment, helping culturally diverse students feel valued and engaged. Moreover, it enhances education quality

by fostering cross-cultural collaboration, preparing students for a globalized workforce. The development of culturally competent graduates who can contribute positively to a global society is an additional benefit, as they learn to navigate complex issues and challenge stereotypes.

For physiotherapy students, intercultural communication is fundamental. Healthcare institutions attract diverse patient bodies, making this skill essential for meaningful dialogues and positive rapport. Additionally, it equips students for success in a global job market, where cultural competence is highly valued. Personal growth and enriched university experiences are further outcomes, as students develop empathy, cultural awareness, and an open-minded perspective.

Several barriers in intercultural communication, identified through analysis, need addressing in physiotherapy courses. These include language barriers, stereotypes, biases, non-verbal communication, and cultural differences in humour. Physiotherapists must work on cultural competence and communication skills, understanding their own cultural identity and the backgrounds of their patients. Cultural responsiveness, including knowledge of health beliefs and behaviours of different cultures, is crucial for providing sensitive care. Physiotherapy programs should integrate cultural responsiveness into their curricula to promote quality and equity in healthcare.

In conclusion, intercultural communication is paramount for physiotherapy students, impacting their academic experience, patient interactions, global job market success, and personal growth. Addressing barriers through cultural competence development is crucial for providing effective and sensitive care to patients from diverse cultural backgrounds.

3. Analysis of blended / distance courses and publications

Seven partners from six countries, including universities, a hospital, and a social enterprise of international experts, have collaborated to create a free online course titled "Mov-e: Development of Intercultural Communication Skills in Physiotherapy Practice through an E-learning Course on Movement Analysis and Therapy." The course aims to support the global development of future physiotherapy professionals by addressing both movement analysis skills and intercultural communication. Comprising 15 lessons of approximately 45 minutes each, with video materials and a self-study manual, the course targets physiotherapy students, practicing physiotherapists, and anyone interested in movement analysis and enhancing interpersonal skills in an intercultural community. The project seeks to provide participants with a personal certificate upon completion.

To inform the creation of the online course, the project partners conducted a literature review on online and blended learning in physiotherapy. They identified 40 certified online or hybrid courses offered by recognized educational centres, covering various physiotherapy specialties. However, none of these courses addressed cross-cultural issues in working with patients. The analysis of available literature highlighted the acceptance of modern technologies, including e-learning, in physiotherapy education, with students appreciating the flexibility, accessibility, and learning outcomes of online teaching. While acknowledging the value of face-to-face contact for practical classes, the study noted a lack of strong evidence confirming the unequivocal effectiveness of a long cycle of e-learning in health professions education.

4. Field studies exploring the needs and expectations of academic teachers and physiotherapists

The preparation for creating the Mov-e online course involved conducting interviews in focus groups across the project partners' countries. Participants included academic teachers, practitioners, physiotherapy students, and trainees. The interviews aimed to gather insights into teaching movement analysis and intercultural communication. Teachers

emphasized the lack of uniform standards for teaching movement analysis, advocating for a balance between theory and practice. While practitioners acknowledged the importance of interpersonal and intercultural communication in their work, they revealed minimal coverage of these topics in their teaching. Both teachers and practitioners recognized the benefits of e-learning, suggesting a 70% focus on practical content in the online course, with progressively challenging practical skills, interactive elements, and the option for comments and questions. Students, though generally satisfied with learning movement analysis, preferred face-to-face courses for practical skill acquisition. They identified advantages of online courses, such as flexibility and accessibility, but stressed the need for improvement in interpersonal and intercultural communication skills. Students favoured receiving ECTS credits upon course completion.

At the hospital partner, physiotherapy interns recommended that the online course should not only focus on pathology but also on early detection and prevention, incorporating constantly updated scientific knowledge. They emphasized interprofessional collaboration, multiculturalism, and transversal aspects like patient safety and professional risk prevention. The interns suggested dynamic teaching methods, including journal clubs, case studies, virtual reality combined with real practice, and creating patient profiles through artificial intelligence. They recommended making this type of training compulsory for physiotherapists' continuing professional development.

5. Choosing the content of the course

The Mov-e project partners, after reviewing literature, analysing existing courses, and conducting focus group interviews, proposed 15 diverse and relevant topics for online lessons in physiotherapy. These topics covered a range of health issues affecting different age groups, disabilities, sports injuries, manual therapy techniques, and the use of modern technologies. To assess the attractiveness of these topics, a conference was organized for physiotherapy students from three universities. A voluntary

and anonymous online survey was conducted, with 53 students participating. All proposed topics received high ratings, with the three highest-rated topics being 'safe return to sport after injury', 'healthy spine', and 'core stability – assessment of basic movement patterns'.

The conference also included academic teachers who are practicing physiotherapists, excluding those associated with the Mov-e project. Five academic teachers participated in the survey and highly appreciated the chosen topics, with three topics receiving a perfect score of 10/10 from all five teachers. These topics were gait with an additional task assessment, core stability, and psychosomatic syndromes. The opinion of academic teachers was considered crucial, as they could assess whether the topics complemented regular physiotherapy studies. The survey results from both students and academic teachers/practitioners confirmed the positive outcomes of the focus group discussions.

Students were also asked for their opinion on the part of the Mov-e project addressing cross-cultural aspects of communication in the work of a physiotherapist. The students found the idea very interesting, describing the project as 'valuable', and 'having a lot of potential'. They emphasized the benefits of the diversity of topics and the value of developing intercultural communication skills, especially in challenging or intimate situations, such as examining a pregnant woman or a urogynaecological patient.

6. The model of preparing the course

Further project work has included refining the topics listed in Appendix 1 and preparing detailed scenarios for each topic in accordance with the structure of the course (see Appendix 2) and the scenario template (see Appendix 3), as well as preparation of content for self-reading, videos recording, preparation of materials for self-analysis (see Appendix 4). As a follow up on the development of the topics, the partners analysed the most

frequent cultural contexts identified in literature (see Anderson et al., 2010; APTA, 2023) and matched them to the refined topics (see Appendix 5).

A self-study e-manual will be created to complement and extend the content of the online course. Review questions to be included at the end of each lesson will be prepared and questions for the final test will be developed. A certificate confirming successful completion of the course will also be prepared and the entire course will be implemented on the online platform. At each stage, the content prepared by each partner will be reviewed and commented on by the other partners and revised until it is fully accepted by the whole consortium. Each partner will conduct consultations with physiotherapists (students, academics and practitioners) in their country.

According to the project schedule, the course is planned to be completed by the end of October 2025. It will be available free of charge to physiotherapy students, practitioners and anyone interested in improving their competencies in the analysis and therapy of movement and interpersonal communication in a culturally diverse society. The advantage of the course will be its availability in the language of each of the partners: English, Finnish, Spanish, Polish, Turkish and Hungarian.

Summary

The training model proposed in the Mov-e project was accepted by physiotherapy students, academics, and practitioners. Both the education part on movement analysis and therapy and the module on intercultural reflection were highly appreciated. Also, the model of learning, which is an online course with content for self-reading, videos for viewing, and issues for self-analysis were well received. The project partners will make every effort to prepare the course in accordance with the highest possible standards. They will place great emphasis on the level of medical knowledge and therapeutic skills, but also on interpersonal and intercultural

communication. To achieve this, the partners will constantly cooperate with the physiotherapist community from each partner's country.

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APPENDIX 1: LIST OF TOPICS TO CONSIDER:

1. The basics of movement and body posture
 - a. Spine health TR
 - b. Shoulder pain HU
 - c. Dual task gait analysis PL_K
2. Pediatrics
 - a. Neurodevelopmental assessment and milestones FI
 - b. Neuromotor maturity PL_T
 - c. Coordination and fine motor skills HU
 - d. Robotic rehabilitation TR
3. Ergonomics and pain
 - a. Psychosomatics FI
 - b. Back pain in pregnancy TR
 - c. Core stability PL_K
 - d. Physiotherapy diaphragm PL_K
4. Physiotherapy in sport
 - a. Decision-making test PL_T
5. The geriatric patient
 - a. Interprofessional communication in geriatric problems FI
 - b. Sarcopenia TR
 - c. Body balance and risk of fall and osteoporosis HU
6. Supporting people with disabilities
 - a. Physical activity of people with intellectual disabilities PL

APPENDIX 2: THE STRUCTURE OF THE COURSE

- Introduction and objectives of the course
- 15 online modules accompanied by videos

- 15 chapters of the manual (electronic book accessible online, hyperlinked to the online modules)
- Online test and certificate (microcredentials for completing selected modules)

APPENDIX 3: ONLINE MODULE STRUCTURE

Topic of the lesson (expressed concisely and informatively)		
Learning pathway (short and logical presentation of the lesson's content, i.e. the presented physiotherapy techniques and methods, as well as issues related to interpersonal communication in an intercultural community)		
INTRODUCTION	Field of physiotherapy	
	A goal leading to improving motion analysis and therapy	
	A goal leading to improving communication with the patient, cross-cultural aspect	
	Intended effects leading to the improvement of movement analysis and therapy	
	Intended effects leading to improving communication with the patient	
	Recommendations (what would be good to revise before working through the lesson)	
READ	Reading material on improving movement analysis and therapy	
	Reading material on improving patient communication	
	Cross-cultural aspect	
WATCH	Video materials on improving movement analysis and therapy (aspects)	
	Video materials on improving communication with patients, cross-cultural aspect	
DO	Self-analysis materials (e.g. photos, charts, study reports to interpret, questions to think about etc.)	
	Comments on the ergonomics of the physiotherapist's work and suggestions on cooperation with other members of the therapeutic	

	team and people from the patient's close environment (family, friends)	
	Summative test	
	Further resources – case report (available after passing the test)	

APPENDIX 4: THE STRUCTURE OF THE TEXTBOOK

- Introduction (rationale for the content and **intercultural communication aspects**, explanation of techniques used for realising the topics)
- 6 parts composed of 15 chapters in total
- In each chapter
 - an extension of the info from the course (e.g. definitions (e.g. The definition and parameters of gait), anatomical description (with text, **video**, photos), interprofessional cooperation, pathology, diagnostic path, possible
 - **intercultural aspects influencing communication,**
 - questions for reflection both on content and intercultural communication
 - extra resources / additional materials
 - case studies or other extras
 - common mistakes, red/yellow flags, differentiation in diagnosis
 - research tools (questionnaires, description of devices, AI applications, other apps, etc.)
 - bibliography

APPENDIX 5: Refined topics of scenarios and intercultural communication contexts (Anderson et al., 2010)

	Topic	Culture-related contexts	Area
1	Postural and musculoskeletal problems of the visually impaired, focusing on the shoulder girdle area	Values orientation: attitudes, values, and beliefs influencing behaviour related to health and illness: Disability is a long-term physical, mental, psychosocial or sensory impairment which, together with many other barriers, can limit a person's ability to participate fully, effectively and equally in society. The functional limitations of people with sensory disabilities, in this case visual impairment, can make communication between physiotherapist and patient very difficult.	Orthopaedics / Oligophreno-physiotherapy
2	Assessment of physical fitness of adults with intellectual disabilities and their support in undertaking physical activity	Patient's and family's views of mental disorders: People with intellectual disabilities in many cultures have been discriminated against and marginalized, which impacts their physical fitness and rehabilitation.	
3	Methodology of assessing dual-task gait with consideration for linguistic and cultural variations in the knowledge levels of the participants	Stigmas associated with the patient's illness: The significance of linguistic, cultural, and knowledge level differences during the assessment of dual-task gait	
4	Detecting motor milestones through observation and use of gender-sensitive terms when communicating with family	Value orientation: the perception of gender within cultural groups, adherence to traditional gender roles The significance of linguistic, cultural, and knowledge level differences during the assessment of the motor development. (gender sensitivity, interaction with the caregiver – using non-gender specific language, understanding the gender diversity, validating interaction)	Paediatrics
5	Assessment of coordination skills in children with anxiety and distrust	Impact of education level on patient's health literacy and health behaviours. Involvement of family members in health promotion, e.g., lifestyle changes in diet and/or exercise. Communicating with an elderly person, a teenager or a child – specifically an anxious and distrustful, 5 year old child and his/her mother - have completely	

		different characteristics and difficulties. What can help when communicating with children? What can make it difficult and what can help to communicate with teenagers? How is it different from communicating with elderly people?	
6	Communication methods of dealing with introverted adolescents with postural defects in general TR	Impact of education level on patient's health literacy and health behaviours. Culturally determined expressions of emotions, feelings. Possible reactions of an adolescent, the psychological and social consequences of misalignment, how to deal with a misalignment, and what difficulties may be encountered in misalignment and therapy and how to overcome them.	
7	Non-verbal communication as a part of a professional interaction in Norwegian psychomotor assessment of chronic pain patient	Culturally defined expressions of modesty, male-female relationships. Restrictions related to sexuality, exposure of various body parts. The goal is to improve sensitivity to non-verbal communication and understand cultural diversity in it.	Ergonomics and pain
8	Low back pain in pregnancy	Beliefs and practices related to developmental events such as pregnancy, birth, and death: biological and psychosocial factors such as changes in the environment, isolation, loneliness and changes in body image, physical inactivity, and malnutrition show cultural differences	
9	Diagnosis and therapy of diaphragm function disorders in patients with obesity	Beliefs about ideal body size and shape; concept of body image in relation to this ideal: Culturally determined gender differences in individuals who Understanding and respecting the beliefs and cultural traditions of the patient.	Physiotherapy in sport
10	The return-to-sport decision as a complex biopsychosocial problem	Kinship and social networks/ Values orientation: How attitudes, values, and beliefs influence behaviour related to health and illness. Role of family members and social networks (here: coach, teammates) during episodes of sports injury, differences in expectations and values.	

11	Interprofessional communication in evaluating geriatric client's functioning on a home visit	Cultural beliefs about aging and practices related to elderly care. Culturally sensitive communication demonstrates understanding and respect for individuals and promotes patient and family satisfaction. (Brooks, Manias & Bloomer 2019)	The geriatric patient
12	Healthy aging and mental health	Although changes in the environment, isolation, loneliness and lack of preparation for old age, biological factors such as physical inactivity, improper nutrition, psychomotor load, acute and chronic medical conditions and psychosocial factors show cultural differences, the changes brought about by aging can be examined under the common heading.	
13	Respecting the boundaries of physical contact in the client/patient - physiotherapist relationship in the functional diagnostics and therapy of central stabilization disorders	Influence of religious affiliation on patient's behaviour. Respecting the boundaries of physical contact in the client/patient	
14	Balance and falls risk assessment in an older person with osteoporosis and aggressive behaviour	Cultural perception of socioeconomic and cognitive variables. What can make difficult the situation and what can help to communicate with an elderly man with some special behavioural elements.	
15	Foot deformities in the context of lower limb and pelvic alignment in a patient with a dermatological condition	Values orientation: Stigmas associated with the patient's illness. The tackled health problem is associated with a stereotype causing a negative perception of the situation	Orthopaedics