PRIME PETE

PRIMARY EDUCATION PHYSICAL EDUCATION TEACHER EDUCATION

Theoretical and Methodological Framework for Primary Physical Education Teacher Education in Europe

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1. Introduction

Physical Education (PE) has holistic benefits for all in physical, social, cognitive and emotional areas. School-based PE is regarded as to be effective for increasing accessibility to physical activities, increasing levels of physical activity (PA), as well as aiding young people gain sport skills necessary for continued involvement in being physically active (European Commission, 2008; MacPhail et al., 2018). In the interest of the holistic development of children, generalist primary school teachers teach all subjects of the curriculum in many countries while other countries have PE specialist teachers, which in some countries even support generalist teachers. Still, broad-spread concern about initial teacher training (ITE) programmes, teacher supply and quality embracing insufficiency in numbers and inadequacy of appropriately qualified PE teachers exists, especially in primary schools. At the same time inadequate provision and/or uptake of further professional development opportunities represent an important issue (Hardman et al., 2014).

A quality PE teacher education (PETE) study programme for primary schools should provide prospective teachers as lifelong learners with a deep knowledge of PE and a set of reflective, pedagogical and didactic skills and professional dispositions that allow them to design and provide quality physical education (QPE) for all pupils (AIESEP, 2014; UNESCO, 2015). They should be characterized as ethical, caring, critical, innovative, reflective, collaborative and communicative professionals advocating for pupils and QPE. There is a need for the PETE community to work collaboratively with the broader community of teacher education academics and researchers towards the achievement of quality in their programmes. The PETE community is encouraged to analyse what influences PE teacher educators and PETE study programme have and to consider the significant role PETE should play in the contemporary society (AIESEP, 2014). In most European countries in which PE specialists teach at primary school level, the reported minimum qualification required is a bachelor's degree (European Parliament, 2016, MacPhail et al., 2018; and table 1, figure 1). However, to date, no common programme for Primary PETE exists in Europe.

Hence, the aim of the PRIME PETE project is to bring together European Higher Education Institutions (HEIs) and other stakeholders active in primary PETE, to promote their cooperation and state suggestions to qualify PRIME PETE. The main driver underpinning the recent demand for improved PETE provision in Europe is the perception that children are receiving a mediocre quality of PE and are subject to reduced physical and mental health. Calls for a more effective study programme have been aimed at the primary school level, where it has been suggested that only about a third of schools provide adequate PE (Elliot et al., 2013). Consequently, and to address the gap from a point of view of HEI's, the aim of this intellectual output (IO#4) is to provide theoretical and methodological guidelines for a modular study programme for Primary PETE based on the previous findings and recommendations from PRIME PETE IO#1-3.

2. Background

The overview of the provision of PETE programs in Europe, the report on book analysis of MacPhail, Tannehill, and Avsar (2019), the literature review and the Delphi Consensus Study, together with the mapping, discussion and analysis of partner PETE study programmes (IO#1, see table 1 and figure 1), the synthesis of recommendations and the final recommendations and conclusions (IO#2), and the formulation of a required profile of a primary PE teacher (IO#3) have provided a complex and, at the same time, very consistent source of information for the completion of IO#4.

Table 1 Degrees required for teaching primary PE in Europe.

Country	Degree	G/SP teacher	ECTS
Austria	B	G	240
Belgium (Flanders)	B	SP	180
Bulgaria	B	G	240
Germany (Bavaria)	B	G	240
Greece	B	SP	240
Hungary	B	G	240
Ireland	B	G	240
Lithuania	B	G	240
Luxembourg	B	G	240
Malta	B	G	240
Netherlands	B	G	240
N. Macedonia	B	G	240
Norway	B	SP	180
Poland	B	G	240
Spain	B	SP	240
Sweden	B	G	240
Switzerland (3y.)	B	G	180
Turkey	B	SP	240

Country	Degree	G/SP teacher	ECTS
Croatia	M	G	300
France	M	G	300
Germany (NRW)	M	SP	300
Ireland	M	G	300
Italy (single cycle)	M	G	300
Portugal	M	G	300
Slovakia	M	G	300
Czech Republic	M	G	300

Note: B = Bachelor, M = Master; G= generalist; SP = specialist; adapted from IO#1

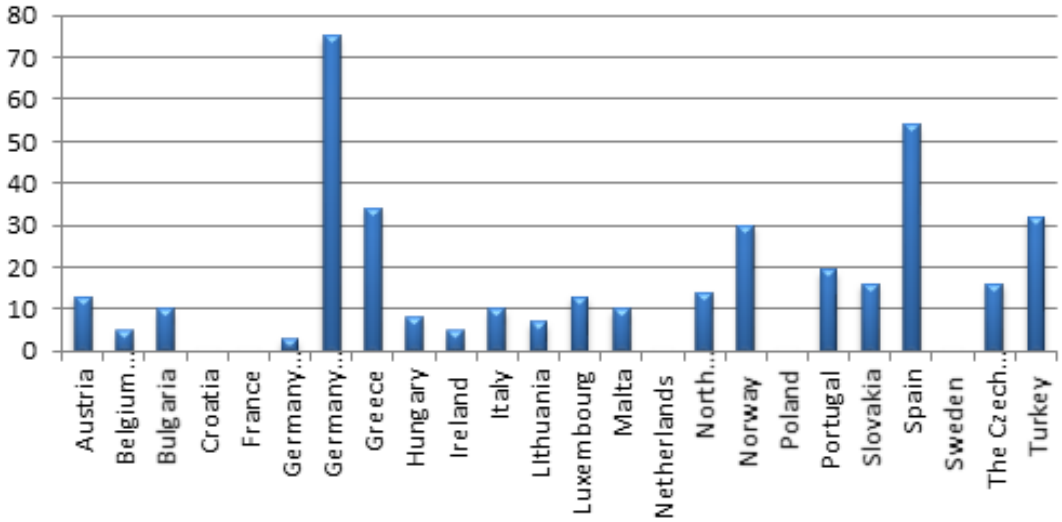

Figure 1 Number of ECTS for PE modules in both generalist teacher and specialist teacher programmes over Europe (Source IO#1 final report)

3. Broad aspects of the primary PETE programme for generalist and specialist PE teachers

In this section, table 2 (see below) shows the general aspects of the primary PETE Programme for generalist and specialist PE teachers which represent its mission; learning theories underpinning the theoretical framework; competences; elements; methodological programme design and the core themes.

The theoretical framework for the primary PETE study programme can be built on a variety of learning theories which will guide the design of the learning activities. Learning theories do not provide "the truth" about learning but provide understanding of how learning happens. Similar to how an understanding of diverse sports may be useful for us to choose what to play to achieve fitness goals, a knowledge of learning theories can help us choose learning activities to accomplish learning goals. It is conceivable to use diverse theories of learning in combination (Campbell, 2019).

The ideal primary PE teacher is competent, analytically reflective and professionally effective (University College, Chichester 2003 cited in Petry, Froberg, & Madella, 2006), and cognisant of one's health and well-being. As the role of primary PE teacher is vital for an effective promotion of PA and healthy lifestyle in school settings, a primary PETE study programme should also include these aspects (Scheuer & Bailey, 2021; Scheuer & Heck, 2021; Webster et al. 2015). By the end of the primary PETE study programme, successful graduates should have gained specific competences and be able to deliver a reasoned rational argument for the long-term benefits of PE whilst at the same time adopting an evolutionary, critical approach to its place in the educational process. They should appreciate that their role in schools and teaching PE is of vital importance for the future of our children. Furthermore, they will be expected to manage and supervise classes and to understand the school culture and its place within the wider outside school community and will also be required to have the knowledge, understanding and skills needed to assess, evaluate and report pupils' attainment and progress for formative and summative purposes (Hardman, 2006).

Any programme should be based on a well-adjusted combination of theoretical, practical and professional work across the period of the programme. It should embrace practical activities, educational and teaching sciences, natural and biological sciences, social sciences/humanities, scientific work and school-based teaching practice, all using Universal Design for Learning as a methodological framework for the design of courses. All these elements (modules) can be organized into themes to provide a structure for programmes. Personal health and wellbeing as well as effective communication should not be neglected.

4. Primary PETE Model

Figure 2 presents a structure for primary PETE programme design which will guide us through the process of providing its specific elements

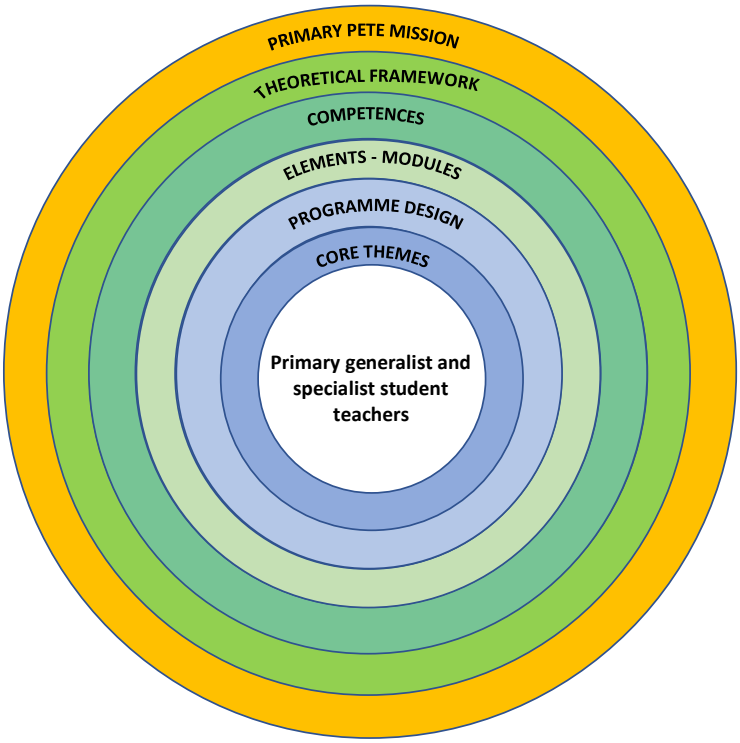

Figure 2 Primary PETE Programme Model (Sorce: prepared by the authors)

Table 2 Broad aspects of the Prime Pete Programme for Generalist and Specialist Physical Education Teachers

PRIMARY PETE MISSION		THEORETICAL FRAMEWORK	COMPETENCES		ELEMENTS (Modules)		Meth. progr. design	CORE THEMES	
	SOURCE			SOURCE		SOURCE			SOURCE
Competent	LR, LTT	Behaviourism	Life-long learner	R#8, IO#2, LR	Practical Activities (Theory and Practice),	LTT, LR	UDL	a. QPE	D2, D4, LR
Analytically reflective	LR	Constructivism	Command of PE knowledge	D1, LTT, LR	Educational and Teaching Sciences (Pedagogy and Didactics),	LTT		b. Practical activities / competent movers / physical literacy	D1, LR
Professionally effective	D5, LTT, LR	Communities of Practice	Organised	D2, D3, D4, LR	Natural and Biological Sciences (General and Applied),	LR			
Cognisant of one's health and well-being	LR	Connectivism	Reflective	LR)	Social Sciences/Humanities (General and Applied),	LR			
			Analytical	LR, LTT	Scientific Work (Research Project, Master or Bachelor Final Essay),	LR		c. Professional identity, professional relationships	D5
			Ethical	D4	School-based Teaching Practice (School placement / general and specific)	LR, LTT			
			Caring	D3				d. Child development, safety	D1, D2, LR D5, LTT
			Empathetic	D3, D4				e. Wellbeing of child and student teacher	D4
			Respectful	R#8					
			Inclusive	D2, D3, D4, LR				f. Subject knowledge, inclusion, assessment	D1, D2, D3, D4, LTT, LR
			Good communicator	D3, D5					
			Collaborative	R#7, R#8				g. Teaching strategies, development of digital skills	D5, LTT
			Researcher	R#9					
			Competent	R#2				h. Research [physical education topic]	LTT, LR

Note: IO#2 Report: LR=Literature Review; LTT= Learning Teaching and Training, #IO1 and #IO3: D1, D2, D3, D4, D5 = Dimensions Round 3 only Delphi Study; R#2, #7, #8, #9 = Recommendations from IO#2

UDL = Universal Design for Learning

5. Primary PETE mission

Given the lack of a common PETE study programme for PE in primary school in Europe, it seems appropriate to reflect upon the rationale and structure of PETE delivery and to ensure that it provides a coherent, integrated and relevant preparation for Primary Education PE teaching in the future (Hardman, 2006). Besides, it is argued that historical antecedents, culture-bound practices and changing legislation have also shaped PETE across Europe.

The broad purpose of a primary PETE is to help prepare preservice PE teachers with the knowledge, skills, and dispositions required to teach effectively based on the perspectives of the PETE faculty members within a particular program. PETE programs have a responsibility to prepare preservice teachers for the socio-political realities of teaching PE in school environments (Richards et al., 2021). Specifically, the mission of the programme is to prepare candidates for a successful future as PE educators who build communities of fit, competent, and knowledgeable students, who value an active and healthy lifestyle and pursue physical activity for a lifetime.

The primary PE teacher is seen as a competent professional who is concerned to become more effective in assisting and enabling children's learning and development within a variety of contexts through analysing, exploring and reflecting upon their own classroom practice. Initial teacher education should be considered as the foundation stage in a process of continuing professional development through an induction phase and following In-service training.

In the provision of a base for initial professional competence, elements that contribute to this are specific subject-based professional skills as well as recognition of the generic context of education across all class stages and the wider context of the community. Throughout the study programme preservice teachers should be required to analyse, diagnose, select, report, and evaluate appropriate courses of action. This would allow them to develop critical capacity. PETE should also assist in the growth of personal qualities, and enhance independent and cooperative learning, appraisal of themselves and of other people, and argumentation skills. This would help future primary PE teachers operate within a framework of challenge and sensitivity to others. Study programmes for PE teachers in primary school should establish a secure knowledge base to include an understanding of the knowledge, concepts, and skills of PE as well as breadth and depth of PE subject knowledge, which extends beyond programmes (Hardman, 2006).

Theoretical and Methodological Framework for Primary Physical Education Teacher Education in Europe

The mission of the Prime Pete programme is to prepare student teachers at undergraduate level for a successful future as PE educators who build communities of competent and knowledgeable children on their physical literacy journey who value an active and healthy lifestyle and pursue physical activity. The primary PE teacher (generalist or specialist) is seen as a competent professional who is concerned to become more effective in assisting and enabling children's physical, social and cognitive learning and development within a variety of contexts through analysing, exploring and reflecting upon their practice.

6. Theoretical framework

6.1. Learning theories

Learning theories do not offer 'the truth' about how learning occurs but provide a vision into how it happens. The knowledge of learning theories can help us choose activities to achieve learning targets. Nevertheless, it is also conceivable to combine different theories of learning. Objectivist theories consider knowledge to be absolute and corresponding with reality, whereas constructivist theories consider knowledge as shaped to fit with reality. Other approaches to learning theories have classified them in acquisitionist and participationist theories, where learning is understood as the process of acquiring objective knowledge or as the production of knowledge within a learning community, respectively (Campbell et al., 2019, 2020).

The four dominant learning theories are:

6.1.1. Behaviourism

Three guiding principles are that human behaviour can be understood by objective analysis, that environmental impacts on behaviour can be complex and subtle, and that future behaviour can be formed with reinforcement. Nevertheless, this learning theory did not engage with how the mind influences learning, why people who experience the same teaching do not all learn the same content equally, or why humans do not always respond to stimuli in the same ways. This led to the development of one of the most widely referenced learning theories to date, the constructivism (Campbell, 2020; Fosnot, 2013).

6.1.2. Constructivism

The fundamental statement in constructivism is that learners build new knowledge based on previous learning. Interaction with more conversant teachers or peers shape learners' perceptions, which in turn forms knowledge construction. The teacher is a 'director' of knowledge construction rather than the knowledge-giver. Constructivist teaching methodologies include active learning, learning-by-doing, scaffolded learning, creating cognitive conflict or by using reflective writing, and externalising memory on lists and concept maps to stimulate relationships and content over recall. Current sociocultural theories of learning have emphasized the development of student identity as a vital part of the learning process and accounted for the influence of the environment as well as other people. Interactions with others are the foundation in theories such as the theory of communities of practice (Campbell et al., 2019).

6.1.3. Communities of practice

This theory of social learning is founded on observations of apprenticeship learning. It guides education developers to consider the activity, culture and context in which learning takes place. A community of practice forms when group members linked by a concern for an activity learn to perform the activity better through regular interactions. Through observations, apprenticeships, and legitimate peripheral participation (LPP) newcomers can become core participants, recognized by the community as experts (Lave & Wenger, 1991, Wenger, 1998). Knowledge needs a realistic context, and a structure recommends the use of activities such as site visits, guest lecturers and real-life data statistics. Participants gain social capital as they gain knowledge and acknowledgment from their peers. Peer coaching, presenting examples of students' work and guided peer assessment are activities that place students in more central roles in the community of practice (Campbell, 2020; Campbell, Wenner, & Brandon et al., 2022).

6.1.4. Connectivism

Connectivist-learning is the construction and use of networks of connections between human and non-human information resources or 'nodes' at three levels: the cognitive, concept, and social. Activities include accessing, critically evaluating and synthesizing diverse information resources, and contributing self-generated content through blogs, videos and comments.

6.1.5. Integration of learning theories

The panorama of theories on teaching and learning is enormous and dynamic. In a single day, a student may engage with behaviourism-inspired videos with mastery quizzes, connect on social media to a community of practice for advice on solving a homework question, use responses to help their construction of understanding of a topic, and post a social media comment where they share their understanding and the resources that helped them. Whatever learning theories guide the design of the learning activities, PETE educators have the power to influence development or fixed mindsets through their instructional design, whether or not they intend to do so (Campbell, 2020).

Evidence shows that PETE programs are more effective at achieving the missions when they are field based (Richards, Templin, & Gaudreault, 2013). Hence, they provide pre-service teachers with opportunities to practice skills learned through on-campus methods courses in an authentic setting (Christensen & Barney, 2011). Efficient PETE programs balance field-based learning experiences with on-campus opportunities for continued learning and reflection through constructivist-oriented learning strategies that promote reflection and critical thinking (Campbell et al., 2019; Richards & Gaudreault, 2017).

7. Competences

Any model of PE teacher competence should contain both cognitive and attitudinal elements. This is demonstrated through knowledge and understanding of PE study programme functions and by an expertise of subject knowledge and the ability to apply it at different levels of pupil ability (Hardman, 2006, see also table 2).

Prospective primary PE teachers should (*the sources of the statements are indicated between brackets*):

- be competent qualified teachers with insight into their own professional development as life-long learners (Hardman, 2006; Tannehill et al., 2014);
- have specialist knowledge and understanding in PE, subject content knowledge base, including key concepts and skills that provide the material to be taught and the ability to employ a range of teaching styles and methods within a variety of contexts (Hardman, 2006; LR-R#2; Lund & Tannehill, 2014);
- have advanced knowledge and understanding of the development of fundamental movement skills (D1; SHAPE America, 2009, Tannehill et al., 2014);
- have knowledge about children's overall development (D1; Shape America, 2009, 2015);
- have knowledge of PA recommendations for children and young people (D1; Shape America 2015, Webster et al. 2015);
- have the ability to plan and teach QPE lessons (D2; Shape America, 2009, 2015);
- be committed to the healthy development of primary school pupils promoting PA and healthy lifestyles among them in school context and outside (D4; Gray et al., 2015; Scheuer & Heck, 2021, Shape America, 2015, Scheuer & Bailey, 2021);
- have the ability to provide a positive and safe learning environment in PE (D2; Shape America, 2009; Gray et al., 2015);
- have the ability to plan long and short-term PE programmes based on students' developmental level and readiness (D2, Tannehill et al., 2014);
- have knowledge and skills to support pupil's learning, progression and development within the school curriculum in an informed and creative manner (Hardman, 2006, Shape America, 2009);
- be capable and committed to support the learning and development of all students regardless of their ability levels (D3, Tannehill et al., 2014);
- be capable and committed to motivate, inspire learners and support their empowerment (D3; Dalziell et al., 2019; Gray et al., 2015);

- be capable and committed to create situations and climates in which learners increase their self-esteem and confidence (D3, Lund & Tannehill, 2014; Shape America, 2009);
- have the necessary range of observational, analytical and recording skills necessary for the planning and implementation of appropriate programmes and competent organization of the learning environment in PE (Hardman, 2006);
- have a wide experience, knowledge and understanding of PE and its application in a range of contexts within the national cultural settings and of the school's local community (Hardman, 2006);
- establish sensitive and effective relationships with children (Hardman, 2006, Shape America, 2009);
- be able to promote ethical behaviour in learners and foster a culture of valuing diversity within the classroom setting in PE (D4; Shape America, 2009);
- be actively committed to the provision of equal opportunities for all pupils in PE (LR; Hardman, 2006, Shape America, 2015);
- be aware of the influence of spiritual, moral, social and cultural values surrounding the involvement of school children in PA (Hardman, 2006; D5; Scheuer & Heck, 2021; Shape America, 2009);
- be conversant with specific agendas (for example, inclusion and gender and disability equity) reflecting the place of PE within the active school concept (Hardman, 2006; D3);
- be able to play a prominent and constructive role in the development of PE and related activities for children, both within the school and in partnership with other organizations in the community; establish collaborations between schools and universities (support for PE students) (Hardman, 2006; LR-R#9);
- have the capacity and the commitment to actively advocate for PE in the school and beyond (D5; Scheuer & Bailey, 2021; Scheuer & Heck, 2021, Shape America, 2009);
- have appropriate communication skills in writing and other modes and be able to appraise evidence, critically analyse different points of view, argue rationally and form independent judgements (García-Fariña et al., 2021; Hardman, 2006; D4);
- be able to communicate effectively both verbally and non-verbally (D4; García-Fariña et al., 2021);
- be able to synthesize and apply knowledge and understanding to the critical analysis and evaluation of PE theory research and practice (Hardman, 2006; Shape America, 2014; Webster et al., 2015);
- be competent movers (LR; Dalziell et al., 2019; Shape America, 2009; Webster et al., 2015)

Note: D, R, and LR refer to the corresponding Dimension, Recommendation and Literature Review

8. Core themes of primary PETE

The organisation of the elements of study programmes into themes provides a means of highlighting key aspects for teaching primary PE. These core themes are represented in figure 3.

Figure 3 Themes (Source: designed by the authors)

The table 4 below highlights the dimensions emerged in the present project from IO#1 and IO#3. PRIME PETE degree courses should develop these dimensions and modules/micromodules will be proposed to cover these aspects.

Table 3 PRIME PETE dimensions after Delphi study

PRIME-PETE DIMENSIONS
DIMENSION 1. KNOWLEDGE DEVELOPMENT AND MANAGEMENT
DIMENSION 2. TEACHING, LEARNING AND ASSESSMENT
DIMENSION 3. LEARNER EMPOWERMENT, POTENTIAL, DIVERSITY AND CREATIVITY
DIMENSION 4. VALUES, SOCIAL LEADERSHIP AND COMMUNICATION
DIMENSION 5. DEVELOPMENT AS REFLECTIVE PROFESSIONALS AND LIFE-LONG LEARNERS

9. Elements

A broad and balanced primary PETE programme should meet the needs and trends in society, in consensus with cultural traditions, and contribute to life-long learning and healthy active lifestyles.

Thus, it should include the following elements.

- A sustainable range of the many types of practical activities:
- Development of fundamental movement skills (locomotor, manipulative, and balance skills); broad range of opportunities to extend agility; flexibility and coordination; individually and with others; team games, playground games, co-operative games and games traditional to the school or locality, dance, outdoor activities, all with a high rate of compulsory practical classes or practical experiences in PE context that allow contact with the specificity of PE teaching and small groups in order to allow mentoring and feedback;
- Educational and Teaching Sciences (Pedagogy and Didactics): Knowledge and understanding of pedagogical and didactical processes (knowledge on group/classroom management) and their application in school-related contexts including school culture, curriculum development, implementation and evaluation, effective communication and interaction in a variety of PA and safe learning environment (Modules for improving the teaching-learning competence focused on the pedagogical content knowledge, modules for improving verbal and non-verbal communication; and);
- Subject knowledge and understanding in relevant areas of the natural/biological (life sciences) (General and Applied): Development and understanding of the importance of PA recommendations for children and the significance of learning experiences in PE for lifetime (Modules on children's overall development, motor development and learning);
- Subject knowledge and understanding in relevant areas of social sciences and humanities (General and Applied);
- Scientific Work (Research Project, Master or Bachelor Final Essays);
- School-based Teaching Practice (School placement /Internship – general and specific): Compulsory PE teaching during the formal school placement. A minimum of 20% of the total time should be allocated for PE teaching practice, which will be appropriately distributed over the duration of the Primary PETE programme.

Overall, the study programme should guarantee a minimum of compulsory ECTS (see also figure 1) for specific PE subjects for both generalist and specialist PETE, and take into account the identity, characteristics and competences for delivering a QPE. Modules for the integration of PE in the multidisciplinary educational process of primary education (multidisciplinary work groups) should be included. Practical modules for self-reflection on aspects of learning and specificity of PE teaching and modules combining theory of teaching with teaching practises (i.e. peer-teaching) are relevant (LTT, IO#2 Recommendations and Hardman, 2006).

10. Methodological programme design for primary PETE

10.1. Universal Design for Learning in primary PETE program

- Universal Design for Learning (UDL) is a framework that guides the design of courses and learning environments to appeal to the largest number of students. It underlines flexibility in how instructional material is presented, how students demonstrate their knowledge and skills, and in how they are engaged in learning (La et al., 2018). The goal is to use a diversity of teaching methods to eliminate any barriers to learning. From the beginning of the module, it helps to anticipate and to plan for *all* the educators, making sure that the greatest range of students can access and engage in learning. The fundamental goal of UDL is for all students to become expert learners. Expert learners are purposeful and motivated, resourceful and well-informed, and strategic and goal-directed about learning.
- UDL's principles of multiple means of engagement, representation, and action and expression (see tables 3, 4 and 5) offer PETE educators an instructional design model to struggle for equitable access for all students by offering options and sets goals to accommodate diverse learners. In addition, UDL encourages PETE educators to consider how they might improve their own teaching practice by considering diversity in the classroom, student voice and intervention.
- In order to reduce the lack of training in addressing the needs of diverse learners, PETE educators should consider ways to insert the principles of UDL into their classes / modules (Liebermann & Grenier, 2019).

Table 4 Suggested methodologies for implementing multiple means of engagement (adapted from LA et al., 2018).

Multiple Means of Engagement	**Methodology for primary PETE classes / modules**
Variety in teaching and learning activities	• Combine discussions and small group activities • Insert engagement materials in lecture notes (I.e. sample exam questions). • Plenary lectures • Gamification • Practical seminars • Learning through research
Interaction with others	• Online and in-class discussions • Problem-based learning • Cooperative learning • Inquiry-based learning • Study groups and teacher assistants

Use of ICTs	• Online learning environment for small group work, discussions, etc. • Flipped classroom
Student choice of course content	• One optional unit or topic after standard units have been addressed • Each group researches and presents on a different topic
Self-regulation and motivation	• Goal setting • Rubrics for self-assessment • Checklists to track progress • Online quizzes for immediate student feedback

Table 5 Suggested methodologies for implementing multiple means of representation (adapted from LA et al., 2018).

Multiple Means of Representation	**Methodology for primary PETE classes / modules**
Accessible course materials	• Links to Creative Commons resources • Open Education Resources (OER) • Slides, readings, and course materials are published online in advance
Multimodal sources of information	• Record lectures (if allowed) • Provide models and graphics • Use animations
Pedagogical approaches	• Variety of pedagogical approaches (i.e. logic, statistics, narrative, case study, multiple perspective, and testimonial)
Student-created materials	• Graphic organizer summary • Concept maps, illustrations, etc. • Class notes posted buy students to course site (small groups) • Glossary of terms created by students
Comprehension and key concepts	• Study guide: list of key concepts at the beginning of each class / module • Practical classes and possible solutions • Highlight patterns and themes between ideas • FAQs and responses online
Check for understanding	• Online discussion forums • Q & A session in class • One-minute papers

Table 6 Suggested methodologies for implementing means of action and expression (adapted from LA et al., 2018).

Multiple Means of Action and Expression	**Methodology for primary PETE classes / modules**

Assessment / Exams	• Multiple choice, short answer, fill in the blank, equations, label a diagram, etc. • Questions assessing different ways of understanding: remember / comprehend, analyse / apply, and evaluate / create • Add graphics into some questions
Assignments and demonstration of skills	• Class presentations • Role-play, debate, discussions, reflective diaries, • Develop skills in real PE settings (i.e., teaching practices, peer-teaching, school placements)
Feedback for theory and practice	• In-class peer feedback • Use rubrics (observations from different points of view) • Student-led study groups • Cumulative assignments with feedback at different stages • Tutorials
Student choice	• Due date or topic • Assignment format: paper, presentation, website, poster, reflective diary, etc. • Social media as a communication tool
Assessment anxiety	• Assignment guidelines to outline your expectations • Provide templates or outlines if appropriate • Option to write final exam as a take-home exam if appropriate • Give sample assignments showing feedback and how they were graded if appropriate

10.2. Modular study programme for primary PETE

Over the last two decades, the modular structures have been progressively employed in higher education in an attempt to satisfy the needs of more diverse student groups and to allow students greater flexibility and choice in managing their studies (Dejene & Chen, 2019; French, 2015). Modular approach moves

conventional instruction methods to an outcome-based learning paradigm and divides the study programme into independent, non-consecutive, short and small modules or units. It mainly refers to the disaggregation of the content of the programme rather than to a temporal metric (content-based division vs. time-based division) that splits the academic year into two teaching periods or semesters (French, 2015) and stands in contrast to the notion of the traditional university 'subject'. Accordingly, students collect credit for modules which can lead to a qualification for which a stipulated number of credit points is requisite (Dejene & Chen, 2019).

Modular degrees offer several benefits to the students such as flexibility, choice, access and mobility. It is also agreed that modular structures allow HEIs to better react to the needs of employers, develop more efficient uses of resources and increase opportunities for curricula extensiveness although interdisciplinarity is frequently considered as a positive attribute of modular programs, yet for some it is also a source of concern (Adesope & Ahiakwo, 2016, French, 2015). Furthermore, it is discussed that modularisation generates the possibility of fragmentation and incoherence of the educational experience, possibly reduces learning outcomes and arises epistemological, structural and pedagogical challenges. Hence, modular approach implies teaching and assessing detached components of learning, sometimes excluding more integrative learning outcomes. Somehow, increased accent on learning facilitation and outcomes may come at the expense of a high-quality education (Dejene & Chen, 2019; French, 2015).

Research reveals that students prefer modularised and/or intensive course structures as they are perceived to offer more flexibility and freedom of choice. A wide range of motivational factors determine students' choices (Hedges et al., 2014). Whereas some may be driven by learning and career aspirations, other may choose modules that are perceived to be easier, select modules that are held at a more suitable day and time or to avoid particular modes of assessment. Thus, it is imperative in order to fulfil the possible benefits of modularisation, that students receive formal guidance during the decision-making process (Hedges, 2014, p. 40).

Modules should combine experience in a range of activities with a detailed intellectual foundation. Thus, the student should be required to develop techniques of analysing, observing, diagnosing, selecting, reporting, and presenting information. These techniques can then be used to test the value of scientific, pedagogical and didactical concepts as well as principles pertinent to the PE study programme (French, 2015).

The main purpose of some modules in PETE is the professional organization of practical activities in the frame of a formal PE curriculum, with specific learning objectives or competence expectations to be reached. They provide significant opportunity for experience in PA that are part of the teaching of PE, experimenting

with a variety of teaching methods and approaches appropriate to the wide range of pupils. Prospective primary PE teachers will have to understand the development and learning processes of children in a movement setting with particular attention to the more common learning difficulties that some children experience. These units should ensure that students: increase their knowledge of individual development; develop an understanding of the rationale for individualized approaches to teaching and learning; realize that the activities engaged in provide an amplification of child-centred approaches in PE; learn to relate aims of PE to more general curricular objectives; and recognize that a central concern of PE is the development of personal capacities and that a pre-requisite of such an approach is the appreciation of the recipient as an active, evolving individual. Coherence and cohesion within and between these modules are enhanced for students with the specific pedagogical reference points of school experience (Hardman, 2006).

11. Conclusions

PRIME PETE project has presented so far, a formalization of a revised primary PE teacher profile that is theory-grounded and outlines key competences and elements detected in a PRIME PETE IO#1 Delphi study undertaken by experts from all over Europe.

Suggestions have been made on teaching methodologies for Prime PETE Program and the development of the Prime Pete course modules and micromodules for IO#5. The assessment of the different modules and micromodules will follow in IO#6.

Finally, the role of (PE) teachers in promoting PA and healthy lifestyles among children in a school context and outside school should be highlighted This suggested theoretical and methodological framework for the PRIME PETE Programme aims to ensure the student graduate will take the first steps towards teaching quality PE.

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