



**EXAMINING FUNDAMENTAL
MOVEMENT SKILL TRAINING
IN INITIAL TEACHER
EDUCATION
IN THE REPUBLIC OF IRELAND
AND NORTHERN IRELAND**

Dr Susan Crawford, Sport Studies and Physical Education, University College Cork, Ireland.

Dr David McKee, Department of Health and Physical Education, Stranmillis University College, Belfast ,
Northern Ireland.

Mr Stephen Wallace, Department of Health and Physical Education, Stranmillis University College Belfast,
Northern Ireland.

Ms Susan Marron, Physical Education Unit, St Patricks College, Drumcondra, Dublin 9, Ireland.

1. Table of Contents

Page

1.	Table of Contents	2
2.	Executive Summary	6
3.	Abstract	10
4.	Introduction	11
5.	Considering Teaching and Learning in Higher Education in relation to FMS	13
	<i>i. Physical education and teacher confidence</i>	14
	<i>ii. Physical education and fundamental movement skills at initial teacher education</i>	15
	<i>iii. How teacher confidence and attitudes may impact on pre-service teacher's ability to teach FMS to children</i>	16
6.	Conceptual Framework	18
7.	Context for the Study	19
8.	Background and Rationale for this Study	21
9.	Aim of the Study	22
10.	Study Funding	23
11.	Ethical Approval	24
12.	Methodology	25
	<i>Participants</i>	
	<i>Data Collection</i>	
	<i>Sources of Data</i>	
	<i>Data Analysis</i>	
	<i>The Position of the researcher</i>	
13.	Findings	29
	<u>Section One:</u>	30
	Primary Physical Education Providers in the Republic of Ireland and Northern Ireland	30
	1.The primary physical education provider's qualifications, training and professional development in FMS.	

- 2.Mode of Delivery of FMS
- 3.Primary Physical Education providers’ values and attitudes to FMS training and related issues
- 4.Concerns
 - 4.1: Commercialisation of some programmes
 - 4.2: Methodologies used
 - 4.3: Emphasis on numeracy and literacy.
 - 4.4: CPD
- 5.Key Messages
 - 5.1 Ensuring that FMS are seen in the context of physical education.
 - 5.2 The narrow remit of FMS and how it has the potential to reduce PE
 - To a set of skills or competencies rather than maintaining a focus on the development of the whole child.

Primary Teaching Students’ Perceptions and Knowledge of FMS from a Northern Ireland Primary Education Teaching College.	44
<i>Statements with good agreement</i>	
<i>Statements with agreement</i>	
<i>Statements with neutral answers</i>	
<i>Statements with mixed responses_</i>	
Key Themes	50
Conclusion	51
Limitations of Section One of the Study	52
Recommendations from Primary Education Providers both RoI and NI.	52

<u>Section Two:</u>	53
Republic of Ireland Physical Education Teacher Education Data	53
Second level trainee PE teachers/Pre service PE Teachers and Physical Education Teacher Education providers.	53
Additional Comments	60
Conclusion	60
Thematic analysis Republic of Ireland Initial teacher education in Physical Education data from questionnaires and follow up interviews.	61
<i>(1) (i) Training, research and experience of FMS</i>	
<i>(ii) Views on FMS in education</i>	
<i>(iii) FMS at Initial Teacher Education</i>	
<i>(iv) Concerns</i>	
Survey of Irish policy makers views on FMS	69
 Key Themes from Semi-Structured Interviews & Questionnaire	69
1. <i>Physical education curriculum development and inspection is understaffed at present.</i>	
2. <i>There is currently no mention of FMS in the Irish primary curriculum which was developed in 1999.</i>	
3. <i>Curriculum development in Ireland is a very consultative process</i>	
4. <i>FMS development should be included in mainstream schools.</i>	
5. <i>FMS issues should be thoughtfully integrated fully into all initial teacher training courses.</i>	
6. <i>Looking forward, the topic of FMS is beginning to gain some early traction with policy makers and practitioners in the field.</i>	
Limitations of Section Two	71
Recommendations from Section Two.	71
14. Summary Conclusions and Recommendations.	72

**Position Statement on Fundamental Movement Skills from an Initial
Teacher Education Perspective
(SCoTENS 2013/2014 funded Study).**

74

2015 All Island All Ireland position Statement on FMS in Initial Teacher Education.

Background

Position Statement

15. Acknowledgements

78

16 References

79

Table 1 Distribution of questionnaire responses	30
Table 2 Distribution of questionnaire responses to FMS training	33
Table 3 Values and attitudes to a range of elements of FMS training in 54 final year undergraduate primary teachers	38
Table 4 Curricular modules and extra-curricular courses taken by the study group	44
Table 5 Details of FMS courses students have attended	45
Table 6 How FMS is cascaded through the department	46
Table 7 Values and attitudes to a range of elements of FMS training in 54 final year undergraduate primary teachers	47
Table 8 Distribution of courses attended	54
Table 9 Distribution of undergraduate FMS courses attended	54
Table 10 School based tasks relating to PE and FMS	56
Table 11 Resource materials that would benefit PE and FMS programs	57
Table 12 Values and attitudes to a range of elements in FMS training	58
Table 13 Values and attitudes to a range of elements in FMS training	67

2. Executive Summary

Fundamental Movement Skills, henceforth written as FMS, are comprised of locomotor (e.g. running and hopping), manipulative or object control (e.g. catching and throwing) and stability (e.g. balancing and twisting) skills. A fundamental movement skill is “an organised series of basic movements that involve the combination of movement patterns of two or more body segments” (Gallahue & Donnelly, 2003). FMS are considered to be the building blocks of complex movements, which lead onto the development of more specialised movement, with the mastery of certain FMS being a requirement for functioning successfully in daily life or for participation in later sporting and physical activities (Lubans *et al.*, 2010). For that reason, the preschool and primary school stages of childhood are a critical period for the development and mastery of FMS. It has been observed that there are three phases for FMS development; initial (2-3 years old), elementary (3-5 years old) and mature (6-7 years old) (Gallahue & Donnelly, 2003). Whilst all children develop a basic fundamental movement pattern, FMS are not learned “naturally” through maturational processes (Australian Curriculum Studies Association, 2000). Rather, these FMS need to be taught and practiced in order to develop successfully using the appropriate practice, encouragement, feedback and instruction. It is recommended that between 240 and 600 minutes of instruction time is required in order to reach ability in one fundamental movement skill (Department of Education and Training, NSW, 2000). According to Graham *et al.*, (2001), “*children and adolescents who possess inadequate motor skills are often relegated to a life of exclusion from the organised and free play experiences of their peers, and subsequently, to a lifetime of inactivity because of their frustrations in early movement behaviour*”. Unfortunately, these same children and adolescents have a higher incidence of being overweight or obese (Okely & Booth, 2004).

This Standing Conference of Teacher Education North and South) SCoTENS funded study undertook to examine the landscape of FMS provision from an all island, island of Ireland initial teacher education perspective. The study was carried out by two Primary Colleges of Education from both the Republic of Ireland and Northern Ireland respectively and from a Physical Education Teacher Education Institute in the Republic of Ireland.

Participants included pre service teachers from both primary (N.I. n=54) and third level institutes (RoI. N=19), Physical Education teachers (RoI, n=6), Lecturers (N.I.Primary Colleges, n=2; RoI. Primary Colleges, n=6; RoI, PETE Institutes, n=4.) and representatives from The National Council for Curriculum and Assessment (NCCA, RoI, n=1) and the Inspectorate, (Department of Education and Skills, RoI, n=1).

The study involved both qualitative and quantitative data collection i.e. a mixed methods approach (Creswell, 2013) from a number of different stakeholders. Qualitative data was generated from a series of semi structured interviews and quantitative data was collated from completed questionnaires (Vickerman, 2004).

Section One:

Primary Physical Education Providers in the Republic of Ireland and Northern Ireland

- The primary physical education provider's education, training and experience: All respondents have qualifications, training or experience in FMS.
- Mode of delivery of FMS: infusion of FMS through the programmes is the mode of delivery for the majority.
- Communities of practice and professional organisations offer additional support in the RoI.
- Teaching methodologies include hands on experience, reflective portfolios, digital technology/video analysis.
- Additional materials are welcomed by all.
- Concerns include commercialization of programmes, potential for inappropriate methodologies being used, greater emphasis now on numeracy and literacy in education and a desire for Continuing Professional Development (CPD).

- Key messages included that FMS be seen in the context of physical education and the holistic development of the child.
- Pre service primary teachers from NI indicate they have experience and hands on praxis in FMS in PE at undergraduate level. However, the delivery of FMS as a core module is not an option due to time/curricular constraints.

Section Two: In Section two data was collated from pre service teachers (n=19), Physical Education (PE) teachers (n=6), Physical Education Teacher Education (PETE) Lecturers (n=4) and representatives of both NCCA and the Department of Education and Skills (DES, n=2).

- Pre service teachers: have an emerging knowledge and indeed hands on practice in the area of FMS within their degree programmes
- FMS related issues are addressed across the lifespan and infused throughout the degree programmes and also offered as core modules.
- A variety of teaching and learning methodologies are in use. However, the call for greater visual/digital support warrants attention.
- Pre service teachers' knowledge, understanding and experience of support from external agencies, professional organisations and the Department of Education and Skills needs to be addressed.
- All PETE and PE respondents have qualifications, training or experience in FMS.
- All respondents indicate that FMS needed to be addressed at primary school age.
- Some respondents indicate a need for resources/video footage/materials.
- All respondents understand the importance of FMS for the developing child.
- There is conflicting views re the role of PE organizations and the Department of Education and Skills driving the agenda of FMS.

- NCCA and the inspectorate understand the importance of addressing FMS for the developing child and teenager.

Findings indicated that all respondents are cognisant of the importance of FMS as a key aspect of children's participation in physical activity and sport specific skills (Gallahue & Donnelly, 2003). Respondents are keen to have access to ongoing theoretical knowledge combined with hands on praxis in both formal and informal contexts i.e. Postgraduate courses, CPD and Communities of Practice (Freire, 1973; Boyer, 1990; Wegner, 2006). The infusion of FMS as a signature pedagogy appears to be the approach of choice in relation to addressing the topic in degree programmes (Shulman, 1987). . Findings also indicate the greater need for research from an all island perspective. Policy makers need to consider a joined up approach re driving the agenda of FMS development for overall educational and health gains.

3. Abstract

Addressing Fundamental movement skill development is considered an essential component of physical literacy and is further essential for participation in quality physical activity. However, little empirical research exists on the experiences of those involved in initial teacher education in relation to fundamental movement skill training. This Standing Conference of Teacher Education North and South (SCoTENS) funded study sought to examine the experiences of representative stakeholders from both the Republic of Ireland and Northern Ireland. Respondents included pre service teachers, initial teacher educators both primary and secondary in the Republic of Ireland and Northern Ireland and representatives of the national Council for Curriculum and Assessment and the Inspectorate from the Department of Education and Skills both from the Irish Republic. A mixed methods approach was utilized combining data from questionnaires with that of semi structured interviews (Creswell, 2013). All respondents in both the Republic of Ireland and Northern Ireland believed that FMS should be infused throughout initial teacher education programmes. Findings also indicated that pre service and practicing teachers would like further training and resources in the area of FMS. Initial teacher Educators again expressed a desire for continuing professional development courses and context appropriate materials in this area. Primary Education providers also spoke of the need to regulate the provision and practice of FMS on the ground and for further research in the field. The development of an all island community of practice to share and inform ongoing research, policy and practice is recommended.

Key words: Fundamental Movement Skills, Initial Teacher Education, All Island Republic of Ireland/Northern Ireland Study.

4. Introduction

Fundamental movement skill (FMS) competence is linked to the development of sport specific skills and health related physical activity in both children and adolescents. Gallahue and Donnelly (2003) define fundamental movement skills as an ‘organised series of basic movements that involve the combination of movement patterns of two or more body segments’ (p.52). These are further categorised as locomotor (running, jumping), manipulative (throwing, catching) and stability (balance and co-ordination). Researchers indicate that fundamental movement skills are not just acquired but develop with opportunities to practice both in formal and informal settings (Gallahue and Donnelly, 2003; Gallahue and Ozmun, 2006). Children have the potential to reach the mature stage in most FMS by the age of six or seven (Gallahue and Donnelly, 2003). Mastering FMS is important for the development of more difficult sport specific skills (Gallahue and Donnelly, 2003; Gallahue and Ozmun, 2006). Children mature at different rates. Gallahue and Ozmun (2006) regard development as a ‘discontinuous process with new patterns of movement replacing old ones throughout the life cycle’ (p.8). This has implications for the teaching of physical education and the development of children’s FMS and the addressing of FMS provision in physical education courses by teacher education providers. Researchers report low levels of fundamental movement skills (FMS) development in school children (Okely & Booth, 2004; van Beurden, Zask, Barnett & Dietrich 2002). Indeed, calls are now being made to implement FMS programs during the preschool years to address this phenomenon Hardy, King, Farrell, Macniven, Howlett (2010).

The school is an important setting to contribute to children’s development of lifelong physical activity habits. Physical education is strategically positioned and needed to make a difference in

the lives of children. Quality physical education (PE) lessons can enhance physical literacy and provide children with the opportunity to learn normative skills that will enable them to partake in a wide range of physical activities with confidence (Hardman, 2007). The Republic of Ireland (ROI) has recently scored a D- for physical education on a national level (Harrington, Belton, Woods, et al. 2014). The grade was based on Irish research findings on physical education from RoI and Northern Ireland (NI). The Children's Sport Participation and Physical Activity study (Woods et al., 2010) reported that on average, primary pupils receive 46 minutes of physical education weekly while 60 minutes is the minimum duration recommended. The high prevalence of team games, particularly invasion games in Irish primary school physical education programmes was highlighted in this report despite the Physical Education Curriculum (1999) recommending a broad and balanced physical education programme. This emphasis on team games can have repercussions for children's FMS development. The focus on movement – deficiency is multifactorial. A contributing factor may be an absence of a rich repertoire of fundamental movement skills from decreased movement experiences in physical education lessons, as programmes may be too narrow in their movement experiences. Coelho (2013) laments the lack of teaching of gymnastics in physical education lessons in the United States as one such example. Other factors to consider are those of environment and teacher competence and confidence to deliver quality FMS programmes.

5. Considering teaching and learning in higher education in relation to FMS

The need for and the benefits of active engagement of academia with society has been argued by scholars for years. Freire (1973) believed that effective and meaningful education required collaboration, transparency and critical evaluation and engagement of both research and praxis. Boyer (1990) emphasized this concept when he advocated for the addressing of the notion of scholarship beyond the scholarship of discovery to include a scholarship of integration (interdisciplinary forms of research collaboration, making connections across disciplines), a scholarship of application (the application of knowledge to pressing social challenges) and a scholarship of teaching. These sentiments were more recently echoed by other scholars (Schon 1987; Checkoway 1991, 2000; Baum 2000; Bender 2008; Creighton 2006). Considering that fundamental movement skills are essential components to engagement in quality physical activity for recreational and health benefits, it is vital that theoretical content is appropriately replicated in everyday educational settings through quality practice. To this end teachers must be supported in their teaching and learning experiences both in their undergraduate and post graduate development to positively influence individual and societal change. Recognizing that many factors influence teaching and learning in higher education institutes (Jess, 2011) this study will focus on FMS delivery at primary and secondary initial teacher education institutes incorporating the voices of all stakeholders including pre service and practicing Physical Education teachers in the process.

(i) Physical education and teacher confidence

Research has criticized the limited time initial teacher education programmes offer for primary physical education teacher education (Petri, 2010). While physical education time may be limited, Jess (2011) believes that physical education teaching is complex. Quality physical education teaching involves core learning experiences which focus on movement, critical thinking and interpersonal and emotional skills to help children develop strong foundations for physical education and sport particularly as they get older. Learning in physical education is connected to the classroom for example in social and personal education e.g. coping with winning and losing and working with others. Physical education is not just about lining up to perform skills but is related to generic core learning that is connected across a range of contexts (Jess, 2011). In an Australian study examining PE teachers instruction, assessment and confidence when teaching FMS in primary schools the more training teachers had in FMS the more likely they were to use the appropriate assessment tools at an appropriate frequency. Years of teaching experience and training in FMS did not explain confidence in presenting FMS. However, years of teaching experience was negatively associated with confidence in practical demonstrations of FMS (Lander, Barnett & Brown, 2014). While time is needed to develop pre-service teachers knowledge and skills this time is limited in primary initial teacher education due to the nature of the generalist teaching degree underpinned with the belief that the generalist teacher is best positioned for the holistic development of the child. However, PETE training providers do not have the same time constraints in relation to addressing this issue.

(ii) Physical education and fundamental movement skills at initial teacher education

What pre-service teachers need to know and do upon qualifying as teachers is constantly being questioned and reviewed (Teaching Council, 2010). Morgan and Bourke (2008) found that non-specialist pre-service and in-service primary teachers held a ‘moderate’ level of confidence in their physical education teaching abilities. Results indicated that the quality of an individual’s school physical education experiences directly predicted his or her confidence to teach physical education. Reasons provided for a lack of confidence were based on memories of poor quality school physical education. Teacher educators are recommended to use this information to design more relevant courses incorporating meaningful learning experiences at pre-service level. Strategies such as increased opportunities to improve mastery expectations in modules are advised. Overdorf and Coker (2013) believe that one or two courses in physical education training programmes, for example biomechanics, is not sufficient to provide teacher competence in children’s movement abilities. Their study examined specialists in physical education teaching who majored in physical education against those who did not. Kelly and Melograno (2004) indicate that there are so many FMS for teachers to learn to teach that learning how to assess each of these skills should be the focus (p.199). Hence, the ability to accurately observe movement, in-depth knowledge about the activity as well as the movement phases and a checklist of the key elements must be learned. Video observations, as well as observations with the naked eye are recommended. A variety of intervention strategies are recommended and employed with feedback. Within teacher education courses an integrated approach across multiple courses should be provided to maximize learning opportunities.

(iii) How teacher confidence and attitudes may impact on pre-service teacher's ability to teach FMS to children

As the school environment is a primary setting for increasing the physical activity levels of children, it is important that those involved with teaching physical education feel self-efficacious in helping children master FMS and develop sport-specific skills. In a recent study, the consequence of a professional development 12-hour course specifically on the teaching of FMS to practicing primary generalist teachers resulted in increased self-confidence of the 6-7 year old children, however the relationships between motor performance and self-perception were generally weak and non-significant (Breslin, Murphy, McKee, Delaney et al. 2012). The FMS skill level of the children was not shown to improve perhaps due to the short intervention period or due to issues related to how the in service training was rolled out in the school settings. It was suggested that an increase in self-confidence is sufficient to increase children's current and long term physical activity involvement. The study recommended that primary generalist teachers be trained in a cross-curricular FMS programme.

Australian generalist primary school teachers were found to be moderately self-efficacious to teach FMS. Male primary school teachers had higher perceived self-efficacy than female primary school teachers. A positive relationship was found between perceived self-efficacy in one's ability to teach FMS and interest in physical activity, and between perceived self-efficacy in one's ability to teach FMS and participation in physical activity (Callea, Spittle, O'Meara and Casey, 2008). Recent research has recommended physical education teacher training programmes must better prepare candidates in skill analysis (Overdorf and Coker, 2013). Stroot and Oslin (1993) (cited in Overdorf and Coker, 2013) found that pre-service teachers' feedback was often provided about a component of the movement that had already been demonstrated with

a high level of proficiency and components requiring intervention were often not addressed. Some argue that specialist physical education teachers should teach physical education in primary schools, while others argue that it should be the generalist primary teacher (Crawford, 2011; Coulter et al. 2009). However current Irish research in this regard is required as teaching has experienced rapid changes in recent years. Research has highlighted the significant impact of societal changes over the past decade in education and more specifically issues in school environments related to curriculum demands, inclusion, behavioural management and language support to name but a few (Teaching Council, 2010). Coping with the demands of these changes in the school environment in general can be challenging for teachers possibly contributing to the lack of emphasis on specific subjects of the curriculum or strands within these subject areas (Marron, Murphy and Coulter, 2011). It should be mentioned that pre-services teachers are experiencing increasing durations of school placement in these settings with a wide variation in practices apparent.

6. Conceptual Framework

The conceptual framework of this study is based on constructivist theory. Rovegno and Dolly (2006) summarized the general principles of constructivism. 'Learning is an active process; learners construct knowledge in relation to their prior knowledge which is socially constructed' (p. 242). They pointed out that it was 'critical for teachers to recognize the role of prior knowledge and experience in generating misconceptions, monitor how pre-service teachers are making sense of information during the learning process, and understand that acquiring in-depth accurate knowledge within a complex domain takes considerable time and instruction' (p. 242). It was also recognized that beginning teachers may have difficulty progressing and sequencing content, but with experience this skill develops. Pre-service teachers begin to 'contextualize their knowledge in terms of how the children respond to their tasks and learn'. Rovegno (1992, 1998) cited in Rovegno and Dolly (2006) described how 'pre-service and in-service teachers changed from focusing on presenting lesson activities to focus on what children were actually learning during those activities and the detailed content children needed to learn that was part of the activity' (p. 255). They claimed that teachers needed to become skillful at giving children information when they need it rather than asking questions and presenting problems to solve. The teachers need to learn these skills during their professional journey. In relation to Physical Education, Tsangaridou (2008) and Rovegno and Dolly (2006) clearly highlight the importance of field-based experiences in the development of pre-service teachers' practices. This approach sits well with the development and delivery of FMS in initial teacher education.

7. Context for the Study

In Ireland, the Teacher Education Section (TES) of the Department of Education and Skills is responsible for approving undergraduate and higher diploma courses for teachers in PE. The NCCA is the agency responsible for the design of each subject syllabus and the Inspectorate is responsible for evaluating the quality and provision of teaching and learning in the delivery of each of these syllabi. The Inspectorate is also responsible for evaluating the organization and quality of school management, deployment of allocated resources and support for students (Crawford, O'Reilly and Flanagan, 2012). There are six providers of primary physical education in the South of Ireland. Five are public providers and one private whose only focus is on post graduate courses. In the North of Ireland three providers deliver initial teacher education for the primary sector, with two of these providers delivering 87.2 % of places in 2014/15. All the Colleges of Education educate generalist teachers for primary schools. These teachers are responsible for teaching all curricular subjects.

In the South of Ireland the five primary public providers have a community of practice called the Colleges of Education Physical Education Consortium (CEPEC) established in 2007. Wenger (2006) considers a community of practice as a group of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly. In keeping with this, Armour (2011) highlights that adult learners value collaborative learning opportunities' (p.235). The work of CEPEC has been developed to assist teachers on physical education matters. CEPEC in their position statement state that all physical education programmes in the Colleges of Education should provide opportunities to develop knowledge and understanding of FMS and to practice the skills in practical contexts. CEPEC emphasize that the development of

FMS can be facilitated best by (a) demonstration by the teacher or by a child, (b) provision of opportunities for exploration and practice by the children, (c) provision of relevant and specific positive feedback by the teacher based on observation and assessment of learning or indeed feedback by other children in the form of peer feedback. At the end of their initial teacher education programme, a beginning teacher is aware of the important role of the teacher in providing opportunities for children to develop their FMS within a balanced physical education experience for children in primary schools. In the North of Ireland there is no equivalent of a CEPEC for initial teacher education in physical education, rather there are informal relationships between providers mainly based on personal acquaintance or friendships.

In the Republic of Ireland, there are four third-level institutions providing Physical Education Teacher Education (PETE) to degree level. Traditionally in the Irish context, PE graduates work within the post primary school sector. However, PE graduates can also be employed in a part-time capacity (2 hours/week) in special school settings, as special schools also cater for children of secondary school age, up to the age of 18 years. PE teachers have indicated that the PE undergraduate training is inadequate, with regard to preparing PE teachers working with children with Special Educational Needs (Crawford, 2011, Department of Education and Science, 1999; House of the Oireachtas, 2005; Meegan and MacPhail, 2006). However, to date there is no empirical evidence on PE Teachers views on the delivery of FMS at second level in Ireland.

8. Background and Rationale for this Study

Much has been documented about current FMS abilities of school aged children and teenagers. However, little if any empirical evidence exists on the experiences and practices of FMS provision at initial teacher education in Colleges of Education in both the Republic of Ireland and Northern Ireland. Similarly, there is little empirical evidence from Physical Education Teacher Education Institutes. Further, at the first National conference on FMS held in University College Cork (2013) delegates clearly voiced their concerns about a lack of training and support in this regard. FMS is one of a number of key pedagogies of physical education degree programmes and has the potential to address lack or delay in skill acquisition and subsequent participation in quality physical activity across the lifespan (Crawford, 2011). The focus of this study is on the provision and practices of initial teacher educator providers north and south.

9. Aim of the Study

The aim of this study was to examine the landscape of FMS delivery in the Republic of Ireland North and South for pre-service teachers both primary and secondary. This study examines how FMS pedagogy is imparted to pre-service teachers in the teacher educator colleges and in physical education teacher education institutes. The voices of a number of stakeholders are considered. These include pre-service teachers from primary and physical education third level institutes, Physical Education teachers, primary school teacher education providers, physical education teacher education providers and representatives from both the National Council for Curriculum and Assessment (NCCA) and The Inspectorate of The Department of Education and Skills in Ireland.

10. Study Funding

This study is a SCoTENS funded project. SCoTENS aims to promote collaborative research and professional activities in teacher education in Northern Ireland (NI) and the Republic of Ireland (ROI).

11. Ethical Approval

The study received ethical approval from the Social Research Ethics Committee, University College Cork, Ireland.

12. Methodology

Participants

The study occurred in three centres who volunteered to participate and to examine the subject of initial teacher education provision and practice in relation to FMS. Two centres were based in the Republic of Ireland and the third centre was in Northern Ireland. Of the two centres in the Republic of Ireland one was a Primary Teacher Education Provider and the other was a Physical Education Teacher Education provider.

Republic of Ireland Physical Education Teacher Education Provider participants included lecturers from the four identified Physical Education Teacher Education institutes (n=4), Physical Education teachers (n=6) and pre service teachers (n=19). Republic of Ireland Primary Teacher Education College participants included lecturers from the 6 identified Primary Teacher Education Colleges (n=6). Northern Ireland Primary Teacher Education College participants included lecturers from the Primary teacher Education College (n=2) and pre service teachers (n=54). All participants were invited to take part in the study. Inclusion criteria were that of voluntary participation and exclusion criteria was that of non-voluntary participation.

Data Collection

This study used a mixed methods approach combining quantitative and qualitative data to generate results. Quantitative research included questionnaires and qualitative research consisted of follow up interviews. These data collection methods of choice embraced the idea of developing on general themes identified in questionnaires and addressed in greater depth with interview. Further, the chosen research methodology embraced the objectives of credibility, dependability and conformability (Vickerman, 2007). The questionnaire was

adapted from that of Vickerman (2004). Adaptations to the questionnaire for the current study included text changes to accommodate contextual differences between pre service teachers, Physical Education teachers, lecturers and policy makers. Follow up semi structured interviews followed that of the quality criteria for good interviewing practice as outlined by Kvale and Brinkmann (2009). These included the extent of spontaneous and relevant answers from the interviewee, the extent of short interviewer answers, the degree to which the interviewer followed up and clarified meanings of relevant aspects, the interview being interrupted, the interviewer verifying interpretations of subject's answers and the interview being "self reported". These researchers further identified that the interviewer should be knowledgeable, structuring, clear, gentle, sensitive, open, steering, critical, remembering and interpreting.

Sources of Data

Data was generated from the two sources. Questionnaires were completed and dealt with the following themes: about you; about your institution; management and coordination of FMS; programme content and delivery; links with schools and mentors; partnerships with outside agencies; values and attitudes; and other views and opinions. Follow up interviews were conducted. Interviews were tape recorded, transcribed and coded. As per the research methodology of Vickerman (2004) key themes and issues for interview were identified from the questionnaire and informed interview questions. These included details obtained in relation to respondents training and experience, how they managed and coordinated modules, the content and delivery of programmes, how they established links with schools and mentors, details of their own values and attitudes and finally if there was anything further they wished to highlight in relation to FMS provision and practice. The transcribed interviews

were coded to preserve confidentiality.

For the Primary School Providers in the Republic of Ireland, the participants were the six primary providers of physical education in the Republic of Ireland (N=6). A questionnaire was posted and emailed to the physical education units in each of the Colleges of Education in the RoI. A representative was requested to complete the questionnaire and invited for a follow-up individual interview. All six providers responded to the questionnaire and agreed to participate in the individual interviews. Two questionnaires were completed online and the remainder was returned by post. The questionnaires were followed up by individual interviews. There was one face to face interview and 5 telephone interviews.

For the Northern primary settings, data was collected using qualitative and quantitative methods. Qualitative data was collected in the form of the semi-structured interviews with physical education lecturers from the two main providers of primary initial teacher education. The interview questions were the same as those used in the Southern leg of the project. Quantitative data was collected from final year undergraduate students (n=54) from one of the initial teacher education institutions using the modified questionnaire.

For the Republic of Ireland Physical Education Initial teacher Education section quantitative data was generated from pre service Physical Education teachers (n=19), quantitative and qualitative data from PE teachers (n=6) and PETE lecturers (n=4) and qualitative data from representatives of both the National Council for Curriculum and Assessment (NCCA) and the Department of Education and Skills Inspectorate.

Data Analysis

Findings from the questionnaire were inputted into SPSS Version 21 for descriptive statistical

analysis. Member checks were used to ensure credibility of findings of interviews (Creswell, 2007; Denzin, 1989; Erickson, 1986). Comparing and cross checking of both key sources of evidence was carried out. Credibility was achieved through involvement with the respondents, confidentiality of respondents and public presentation of data evidence. Dependability of the study's research processes were systematic, clearly evidenced and rigorous to be subject to external scrutiny. Conformability of the research design enables researchers the opportunity to follow and replicate the chosen methodology within a systematic design structure.

The interview data was analyzed and memos were noted in the margins of the transcripts to highlight key messages to get a sense of possible initial categories or codes. The frequency of the number of codes was noted. A list of twelve codes emerged. Detailed descriptions were then built to develop themes to interpret the perspectives. Some of the codes were aggregated to form common ideas. The codes were then reduced to key themes.

The Position of the researcher

The position of the researchers involved in this study needs to be clarified: All the researchers involved in the various aspects of this study are currently employed as lecturers in initial teacher education and while it is acknowledged that this may present issues of bias it also afforded opportunities for privileged insight into the research area.

13. Findings

The findings are presented from both Primary Physical Education Providers in the Republic of Ireland and Northern Ireland and then those of the Physical Education Teacher Education Institutes in the Republic of Ireland in two sections.

Section 1: Primary Physical Education Providers in the Republic of Ireland and Northern Ireland

Table 1 Distribution of questionnaire responses

Variable	RoI Lecturers Number (%)	NI Students Number (%)
Gender: Male	2 (33.3%)	7 (13.0%)
Female	4 (66.6%)	47 (87.0%)
Role: Lecturer PE	5 (83.3%)	54 (100%)
Lead Tutor	1 (16.7%)	
Student teacher	-	
Duties: Lecture B. Ed	5 83.3%	-
Supervise placements	5 (83.3%)	-
Lecture postgraduates	3 50.0%	-
Lead & manage PE modules (Distance L.)	1 (16.7%)	-
Provide First Aid & Coaching Certs	1(16.7%)	-
Teaching Principal	1(16.7%)	-
Conduct Research	1(16.7%)	-
None	-	34 (54.8%)
FMS module	-	15 (24.2%)
Leadership in PE	-	7 (11.3%)
Sport for Life	-	3 (4.8%)
Disability sport	-	1 (1.6%)
International PE	-	1 (1.6%)
PE specialism	-	1 (1.6%)
Full time staff	18-221 (a)	
Lecturers	16-111 (b)	
P.G. Assistants	0-5 (c)	
Dept. management of FMS training	Dept. Head	1
	Named person	1
	All staff	2
	No-one	-
	Other – PE lecturer	1
	PE Unit	1
Qualifications:	SAQ Cert	1
	FMS facilitator	1
Number of Staff Qualified	None	21 (39.6%)
	One	3 (3.8%)
	Two	1 (1.9%)
	Three	11 (20.8%)
	Four	6 (11.3%)
	Six	8 (15.1%)
	Seven	4 (7.5%)
Training courses	Cert in SAQ	-
	R Jefferson Buchanan	-
	IPPEA	-
	Workshop with L. Hennessy	-
	Learning to Move conference	-
	None	22 (39.3%)
	College lectures	15 (26.8%)
	Steps PD	14 (25.0%)
	Sport for life	5 (8.9%)

The data reported will now weave in the results from the quantitative study and the findings from the qualitative data to generate findings from the research. Five areas will be reported upon and discussed (1) The primary physical education providers (2) Mode of delivery of FMS (3) Primary physical education providers' values and attitudes to FMS training and related issues (5) Concerns and (6) Key messages

1. The primary physical education provider's qualifications, training and professional development in FMS.

The six Southern participants are lecturers in physical education in the six Colleges of Education. All the participants are former teachers with two still practicing as their roles in the College of Education are part-time. All had previous teaching experience, some of considerable years before entering into initial teacher education. The teaching experience of the lecturers at both primary and secondary level is noted in terms of delivery and practice of FMS to pre-service teachers. Four of the participants are full time lecturers. One was a part time lecturer and teaching as a specialist PE teacher in a primary school. The final participant is a tutor leader coordinating a blended pre-service post graduate initial teacher education physical education courses online and face to face during school holiday periods and weekends. This participant's day to day job is as a teaching Principal.

The two Northern participants are lecturers in the two University Colleges which between them deliver 87.2% of primary teachers in Northern Ireland. Both lecturers have previously taught within the primary sector and currently deliver physical education programmes to pre-service teachers. Both are full-time lecturers.

Duties performed by five of the six RoI (83.3%) and both NI respondents include lecturing undergraduates and post graduates, as well as supervising schools placements and administration, research and other duties.

All but one of the RoI respondents had a Masters qualification while both NI respondents had post-graduate qualifications. Three of the RoI participants mentioned in the interview of having undertaken their Masters in Education in an Irish College of Education where an emphasis is placed on FMS development in the Masters in Education Physical Education modules. One of the participants has a PhD qualification and another is at the submission stage of a PhD.

The NI respondents reported minimal FMS training in their teacher training courses though there was FMS related content in their undergraduate studies. One of the NI respondents is a FMS facilitator.

The RoI respondents qualifications related specifically to FMS include three participants with a SAQ© certificate, while another is trained as an FMS facilitator. The most popular courses attended by respondents were SAQ© training (3 participants), followed by professional development facilitated by a University Lecturer with expertise in FMS delivery and also Irish Primary Physical Education Association (IPPEA) workshops (2 participants). Two participants are involved in coaching where the development of FMS is a focus. Reading and using online resources that are freely available is a common practice reported in relation to finding out more information on FMS.

In relation to professional development the RoI participants spoke frequently of the Colleges of Education Physical Education Consortium (CEPEC) and the IPPEA.

'As part of CEPEC we had a very fruitful discussion and there was a document [position statement] developed' L1.

'Obviously the CEPEC group I would be involved in...' L4.

'I suppose 3 or 4 years ago, when CEPEC would have been a bit concerned that FMS was being talked a lot about but teachers in school did not have a lot of guidance' L 6

'I would have attended some training in relation to it [FMS] at conferences, the IPPEA conference in particular' L3.

'I did a workshop with him as part of the IPPEA conference' L5.

This underlines the value of the Community of Practice model of professional development as an effective means of sharing and developing skills, expertise and emergent theories of education, in line with current research (Parker et al., 2012; Tannehill, 2011; Wenger and Snyder, 2000).

Table 2 Distribution of questionnaire responses to FMS training

Variable		RoI Lecturers Number (%)	NI Students Number (%)
Cascade	None	2	22 (41.5%)
	Lectures and practical's	-	13 (24.5%)
	Email & Moodle	1	12 (22.6%)
	All staff attended	1	-
	Advised to do courses on FMS		6 (11.3%)
FMS Third level Training	B.Ed years 1 & 2	1	-
	In-service diploma education	1	-
	Advanced Diploma Movement	1	-
	None	1	37 (68.5%)
	Steps PD	-	14 (25.9%)
	National Governing Body	-	3 (5.6%)
Program Contained?	Embed	2	20 (61.5%)
	Core & embed	1	-
	Optional	-	34 (65.4%)
	Core	-	20 (38.5%)
Time	Theoretical	-	50% (n=19, 38.0%)
	Practical (1 respondent)	90%	60% (n=12, 24.0%)
	Other – FMS prioritised in Adv. Dip	1	
Outside Specialists	Yes	2	1 (1.9%)
	No	4	-
U/grads teach FMS	Yes	4	30 (58.8%)
	No	2	-
FMS Specialists	X1	2	-
	X1	1	-
FMS assessment Tasks	Small group mini lesson	2	
	Coursework assessment	1	
	Lesson planning	1	
	Creative piece dance or gymnastics	1	
	PE task cards	1	
	Activity design	1	
	Use of digital tools to record and analyse movements	1	
	Reflective journal	1	
School based FMS tasks	Embedded through strands	1	-
	High catch, skipping & leg balances	1	-
	No	1	-
	General PE	-	20 (50.0%)
Resource Materials	Video materials	3	
	CPD	1	
	Workshops	1	
	Workshop recommendations	1	
	Not needed	1	

* DL=distance learning, (a) Two respondents, (b) Four respondents, (c) Three respondents

No one answered question 18, “Total hours dedicated within the programme to FMS issues”

2. Mode of Delivery of FMS

RoI results indicate that FMS is infused in physical education modules in five Colleges. The questionnaires report that undergraduate or postgraduate courses in FMS are delivered in a variety of ways. Two participants report that FMS is embedded within the physical education courses while a third stated it is both a core part of the course as well as embedded throughout. Undergraduates in four of the Colleges are offered the opportunity to teach FMS to children. On occasions, two of the Colleges invite outside specialists to deliver FMS at some lectures.

Infusion of FMS into physical education modules would appear from this study to be the most popular mode of delivery of FMS. All providers link FMS to teaching, learning and assessment. This was particularly evident in coursework assessment tasks. Tasks included hands on experience, use of reflective journals and digital technology. These identified teaching methodologies to address “signature pedagogies” within the Physical Education professions including ‘hands on experience’ both within courses and in schools and reflective journals have been found to influence pre-service teacher’s attitudes and practice (Meegan and MacPhail, 2006; Crawford, 2011; Hodge, Tannehill & Kluge, 2003). Similarly the infusion model has been identified as an avenue of promoting SEN issues in PE (Crawford, O’Reilly & Flanagan, 2012). Hence there may potentially be scope to use identified strategies such as these in addressing FMS in PE programmes. An integrated approach across courses has been reported in this study which according to Overdorf and Coker (2013) is a way forward.

The interview findings below represent these results.

*‘FMS are embraced as part of their overall understanding of the PE Curriculum goals’
L1.*

‘It [FMS] would be infused throughout’ L2.

‘It’s not specifically a separate module, it is looked at and delivered through the context and through the lens of basic movement actions and skills from a gymnastics, athletics and all the other strand areas of the curriculum’ L3.

One College mentioned using checklists to analysis skills.

'I do use those [checklist] with my students in terms of actually analysing a skill and then discussing how best you can teach it. And how best you can communicate the need for correction in we'll say a running stride, you know, what is can show them as a teacher about a child' L4.

There is some specific lecture time allocated to the development of FMS e.g. 2 hours of a 24 hour module but where pre-service teachers have opportunities to specialise in PE, more specific time is allocated to the development of FMS. Recent changes in courses are evident which appear to have provided increased opportunities for physical education at some Colleges which is welcomed.

'Our third year elective have a two hour lecture and then its [FMS] is embedded subsequently into other lectures...then we would since this year have a Major Specialism in physical education. These 25 students would have done a full module on theory and practice related to FMS building on their core modules.' L2. Coursework weaves in FMS work and further independent study. Assessment tasks range from designing lesson plans to developing creative pieces in dance and gymnastics, designing physical education task cards and activities, using digital tools to record and analyse movements and writing reflective journals. All Colleges reported different practices.

'It's very much embedded in my coursework L4.

'Usually the assessment centres around designing activities and providing resources' L4.

When participants were asked about what resources they used in their courses to support the delivery of FMS the following responses represent some views:

'I would direct them [pre-service teachers] maybe to 6 or 7 really good websites where they can access really good materials... I would direct students... and steer them away from the kind of expensive, professional, commercially produced ones [resources]' L6.

'I think children will enjoy the activities much more if they [FMS] can be integrated into their regular physical activity routine' L6.

A similar pattern emerges from the NI data, FMS are embedded and infused throughout the PE content in both colleges with one college offering an optional full module in FMS for final year students. Specific comments included:

'Generally, Initial Teacher Training at Primary level addresses this well through the Curriculum Studies modules, Learning & Leadership module and the FMS module.' L7.

'[We] push FMS as an important outcome for children. Across the sector there are pockets of good practice but there is a need for a consistent approach across intuitions as each college has its own interpretation of what is required/ desirable.' L8.

In both jurisdictions the availability of online resources from around the world appears to allow both providers of physical education to up skill and to become more informed about FMS. Lecturers guide pre-service teachers to worthwhile and recommended resources which are freely available.

The use of technology in modules to support FMS development is noteworthy and recommended by the Teaching Council (2010).

'I get the students to use digital cameras and videoing I suppose as a form of peer and self-assessment. So that they can try and identify one key teaching point that they can give to enable, well their fellow students, but also to make them aware how to carry the activity out with children...we use success criteria' L5.

'What they [pre-service teachers] would do is use digital cameras to break down a skill. Now this year we focused on athletics so it could be the standing long jump and what they would do is break down into different elements of it, for teaching points, safety points, helpful hints, on those task cards. So they would pick six and they must be present in the photographs themselves. This year we did an exam situation whereas last year it was an assignment. But this year they had to prepare the photographs, come in with them so they knew six of the skills but they needed to know the relevant teaching points that matched each picture. And then I would give them two, one skill from games and one skill from gymnastics and they must include the teaching points' L5.

When asked in an open-ended question on the questionnaire about further resource materials that

FMS programmes would benefit from the requests ranged from

'sufficient there already' to 'quality video clips of a range of FMS illustrated by individuals and within a realistic primary physical education class of 30 children where the development of FMS is just one of the objectives of the particular lesson'L4.

Another wrote

'more availability of online/video materials to support the aspect of FMS within the curricular objectives of primary physical education'L3.

It is interesting to note that smaller Colleges of Education requested further professional development.

Results and findings would appear to indicate that pre-service teachers are exposed to theory and practice related to the development of FMS in physical education modules. No mention was made of pre-service teacher's skill level and ability to perform FMS skills or their confidence to teach FMS. Perhaps this is not a priority as Gordon and Indar (2000) indicate. Being positive and interested in physical activity may be sufficient to have teachers deliver and teach FMS (Callea et al., 2008). These results indicate that smaller Colleges of Education have different needs compared to larger Colleges.

2. Primary Physical Education providers' values and attitudes to FMS training and related issues.

Table 3 Values and attitudes to a range of elements of FMS training in 54 final year undergraduate primary teachers

Statement	Agree/Strongly Agree	Neutral	Disagree/ Strongly Disagree
FMS development should be included in mainstream schools	8 100%		-
Newly qualified teachers are adequately prepared for delivering FMS to children	4 50%		1 17%
Newly qualified teachers will need further training through continuing professional development programmes	8 100%		
Children should be consulted as part of the facilitation of FMS	8 100%		
The primary school/secondary school curriculum provides teachers with a clear framework for the development of FMS activities	4 50%		4 50%
FMS issues should be integrated fully into all initial teacher training courses	8 100%		
Teaching children/secondary school students FMS is just an extension of any teachers teaching	5 60%		
The PE curriculum ensures that students are adequately prepared for FMS development		3 40%	4 50%
The Department of Education and Skills offers adequate advice and guidance to teachers on FMS issues	8 100%		
Professional PE associations i.e. PEAI, offer adequate advice and guidance to schools on FMS issues	6 80%		

Lecturer responses to ten statements on attitudes to aspects of FMS training are considered. There was strong agreement between both groups for the statements

- FMS should be included in mainstream schools
- Newly qualified teachers will need further training through continuing professional development programmes
- Children should be consulted as part of the facilitation of FMS
- FMS issues should be integrated fully into all initial teacher training courses.

There was more variation in the next group of responses between lecturers while 50% of lecturers agreed that ‘Newly qualified teachers are adequately prepared for delivering FMS to children’, 17% of lecturers disagreed. ‘The primary school curriculum provides teachers with a clear framework for the development of FMS activities’, 50% of lecturers disagreed with this statement.

All of the lecturers disagreed that ‘The Department of Education and Skills offers adequate advice and guidance to teachers on FMS issues’. Finally, 80% of lecturers agreed that ‘Professional PE associations i.e. PEAI, offer adequate advice and guidance to schools on FMS issues’.

When Southern participants were asked about their current and previous experience of teaching FMS it is interesting to note that when the participants were teaching in primary level the terminology of FMS was different. A theme to emerge from the interview data was the use of language around the term FMS as can be gleaned from the interview comments.

‘I believe the term [FMS] is being used a lot more and with good reason’ L3.

A further two lecturers recalled:

‘When I was still teaching in primary schools, the idea of FMS hadn’t really become that prevalent and I suppose at that stage we were really trying to embed the 1999 Curriculum [PE] was the main priority, so from a teaching point of view, I wouldn’t have had much experience of teaching FMS’. L3.

The response from the Northern participants regarding experience of teaching FMS was more directly related to their previous teaching. One respondent stated the number of years of primary school teaching experience (five years) while the other detailed teaching undertaken as part of their role in college (delivering FMS sessions to primary school and nursery school children (three and four year olds).

The participants in the interview were asked how fundamental movement skills were delivered on their training courses when training to become teachers. It was clear that this question proved a challenge in terms of recall (responses L1.-6 RoI, L7 & 8 NI).

'Oh Goodness...so long ago ...related to physical fitness and movement assessment ...an integrated model rather than specifically about developing the movement vocabulary' L1.

'Being a post graduate student at (named college) we had some input on the area of fundamental movement skills as part of the Masters in PE' L1.

'I think the nearest thing we did in College was the module that was called scientific aspects. Am, which was the sort of biomechanical type aspect, physiology type stuff...skills taught would have been modeled and demonstrated...because our training was more focused on secondary school it would have analysed the skill in a sort of a part whole, part analogy and there would have been some use of video to analyse the skill. In scientific aspects we certainly looked at their programming and how skills were learned from a physiological point of view' L4.

'Trying to remember back...there were no specific modules' L2.

'I suppose throughout my undergraduate course ...basic movement skills was something that was very much highlighted throughout the entire PE curriculum' L3.

'I studied in the [UK] I did a 4-Year degree there. But the PE content wasn't huge, we did work on gymnastics and dance in particular but again they were strange for a PE teaching college, they did not have anyone to come into the college on a full-time basis so it [PE] was very scattered. But then in 2009 possibly, I think, we, I saw the advertisement for the in-service diploma in PE in (named college of education) and that's where I suppose I gained more through doing that [FMS] and then going on, following on to the

diploma and the Masters. But in my own undergraduate programme I wouldn't have said that there was enough in terms of...even in school placement it was quite difficult to get teaching it [PE]...Within (named college of education) we covered fundamental movement skills in a huge way. There was a lot of focus on it in all the modules that we did...and how to develop them in our teaching and how to incorporate them into the likes of the warm-up and the DVD that we were given as a resource to help us when we arrived in the schools was hugely beneficial...coursework would have been involved putting together a programme where you included the FMS' L5.

'Back in those days a hundred years ago it was called fundamental skills but it was certainly about motor learning' L4.

'Through a number of modules i.e. Science of Movement, Sport & Exercise Sciences, Physical Education 1 and 2 – pedagogy practices, Practical Studies 1A, 1B and 2, and Applied Sport Psychology' L7.

'Motor skill learning/ skill acquisition was covered in each of the three years' L8.

It is clear that experiences related specifically to fundamental movement skills courses varied depending on what teacher education college one qualified from.

4. Concerns

A number of concerns around FMS courses were expressed by some of the RoI participants.

4.1: 'Commercialisation of some programmes

'Commercialisation of some programmes, resources offered as incentives...stand-alone modules replacing traditional PE programmes...Holistic development of the child threatened' L1.

'I don't know how to put it really, sort of the businesses that are made out of it [FMS] that travel round schools, purporting to be cure all, fix your PE programme, we'll come and do fundamental movement skills. I think some of them are good and some of them are less good' L4.

'I suppose I'd be a little bit concerned that schools wouldn't try just to implement an

FMS programme that is isolated from the PE curriculum, you know where there are groups who are selling commercial products which can be very much separated from the PE curriculum that would not be the way to go...Rather than FMS being artificial add-on that can be delivered in a commercial package, I think that to emphasise that, in terms of the normal PE that teachers would be doing, that a lot the FMS development can happen incidentally so that it doesn't need to be teaching full lessons on FMS but teachers can integrate aspects of FMS within their teaching of athletics or dance or games or whatever'L6.

4.2: Methodologies used

'while they [teachers] may be doing FMS within their lesson, the methodologies they use for organising the children may not be what you want to promote to the students [pre-service teachers]' L5.

4.3: Emphasis on numeracy and literacy.

The emphasis on numeracy and literacy on the political and educational agenda was an additional concern:

'We are so tight with four days face to face delivery. But FMS is referenced quite readily on one section of an online lesson that students go through' L3.

4.4: CPD

a. One lecturer was interested in attending a further course on FMS but found it difficult to decide what course would be most beneficial.

'You hear of lots of courses and its, its pinpointing that one that's going to be the most useful so that maybe again a resource that may be of particular value so that you are not trawling through online resources trying to handpick something and then figuring out, oh, it's not good now...online is difficult because there are so many people claiming to have good resources'L5.

5. Key Messages

The participants were asked about any further comments that they would like to make on the topic of FMS. These comments have been called ‘key messages’ in this report.

5.1 Ensuring that FMS are seen in the context of physical education.

‘I really do think that if there was something put together that would really harness the fundamental movement skills elements and look at them through the lens of the PE curriculum particularly at primary level. Something that could be delivered nationally and then filtered down through the education centres for teachers themselves’ L3..

‘I think that not all schools are applying them [FMS] or using them in their teaching. I think teachers coming out now are driving it, were trying to make them more aware of why, and I think to do them in isolation just as your warm up and not explain to the students why you need to do them you know and not link them...while people know the importance of them they don’t see how they feed in to say sports or maybe feed in to dance’ L5.

‘Like its fantastic the PE Association [IPPEA] as were always directed towards good resources’ L5.

‘We would not say to them to teach distinct blocks of FMS but to highlight particular aspects of FMS through their teaching of different strands’ L6.

5.2 The narrow remit of FMS and how it has the potential to reduce PE to a set of skills or competencies rather than maintaining a focus on the development of the whole child.

‘...it would be useful to know and understand individual’s [pupils] motivation (intrinsic, extrinsic,) ownership (importance of activity to them), how they gain confidence, personal responsibility (even if an individual is not competent, but enjoy the activity, they should still participate).’ L7.

Given the generalist nature of initial teacher education at primary level and accounting for limited time to spread across all the curricular subjects, Petrie (2010) recommends that professional development for generalist teachers needs to assist teachers to become more

confident and motivating in their teaching of physical education. Gordon and Indar (2000) believe that the teaching of FMS should not be taken as the main purpose of physical education. These researchers recognise that the relationship between a teacher's ability to demonstrate FMS and to teach them is not clear-cut. They consider that a teacher's ability to perform an activity competently is no guarantee that a person can teach it. Further, they believe that improving a pre-service teacher's ability to perform a skill allows them to become more confident to demonstrate to children; however knowledge about how to perform a skill is more important than the performance when teaching. Embedding FMS into physical education as well as elective and major specialism modules is apparently the common methodology to deliver FMS teaching at initial teacher education primary physical education courses.

Primary Teaching Students' Perceptions and Knowledge of FMS from a Northern Ireland Primary Education Teaching College.

The following section details the results from the survey of fourth year B. Ed primary students from one of the Northern Colleges.

A total of 54 fourth year students completed the questionnaire, the majority 87.0% (n=47) of these were female (this reflects the college intake which in 2014/15 was 84% female). Table 4 details the curricular modules and extra-curricular courses taken by the study group.

Table 4 Curricular modules and extra-curricular courses taken by the study group

Duties performed	Number (%)
None	34 (54.8%)
FMS module ^A	15 (24.2%)
Leadership in PE ^A	7 (11.3%)
Sport for Life ^B	3 (4.8%)
Disability sport ^B	1 (1.6%)
International PE ^B	1 (1.6%)
PE specialism ^A	1 (1.6%)
Total	62*

* Some students gave more than one response for duties performed

^A Curricular module, ^B Extra-curricular course

Slightly less than two thirds (64.8%, n=35) reported that there was a named person within the department co-coordinating fundamental skills training, while six respondents (11.1%) said that all staff performed this function. Two respondents (3.7%) reported that they did not have a PE department, but they had one PE lecturer. According to 60.4% (n=32) of respondents, lecturing staff hold a professional qualification in FMS, while 39.6% (n=21) reported that staff did not hold such qualifications. When asked how many of the PE staff were qualified in FMS 21 students (39.6%) reported that no lecturing staff were qualified, 20.8% (n=11) claimed that three staff were qualified, while 15% (n=6) reported six staff were qualified. The remainder of the respondents (25% n=13) suggested various numbers (1, 2, 4, 7) of qualified staff. Almost two fifths (39.2%, n=22) of respondents reported not having attended any FMS training courses or seminars (Table 2). Over one quarter (26.8%, n=15) reported attending college lectures for FMS training, while a further 25.0% (n=14) took courses in ‘Steps PD’. Just five students (8.9%) attended a ‘Sport for Life’ seminar.

Table 5 Details of FMS courses students have attended

Course attended	Number (%)
None	22 (39.3%)
College lectures	15 (26.8%)
Steps PD	14 (25.0%)
Sport for Life	5 (8.9%)

Methods of disseminating FMS course information throughout the department is presented in Table 5. While 41.5% (n=22) of students reported that such information is not cascaded, almost one quarter (24.5%, n=13) identified lectures and practical’s as forums for sharing learning from FMS seminars. Email dissemination was listed by 22.6% (n=12) students.

Table 6 How FMS is cascaded through the department

Method	Number (%)
Not cascaded	22 (41.5%)
Lectures & practical's	13 (24.5%)
Email	12 (22.6%)
Advised to do courses on FMS	6 (11.3%)

Over two-thirds (68.5%, n=37) of the cohort reported not attending any undergraduate course/seminar in FMS. Steps PD teachers' course in FMS was attended by 25.9% (n=14) while 5.6% (n=3) attended a National Governing Body course

When asked how FMS themes are delivered in undergraduate courses almost two thirds (65.4%, n=34) of respondents said that the module was optional, while 61.5% (n=20) reported that FMS themes were embedded throughout the programme. 38.5% (n=20) felt that FMS themes were a core part of these modules (students could select more than one answer).

There was a wide range of responses in student reporting of the number of hours dedicated to FMS programmes. While two students (4.0%) felt that no time was dedicated to FMS undergraduate training, five students (10.0%) said that 80 hours were spent on this programme. Over half (52.0%, n=26) reported that 48 hours of teaching was dedicated to FMS.

Student reporting of how this time was divided between theoretical and practical aspects indicates that 38.0% (n=19) of participants felt that there was an even distribution between theoretical and practical aspects of the FMS programme. This was followed by 24.0% (n=12) of the group who felt that there was a 40:60 ratio between theory and practice. In comparison, 16.0% (n=8) felt that 60% of their FMS teaching was spent on practical knowledge.

When asked to identify modules which directly focus on PE and FMS all participants identified the core PE modules in years one and two, 15 students (22.8%) identified the optional FMS module while eight students (15.2%) suggest the Leadership in PE optional module.

Two-thirds of the cohort reported taking two modules in FMS (66.7%, n=36), 24.1% (n=13) said they took three such modules while 9.3% (n=5) of the group claimed to have taken five modules in FMS.

Just one participant (1.9%) stated that their school/department sometimes used outside specialists for FMS training/experience or practical's. A football coach was identified by one student (1.9%), PE coord by two students (3.8%), and a special school teacher by one student (1.9%). According to 58.8% (n=30) of participants, schools give undergraduates the opportunity to teach FMS modules to pupils.

There were few responses to the question on school based tasks carried out by pupils in relation to PE and FMS. A total of 26 students replied that they were taught PE (50.0%), while one replied that they took dance (1.9%) and another gave a general answer of after school activities (1.9%).

When asked what additional material would help enhance student understanding of FMS, six of the respondents (25.0%) felt that an FMS handbook would help, while four (16.67%) felt that extra resources were needed. Two felt that FMS should be made compulsory (8.3%), while two replied that they needed more practical's (4.2%).

Student response to the ten statements assessing their attitudes and values on a range of aspects of FMS training is given in Table 7. In the interests of condensing the data the answers for agree and strong agree and for disagree and strongly disagree have been combined.

Table 7 Values and attitudes to a range of elements of FMS training in 54 final year undergraduate primary teachers

Statement	Agree/Strongly Agree	Neutral	Disagree/ Strongly Disagree
FMS development should be included in mainstream schools	53 (98.2%)	1 (1.9%)	-
Newly qualified teachers are adequately prepared for delivering FMS to children	11 (20.4%)	24 (44.4%)	19 (35.2%)
Newly qualified teachers will need further training through continuing professional development programmes	46 (85.1%)	7 (13.0%)	1 (1.9%)
Children should be consulted as part of the facilitation of FMS	34 (62.9%)	18 (33.3%)	2 (3.7%)
The primary school/secondary school curriculum provides teachers with a clear framework for the development of FMS activities	31 (57.4%)	19 (35.2%)	4 (7.5%)
FMS issues should be integrated fully into all initial teacher training courses	48 (88.9%)	4 (7.4%)	2 (3.7%)
Teaching children/secondary school students FMS is just an extension of any teachers teaching	26 (48.1%)	21 (38.9%)	7 (13%)
The PE curriculum ensures that students are adequately prepared for FMS development	28 (51.8%)	22 (40.7%)	4 (7.5%)
The Department of Education and Skills offers adequate advice and guidance to teachers on FMS issues	16 (29.7%)	31 (57.4%)	7 (13%)
Professional PE associations i.e. PEAI, offer adequate advice and guidance to schools on FMS issues	16 (30.8%)	29 (55.8%)	7 (13.5%)

Statements with good agreement

There was strong agreement that FMS should be included in mainstream schools (98.2% agree, n=53). 85.1 % (n=46) agreed that newly qualified teachers will need further training through

continuing professional development programmes. A majority of respondents (88.9%, n=48) agreed that FMS issues should be integrated fully into all initial teacher training courses,

Statements with agreement

Just under two thirds (62.9%, n=34) of students agreed that children should be consulted as part of the facilitation of FMS. Around half of the respondents (51.8%, n=28) agreed that the PE curriculum ensures that students are adequately prepared for FMS development. While just under half the sample (48.1%, n=26) agreed that teaching children/secondary school students FMS is just an extension of any teachers teaching.

Statements with neutral answers

A majority of respondents 38.9% (n=21) choose a neutral response to the statement 'Teaching children/secondary school students FMS is just an extension of any teachers teaching'. However, 29.6% (n=16) agreed and a further 18.5% (n=10) strongly agreed with this statement.

The statement 'The Department of Education and Skills offers adequate advice and guidance to teachers on FMS issues' elicited a neutral response for 57.4% (n=31) of respondents. While only 13.0% (n=7) disagreed or strongly disagreed, 29.7% (n=16) agreed or strongly agreed. Indeed a similar pattern of response is seen for the statement 'Professional PE associations i.e. PEAI, offer adequate advice and guidance to schools on FMS issues. 55.8% (n=29) gave a neutral response to this statement, while 13.5% (n=7) disagreed; 30.8% (n=16) either agreed or strongly agreed.

Statements with mixed responses

While 51.8% (n=28) of students agreed that the PE curriculum ensures that students are adequately prepared for FMS development, a further 40.7% (n=22) gave a neutral response to this statement. 11.1% (n=6) strongly agreed with this statement, compared to 7.5% (n=4) of respondents who either disagreed or strongly disagreed.

Student responses to the statement ‘Newly qualified teachers are adequately prepared for delivering FMS to children’ were more mixed with 11 students (20.4%) agreeing, 44.4% (n=24) neutral and over one third (35.2%, n=19) disagreeing.

There were just three responses to the other views and responses section of the questionnaire. These were:-

- I did not do an FMS module, I am inadequately prepared
- I had no training in FMS
- NQT not homogenous, some well prepared, some are not

Key Themes

In keeping with response to the open question which concluded the questionnaire the key theme to emerge from the questionnaire is that the group of final year primary students is not homogenous in terms of their exposure to, and competence in FMS. Thus in the initial sections of the questionnaire what appears as a divergent range of responses from the students in terms of courses completed, is in fact coherent. The responses reflect the students’ college experience in PE in general and FMS specifically. By way of explanation, all students must as a minimum complete two half modules in PE, one in year one and one in year two. These courses cover basic pedagogical approaches and curricular underpinnings for dance, gymnastics, games and athletics. Within these modules students are introduced to the concept of FMS as a tool to support skill development in these curricular areas. Some students then take an optional module in FMS in either third or fourth year. This module covers the content of the ‘Steps PD’ FMS teachers’ course and additionally requires students to prepare and deliver PE sessions with a strong emphasis on FMS development. It is reasonable to infer that all students who completed this module will have good knowledge of and competence to deliver FMS. In parallel to these core

and optional modules some students also elect to take additional curricular courses in PE in years one, two and three. Students who complete these courses are considered to be primary PE specialists and capable of co-coordinating PE in the primary school context.

What emerges from the questionnaire is that it is possible for students to feel confident and competent to deliver FMS in primary schools, but if this is to be achieved it requires the module in FMS to become core and not optional. This is not possible given current curricular restrictions. Given that FMS is not PE but can make a significant contribution to PE the PE staff at the College feel that the current range of core and optional modules is appropriate to the prescribed broad and balanced PE curriculum.

Conclusion

This section of the study examined how FMS pedagogy is imparted to pre-service teachers on the Island of Ireland's primary teacher educator Colleges. The study examined the current fundamental movement skill practices in physical education teacher education in eight Colleges of Education and the views of teacher educators on current FMS practices. The study offers (a) an insight in to how FMS is delivered in the Colleges of Education of primary initial teacher education for generalist teachers and (b) the views of the providers of physical education in primary education particularly related to FMS practices. Where the delivery of FMS varies in different colleges, the lecturers involved clearly embrace an infusion model of practice in this regard. Lecturers indicate a desire and need for contextually appropriate materials/resources and ongoing CPD in the area of FMS. Student feedback echoes these sentiments.

Limitations of Section One of the Study

The questionnaire was distributed to only eight lecturing participants. Each College of Education was represented. However while some comparisons can be made when comparing FMS practices it must be remembered that the Colleges are diverse in relation to the number of students enrolled in courses, the number of lecturers employed in physical education and the terms of their employment in the Colleges. Student feedback was from one college of education. Representation from students in the Republic and practicing primary teachers would also be beneficial to inform FMS practice on the ground in Primary schools.

Recommendations from Primary Education Providers both RoI and NI.

The following five recommendations can be made from this phase of the study.

1. Major specialisms and electives in physical education are recommended to continue to build on FMS work in core physical education modules.
2. The availability of online Irish FMS resources based in realistic physical education settings is encouraged.
3. The development and ongoing practice of a Community of Practice with the Colleges to allow discussion and research on physical education current topics and issues including FMS should be encouraged from an all island perspective.
4. The development of professional development courses in Education Centres and in partnership with the IPPEA, in consultation with the Colleges of Education to increase the generalist teacher's and lecturer's confidence to teach physical education and FMS is recommended.
5. Further research to be carried out to assess the needs of recently qualified teachers in relation to the teaching of FMS to children at primary level is required.

Section Two: Republic of Ireland Physical Education Teacher Education Data

In Section two data was collated from preservice teachers (n=19), PE teachers (n=6), PETE Lecturers (n=4) and representatives of both NCCA and the Department of Education and Skills (n=2).

Second level trainee PE teachers/Pre service PE Teachers and Physical Education Teacher Education providers.

A total of 19 fourth year students completed the questionnaire. Slightly more than half (52.6%, n=10) of the group were male. Three of the four initial Physical education teacher education providers institutes were represented.

Teaching practice duties performed by the student group were outlined. Nine pre service teachers taught two class years, eight of these taught at the junior cycle level, while one also taught a fifth year class. Just two respondents taught three classes of PE, all at the junior cycle level. The most common classes taught by pre service teachers are years one and two. Other duties performed included preparing lesson plans and schemes, organising classes using the guidance of the Junior Cert curriculum, giving a resource lesson to a child with Down Syndrome, supervision of classes and making '40 observations'.

Eleven participants (57.9%) responded that there was a named person on the staff of their institution in charge of fundamental movement skill training. Three respondents (15.8%) replied that there was not someone in charge of FMS training while one person (5.3%) claimed that all staff had responsibility for this task.

Table 8 Distribution of courses attended

Course attended	Number of respondents	Percentage of cases
FMS Workshop own institute	7	36.8%
None	3	15.8%
Course with visiting university lecturer	2	10.5%
FMS Conference	1	5.3%
FMS with crèche children	1	5.3%
College lectures	1	5.3%
Course with own University lecturer	1	5.3%
FMS course for people with disabilities	1	5.3%

Of those who responded to the question to list any additional FMS courses attended, seven students (36.8%) attended the FMS workshop that was held in their own institute. A further three students (15.8%) said they had not attended any FMS course, while two (10.5%) attended a course with their University lecturer (Table 8)

Seven (46.7%) of the cohort reported that such trainings/seminars were not cascaded to the students, while two students (13.3%) felt this was achieved in lectures and practical's.

Table 9 Distribution of undergraduate FMS courses attended

Undergraduate course attended	Number of respondents	Percentage of cases
Skill acquisition	10	66.6%
Sport and disability	6	40.0%
Exercise, aging and health	2	13.3%
Foundation skills	1	6.7%
Theme through all modules	1	6.7%
Research project	1	6.7%
Local Crèche	1	6.7%
Coaching Science	1	6.7%
None	1	6.7%

There was a range of answers in response to the question enquiring about the FMS undergraduate modules taken. Ten students reported taking a module on skill acquisition while a further six recalled attending a sport and disability module. Two respondents recalled an exercise, aging and health module while there was just one response for each of the following: foundation skills, that FMS was a theme through all the modules, attendance at an FMS course at a crèche, coaching science, topic of their research project, and one person reporting that they had no FMS undergraduate training (Table 9).

Over half (52.6%, n=10) of respondents reported that the courses attended dealt with core elements (Figure 5), while a further 26.3% (n=5) said that the FMS material was embedded through the course. Just 11% (n=2) claimed that the FMS element was optional within their undergraduate courses. Over one quarter (27.3%) of students reported that FMS related content was given 48 hours of instruction time, while 18% replied that 12, 24 and 36 hours of tuition were allocated to FMS. Just 9% said that 10% of the course time was dedicated to FMS and a further 10% reported that 52% of the course time was dedicated to FMS. Over half (57.1%, n=8) of those who answered this question reported that 50% of their FMS training was practical, while 21.4% (n=3) replied that 90% of this training was practical. Just one person each replied that 66% of the course time was practical; another one respondent replied that 75% was practical and a final respondent indicated that 80% of their FMS course time was practical. A majority of students (n=8) reported that they attended either one or two modules that dealt with FMS issues. Three students reported attending three FMS specific modules, while just one student replied that they had attended four such modules. The two most commonly reported FMS modules attended by the students were 'Skill acquisition' and 'Physical activity, sport & disability' (n=7 for each). Three respondents reporting attending a 'Coaching science' module that dealt with FMS issues. Half (n=5) of those who reported using assessment tools used three such tools, while four students used just one FMS assessment tool, and one person reporting using two tools. The most commonly reported assessment task used by the group was reflective portfolios (n=6) followed by 'Motor skills assessment' (n=5) and 'Lesson/action plans' (n=4). Nine (47.4%) of the respondents use outside specialists/organisations to provide FMS training and practical's while ten (52.6%) others do not avail of these services. Four are involved in the 'Let's Go' summer camps, one indicates using specialists from rugby while one school engages a local Sports Resource Centre for specialist FMS activities. Furthermore, 13 (72.2%) of the pre service teachers teach FMS skills in their teaching practice while five (27.8%) do not. There were very few responses to the question 'Please give details of any use of FMS specialists within mainstream or special settings that you use to develop children's skills, knowledge and understanding', with three students replied that they incorporate FMS in all aspects of their teaching and one student responding by saying they used qualified sports coaches.

Table 10 School based tasks relating to PE and FMS

Activity	Number	Percentage of cases
Extracurricular timetable for sports	5	45.5%
Health & fitness week	3	27.3%
Sports science coaching	3	27.3%
Focus on FMS in scheme/lesson	3	27.3%
TY all sport	2	18.2%
Drills	1	9.1%
Locomotor	1	9.1%
Manipulative FMS skills	1	9.1%
PE for all classes	1	9.1%
Weekly classes for every year	1	9.1%
6 wks. intervention to improve YR 2 girls FMS	1	9.1%
Balance movements	1	9.1%
Games	1	9.1%
Object control	1	9.1%

The distribution of responses to the question on school based tasks that children/secondary school students undertake related to PE and FMS is given in Table 10. The most common response given was the provision of extracurricular timetable for sports (n=5, 45.5%). A further three students (27.3%) named the following tasks ‘Health and fitness week’, ‘Sports science coaching’ and ‘Focus on FMS in schemes/lessons’. A sport day for transition year students was mentioned by two pre service teachers (18.2%).

Table 11 Resource materials that would benefit PE and FMS programs

Response	Number	Percentage of cases
More practical applications	4	33.3%
Introduce FMS as JC strand	3	25.0%
More videos & use of IT	3	25.0%
Assessment tools for older children FMS	2	16.7%
More workshops in FMS	1	8.3%
Yearly conference FMS CPD	1	8.3%
Document outlining games and skills for FMS training	1	8.3%
FMS testing equipment	1	8.3%
Hoola hoops	1	8.3%

Responses to the question ‘What further resource materials would you and your programmes benefit from in order to enhance the understanding of PE and FMS?’ are shown in Table 8. One third (33.%, n=4) of those who replied felt that there was a need for more practical applications, with a further one quarter of the student teachers (n=3, 25%) felt that FMS should be introduced as a junior cycle strand. Greater use of video and information technology (IT) were mentioned by 25.0% (n=3) of respondents, while 16.7% (n=2) felt that there was a need for FMS assessment tools for older children.

Table 12 Values and attitudes to a range of elements in FMS training

Statement	Rating (1 Strongly Agree, 5 Strongly Disagree)				
	1	2	3	4	5
FMS development should be included in mainstream schools	15 (78.9%)	-	-	1 (5.3%)	3 (15.8%)
Newly qualified teachers are adequately prepared for delivering FMS to children	8 (42.1%)	8 (42.1%)	3 (15.8%)	2 (10.5%)	-
Newly qualified teachers will need further training through continuing professional development programmes	12 (63.2%)	3 (15.8%)	1 (5.3%)	2 (10.5%)	1 (5.3%)
Children should be consulted as part of the facilitation of FMS	3 (15.8%)	2 (10.5%)	12 (63.2%)	2 (10.5%)	-
The primary school/secondary school curriculum provides teachers with a clear framework for the development of FMS activities	5 (26.3%)	8 (42.1%)	2 (10.5%)	2 (10.5%)	2 (10.5%)
FMS issues should be integrated fully into all initial teacher training courses	9 (47.4%)	6 (31.6%)	-	1 (5.3%)	3 (15.8%)
Teaching children/secondary school students FMS is just an extension of any teachers teaching	-	3 (15.8%)	8 (42.1%)	5 (26.3%)	3 (15.8%)
The PE curriculum ensures that students are adequately prepared for FMS development	3 (15.8%)	7 (36.8%)	4 (21.1%)	3 (15.8%)	2 (10.5%)
The Department of Education and Skills offers adequate advice and guidance to teachers on FMS issues	-	4 (21.1%)	9 (47.4%)	3 (15.8%)	3 (15.8%)
Professional PE associations i.e. PEAI, offer adequate advice and guidance to schools on FMS issues	-	2 (10.5%)	14 (73.7%)	3 (15.8%)	-

The pre-service teachers' responses to the ten statements assessing their opinions on a range of aspects of FMS training is given in Table 9. Almost four-fifths (78.9%, n=15) of respondents strongly agreed with the statement that 'FMS development should be included in mainstream schools', while the remaining four students (21.1%) either disagreed or strongly disagreed. A majority 84.2% (n=16) of the study group strongly agreed or agreed with the statement that 'newly qualified teachers are adequately prepared for delivering FMS to children'. So while, students felt their training was adequate, almost two-thirds (63.2%, n=12) strongly agreed that newly qualified teachers need further training through CPD, and a further 15.8% (n=3) agreed with this statement. Three students (15.8%) either disagreed or strongly disagreed with this statement. Students were unsure that children should be consulted as part of the facilitation of FMS, with 63.2% (n=12) choosing this option, while 26.3% (n=5) either strongly agreed or agreed. Thirteen student teachers (68.4%) either agreed or strongly agreed that the curriculum provides teachers with a clear framework for the development of FMS activities. However, 10.5% (n=2) were unsure while 21.0% disagreed or strongly disagreed. Almost half, 47.4% (n=9) strongly agreed that FMS issues should be integrated fully into all initial teacher training courses, with a further 31.6% (n=6) agreeing with this statement. Four students, 21.1% disagreed or strongly disagreed. There was a high degree of uncertainty for the statement that teaching children/secondary school students FMS is just an extension of any teachers teaching with 42.1%, (n=8) choosing a neutral answer. However, a further eight students either disagreed or strongly disagreed with this statement.

Seven (36.8%) of the respondents agreed that the PE curriculum ensures that students are adequately prepared for FMS development while over one quarter, 26.3% (n=5) did not agree with this statement. There was some uncertainty around the role of the Department in FMS training with 47.4% (n=9) choosing a neutral position to the statement 'The Department of Education and Skills offers adequate advice and guidance to teachers on FMS issues', while 31.6% (n=6) disagreed. There was also greater uncertainty as to whether or not Professional PE associations i.e. PEAI, offer adequate advice and guidance to schools on FMS issues, with 73.7% (n=14) choosing a neutral answer. Two students (10.5%) agreed with this statement while three respondents (15.8%) disagreed.

Additional Comments

Only two students offered other views or suggestions at the end of the questionnaire. Comments included the suggestion that FMS teaching is given through all years of their training, not just the final two years. Other comments suggested that there should be proper teaching of FMS, that CDs outlining each step would be helpful, student teachers should be shown how to measure FMS in college and how to identify a child's needs.

Conclusion

The overall picture to emerge from pre service teacher's responses seems to indicate they have an emerging knowledge and indeed hands on practice in the area of FMS within their degree programmes. Given the array of modules identified as having an FMS component it would appear that FMS related issues are addressed across the lifespan and infused throughout the degree programmes. Where it is clear that a variety of teaching and learning methodologies are in use, the call for greater visual/digital support warrants attention. In relation to values and attitudes pre service teachers have a clear understanding of the importance of FMS for the developing child. From this section pre service teacher's expectations of external support needs to be clarified. Their knowledge, understanding and experience of support from external agencies, professional organizations and the Department of Education and Skills needs to be addressed using a bottoms up, top down approach where it is clear exactly what such agencies, organizations and Departments can bring to our emerging teaching cohort.

Thematic analysis Republic of Ireland Initial teacher education in Physical Education data from questionnaires and follow up interviews.

Six of those interviewed were physical education teachers in secondary schools. A further four were lecturers in initial teacher education in Physical Education.

4. Training, research and experience of FMS

The number of modules in FMS taken by the group ranged from one to eight with one person reporting that he had not taken any modules in FMS. The average number of modules taken was 3.5.

Five of the respondents reported that their FMS training was infused through their undergraduate degree program.

One respondent said that *'it depended on who was teaching the module so it very much varied from one lecturer to the next L3'*.

One person said *'it was not covered enough'* while another who trained in the 1970's *'did not receive any FMS training T2'*.

Five respondents have carried out postgraduate study in FMS related topics. Three of these were lecturers. Research topics include assessing vertical jump variability using 3D motion analysis, motor control in general, a PhD in Autism and FMS, and a PhD in FMS in adolescence.

One lecturer has carried out research in children's physical education and children's acquisition of motor skills. Another of the lecturers is carrying out research into the practice of skills, how they were developed and linking this back to theory. A third lecturer is currently carrying out motor control research and specifically FMS testing on children. A fourth lecturer is currently focusing on FMS and autism, while the fifth lecturer is exploring FMS in adolescence. Finally,

one respondent was focusing on multisensory, fine movement, in young children and specifically looking at this in terms of coordination and balance.

There were a large variety of answers in response to the question 'Can you tell me about any current or previous experience you have of teaching FMS.'

One respondent said that

'FMS was embedded as part of my regular teaching' T2, while another had

*'Given a few short workshops at third level'*L3.

Two others focused *'on motor control and development and FMS,'* one further respondent concentrating on *'skill acquisition and movement analysis as I studied this at Masters Level'.*

One lecturer teaches

'Adapted physical activity, with an emphasis on working with those who have severe intellectual disabilities' L2.

PE teachers' responses to teaching FMS included the following:

One teacher narrowed his work to *'the speed accuracy trade off, and also taught theoretical, benefits and assessing FMS in children T5'* & how to bring that into teaching practice.

One respondent stated he had

'Lots of experience teaching second level FMS, and it's included in the warm ups' T6'.

Warm-ups were also mentioned by another teacher who said

'they go on to run then on to hopping and skipping, thus infusing FMS into activities' T3.

One further teacher used *'FMS in athletics, over arm throw for javelin and shot put as well FMS'*

as preparation for the horizontal jump' T4.

Another teacher had

*'only taught FMS in their first year of teaching first years, where they concentrated on hand eye coordination, jumping and running'*T1.

Respondent's experience of teaching FMS at primary level varied from none (two respondents) to one respondent who spent

'five years delivering athletics coaching to children, using fun games, hopping, skipping, jumping and throwing (these were also taught by one other teacher). Resources were a problem though, you know having decent equipment. 'T4.

A further respondent *'embedded FMS while delivering PE classes in primary schools while another worked with FMS through their coaching within the Buntus program'* L3.

For another he had *'a short experience of FMS at primary level'* L4.

One respondent

'piloted a six week intervention programme while another spent two weeks with definite lesson plans including FMS, filling in for PE classes' T5.

There were a wide range of answers to the question 'Can you tell me about any current or previous experience you have of practical application of FMS/Motor Psychology in sport or other settings with all but one respondent replying that they had such experience. Areas covered included *'coaching athletics to children and adults, GAA, athletics squads, basketball, soccer and football'*.

Skills covered included – *'headers, how to leap off the ground, a lot of ABC work, hand-eye*

coordination and reaction skills to ball and whistle'.

Other sports covered included *'coaching basketball and tennis as well as a gymnastics Ireland FMS coaching course'*.

Two respondents had extensive experience working with children with disabilities particularly visual impairment *'and autism with emphasis on locomotor, stability and manipulation'*.

One respondent worked in a Sports centre *'with one to two year olds where they did fun games - crawling, jumping, throwing, catching, and mini games'*.

(ii) Views on FMS in education

There was a general consensus that there is not enough understanding of FMS at primary level.

Primary teachers were described as

'General teachers with no formal PE training, so it very much depends on the interest level of the teacher whether or not FMS is covered' L3.

It was also felt that there is

'Not enough detail and structure in primary level PE and that FMS should be a core component' L2.

It was felt that

'Primary teachers skip too quickly to games without spending enough time consolidating the pupil's basic skills' T3.

It was also felt that FMS

'Needs a context and should be infused through the primary PE curriculum otherwise the children will get bored' L4.

Comments that PE teachers should have experience of teaching primary school children were made by two teachers.

*'I think we should have been given the opportunity to get hands on experience in our degree with primary children, so we'd understand development from an early age'*T4.

'I'd like to have gained experience with younger kids in our training, it's then you learn the real FMS' T2.

The need for early intervention was stressed by five respondents.

*'It is key that children are taught the basic skills of movement early on so they have some opportunity to progress to sport specific skills'*L1.

'It's crazy to see teenagers enter second level without the basic skills attaining maturity. This should be in place from primary school. We need to drive the agenda for early intervention' L3.

It was felt that FMS delivery at second level

'Was poor and again depended in the interest level of the teacher' L1.

It was also felt that

*'Children should have learned their basic FMS at primary level and if this is not achieved it is very hard for them to pick it up later'*L2.

Some respondents felt that there

*'Is more emphasis now among teachers currently undergoing training or recently qualified, whereas older teachers were never made aware of it'*L3.

It was also reported that there was an

'Emphasis on quickly getting into games'. L2.

PE Teachers commented on lack of resources, video and support in this regard.

'We could do with a lot more resources on how to include FMS in our PE classes in secondary schools' T4.

'I'd love a decent post graduate course on FMS that I could apply in secondary school PE. Video clips of the different stages for different skills would be great too. We never learned to do assessments or anything, so it's hard to know where students are at' T3.

(iii) FMS at Initial Teacher Education

Respondents also seemed to think that

'There is room for improvement in teaching FMS at third level' L3.

It was felt that although enough thought it is starting to be recognized as important,

'Delivery of FMS training is not consistent' L4 and varies by lecturer, with room for improvement.

It was felt that *it 'should be infused through all modules'*, L4 and one person felt that

'Their six week module was insufficient' L2.

It was also felt that *'there should be more practicals on how to teach pupils who are not proficient' L2.*

With one comment that *'using dartfish software was not adequate for a classroom situation' L3.*

There was also a *'reliance on in-service training to keep teachers abreast of changes'. L4*

Table 13 Values and attitudes to a range of elements in FMS training

Statement	Rating (1 Strongly Agree, 5 Strongly Disagree)				
	1	2	3	4	5
FMS development should be included in mainstream schools	10 100%	-	-		
Newly qualified teachers are adequately prepared for delivering FMS to children	5 50%	5 50%			
Newly qualified teachers will need further training through continuing professional development programmes	10 100%				
Children should be consulted as part of the facilitation of FMS	6 60%	4 40%			
The primary school/secondary school curriculum provides teachers with a clear framework for the development of FMS activities		2 20%		5 50%	3 50%
FMS issues should be integrated fully into all initial teacher training courses	10 100%				
Teaching children/secondary school students FMS is just an extension of any teachers teaching	3 30%	7 70%			
The PE curriculum ensures that students are adequately prepared for FMS development		5 50%		5 50%	
The Department of Education and Skills offers adequate advice and guidance to teachers on FMS issues	-	5 50%		5 50%	
Professional PE associations i.e. PEAI, offer adequate advice and guidance to schools on FMS issues	2 20%	5 50%		3 30%	

There was strong agreement from all respondents (n=10, 100%) that FMS development should be included in mainstream schools, that FMS issues should be integrated fully into all initial teacher training courses and that newly qualified teachers will need further training through continuing professional development programmes. Respondents were equally divided from strong agreement to agreement that newly qualified teachers are adequately prepared for delivering FMS to children. There was a varied response from all to the “Professional PE associations i.e. PEAI, offer adequate advice and guidance to schools on FMS issues” from strong agreement (20%), agreement (50%) to disagreement (30%). In relation to whether children should be consulted as part of the facilitation of FMS, 60% strongly agreed and 40% agreed. Regarding whether the primary school/secondary school curriculum provides teachers with a clear framework for the development of FMS activities, 20% agreed, 50% disagreed while a further 30% strongly disagreed. On the “Teaching children/secondary school students FMS is just an extension of any teachers teaching” 30% strongly agreed and 70% agreed. When asked to comment on whether the “PE curriculum ensures that students are adequately prepared for FMS development” 50% agreed and 50% disagreed. When considering “The Department of Education and Skills offers adequate advice and guidance to teachers on FMS issues” 50% agreed and 50% disagreed.

(iv) Concerns

It was felt that *FMS*

‘is an up and coming area and needs to be addressed particularly at the primary level as at second level it is too late to develop the required skills’. L1.

There is a need to *‘integrate FMS into sports not teach it in isolation’*. L3..

It was also felt that

‘the Department of Education and Skills, along with the Department of Health and Childcare should address FMS as a key aspect of physical literacy. Why do we still exist in a treat the crisis rather than be preventative in our ethos as a nation’ L2.

Survey of NCCA and Inspectorate Views on FMS

From the four potential participants (NCCA, PDST, ISC and Inspectorate of the Department of Education and Skills) one questionnaire was returned (part-answered) and two interview requests were accepted (NCCA and the Inspectorate). Two of the organisations agreed to the initial request for participation but did not respond within the given time frame for this study (PDST and ISC). Also, the PDST stated it “does not make policy, it can only implement it”.

Key Themes from Semi-Structured Interviews & Questionnaire

Both interviews and questionnaire shared a number of common themes.

(1) *Physical education curriculum development and inspection is understaffed at present.*

‘One out of approximately 30 staff has physical education as their remit and it is only part of my remit’ NCCA.

‘at post primary level there are two inspectors qualified in physical education for the country’ Inspectorate.

(2) *There is currently no mention of FMS in the Irish primary curriculum which was developed in 1999.*

‘You wouldn’t be in the position to write that the NCCA are developing FMS within the early childhood framework called Aistear’ NCCA.

‘if you look at the primary school curriculum there is no mention of FMS at all. What you do have is a series of activities that are quite skills based’ Inspectorate.

(3) *Curriculum development in Ireland is a very consultative process.*

‘in my opinion there is a very good interpersonal dynamic which would support information exchange. So when I am going into an area I am unfamiliar with I don’t hesitate to contact someone who will inform the work NCCA.

‘Everything in curriculum development has to be well considered and all the various

stakeholders need to be consulted' Inspectorate.

(4) FMS development should be included in mainstream schools.

'The more I am learning about it, yes, absolutely it should be fundamental at primary school and a lens in post primary school' NCCA.

'it would be lovely to flick a switch and say let's get a proper rudimentary, functional, fundamental, transitionary and sports specific pattern developed in a continuum where we could differentiate on a child-by-child basis, wouldn't that be a fantastic place to be!'
Inspectorate.

(5) FMS issues should be thoughtfully integrated fully into all initial teacher training courses.

'Yes, I think they should be....but if you and bring someone who is completely new to it, like primary teachers, you have to try and make them confident in what they are doing as a lot will not be' NCCA.

'Yes, but it is a 'red-herring' unless it is included as part of the continuum of understanding; continuum of understanding of anatomy, biomechanics, neurophysiology, physio, neuro-control of movement' Inspectorate.

(6) Looking forward, the topic of FMS is beginning to gain some early traction with policy makers and practitioners in the field.

'the area of FMS has just begun to rear its head....and there is a particular focus on broadening the Wellbeing section of Aistear. Looking at and supporting physical activity and

in that context I would be suggesting that FMS plays a part' NCCA.

'the PEAI has done a great job the last couple of years in providing CPD which looks at functional movement as a basis for understanding movement and the emphasis is coming away from the activity itself and the activity is becoming a gateway to developing movement'
Inspectorate.

Limitations of Section Two.

A limitation of section two is that of the limited number of both pre service teachers and Physical Education teachers involved in the study to gather more in-depth views of the stakeholders involved. It would also have been beneficial to have participation from Northern Ireland Institutions that run Physical Education Teacher Education programmes.

Recommendations from Section Two.

1. FMS should be infused throughout PE degree programmes.
2. Preservice teachers should have appropriate hands on experience with primary and secondary school students in FMS to consolidate their theoretical knowledge.
3. Ongoing CPD is necessary for PE teachers.
4. Collaboration with Primary Teacher Providers and all island participation in Communities of Practice is recommended.
5. Joined up thinking in relation to third level providers and Government Departments is essential to drive the agenda of FMS and physical literacy.
6. Early intervention is essential in relation to FMS development.

14. Summary Conclusions and Recommendations of Overall Study.

Section One of the study examined the perspectives of primary education provision from both the Republic of Ireland and Northern Ireland. This included input from both students and lecturers. Section two of the study examined FMS provision and practice in relation to PETE in the Republic of Ireland. The voices of all stakeholders were included to get a rounded view of where this journey is currently going. In keeping with the views of scholars as previously highlighted some key issues arose from the data. There was a clear understanding from all respondents on the importance of FMS development for children. Pre service teachers need to have opportunity for hands on praxis to complement their theoretical knowledge and meaningfully influence the lives of the children they serve (Freire, 1973; Boyer, Schon 1987; Checkoway 1991, 2000; Baum 2000; Bender 2008; Creighton 2006). The infusion model seems to be the approach of choice where FMS flows as a signature pedagogy throughout third level programmes addressing PE for primary and second level students (Crawford, O'Reilly & Flanagan, 2012; Shulman, 2007). Similarly, practicing teachers at both primary and second levels need to be afforded opportunity to up skill in their professional practice and development of FMS (Breslin et al, 2012). Addressing issues of Continuous Professional Development and the development of meaningful Communities of practice from an all Island perspective are two avenues available to support this process (Wenger, 2006; Armour, 2011). Following from the FMS Conference of 2013, the FMS Hub was established. To date two workshops have been offered from two of the education providers, both very enthusiastically received. A series of others are planned. The hub will ideally build on online provision of resources and materials over time, again available to all stakeholders. Colleges of education and PETE providers are an integral part of this information and training process. Where in this study NCCA and the Inspectorate are very positively disposed to the development of FMS knowledge and praxis, policy makers in the Republic of Ireland and Northern Ireland need to address the issue from a greater Health and Educational perspective. Similarly, from a research perspective, definitive baseline data on the FMS of children and teenagers on the Island of Ireland would be a useful

starting point to drive the issue of planning, implementing and evaluating quality programmes to benefit all across the lifespan.

Position Statement on Fundamental Movement Skills from an Initial Teacher Education Perspective (SCoTENS 2013/2014 funded Study).

2015 All Island All Ireland position Statement on FMS in Initial Teacher Education.

Background

There has been little documented empirical evidence on the addressing of FMS at initial teacher education at both primary Colleges of Education and third level PETE providers in the Republic of Ireland and Northern Ireland. Questions arise as to what are the training, experiences and practices of FMS providers in an educational context, what are the challenges encountered by the stakeholders and how might these be addressed. The purpose of the SCoTENS funded study was to explore the views of all the relevant stakeholders and to further create a space for reflection and action on the development of quality FMS experiences for all. In recent political commentary has been passed re the state of skill development, related physical activity experiences and health benefits for children and young people. However, it is integral that the voices of the relevant stakeholders charged with addressing FMS at initial teacher education from Primary and Physical Education Teacher Education (PETE) institutions inform policy development in this regard.

This SCoTENS study commenced in April 2013 and was completed in December 2014. The study sought to examine the FMS experiences and training in initial teacher education from Primary and PETE perspectives. A total of 93 participants from Northern Ireland and the Republic of Ireland took part in the study. These included pre service teachers, Physical Education teachers, lecturers, a representative of the National Council of Curriculum and Assessment and a representative of the Inspectorate, Department of Education and Skills.

Participants (n=93) were asked to complete a questionnaire which examined

- about you;
- about your institution;
- management and coordination of FMS;
- programme content and delivery;
- links with schools and mentors;
- partnerships with outside agencies;
- values and attitudes;

- and other views and opinions.

Questions for semi structured interviews (n= 20) included:

- Can you tell me about your own training in FMS/Motor psychology at undergraduate level
- How many modules did you have in this area
- Was it infused throughout your degree programme
- Can you tell me about any postgraduate study you have completed in this area
- Can you tell me about any post graduate research you have completed in this area
- Can you tell me about any current or previous experience you have of teaching FMS/Motor Psychology at 3rd level
- Can you tell me about any current or previous experience you have of teaching FMS/Motor Psychology at 2nd level
- Can you tell me about any current or previous experience you have of teaching FMS/Motor Psychology at primary level
- Can you tell me about any current or previous experience you have of practical application of FMS/Motor Psychology in educational, sport or other settings.
- What are your views on how FMS/Motor Psychology is addressed at primary level
- What are your views on how FMS/Motor Psychology is addressed at secondary level
- What are your views on how FMS/Motor Psychology is addressed at third level
- Any additional comments/queries

Responses to both questionnaires and the semi structured interviews formed the basis of the SCoTENS/FMS Position Statement which now follows.

Position Statement

SCoTENS/FMS adopts the definition of a fundamental movement skill is “an organised series of basic movements that involve the combination of movement patterns of two or more body segments” (Gallahue & Donnelly, 2003). Fundamental movement skills comprise of the categories of locomotion, manipulation and stability. FMS are the building blocks of subsequent sport specific skills and skills required for active daily living and quality physical activity across the lifespan. Further, FMS affect the holistic development of young people from cognitive, affective, social and physical perspectives contributing to overall health and well-being.

SCoTENS/FMS believe that quality FMS education programmes are those where graduates possess and continue to develop an ongoing and deep knowledge of this field combined with an eclectic mix of teaching and learning methodologies to ensure the assessment, planning, implementation and evaluation of FMS programmes for all. Graduates should be capable of descriptive/technical, situational and sensitizing practice, embedded with a strong ethical and moral value system who will advocate for quality participation in quality programmes for all.

SCoTENS/FMS believe that early intervention in relation to FMS is key for quality development of these skills. An ecological approach to FMS development in the early years involves ensuring environmental and teaching and learning factors are appropriate to the ever changing needs of the developing child. There is a need to ensure educators are appropriately prepared to meet this evolving need.

SCoTENS/FMS contends that FMS teaching and learning should be mandatory for all pre service primary and physical education teachers. This teaching and learning should afford them the understanding and belief of the differences they can make in the holistic development of the child. To this end FMS should be linked to other subjects in the curriculum. Hence, it is essential that appropriate time is allocated to FMS in undergraduate degree programmes.

SCoTENS/FMS acknowledges that FMS does not exist in isolation but as an integral component of quality physical education programmes. Where FMS contributes to the overall educational and health benefits of children it is important that it also has a focus of enhancing physical activity and sport for physical, emotional and social wellbeing.

SCoTENS/FMS believes that both primary and physical education teacher educators have the required expertise to address the following challenges:

- To enhance networking across institutes and disciplines, further increasing the status of FMS and to address issues of research funding.
- How to respond appropriately to government policies and changing trends in society.
- How to ensure both primary and PE teachers are actively engaged with changing trends in education, health and research so they stay abreast with quality FMS practice and provision.
- To ensure initial teacher educators are cognisant of changing trends, research, policy and practice in FMS relevant in a contemporary society.

SCoTENS/FMS believes that University-School-Community collaboration is an integral part of all initial teacher education programmes. These collaborations should be active agents of quality research and practice to inform future policy in relation to FMS.

SCoTENS/FMS believe that initial teacher education is centrally situated to drive a quality FMS research agenda as follows:

- Identify effective FMS practices that enhance the holistic development of the child.
- Identify effective FMS practices that support students in their learning.
- Explore the values, attitudes and understanding of students and how educators can impact these in a meaningful way.
- Explore the pedagogies of FMS and what our students are learning as a result.
- Explore the research, practices and values of initial teacher educators and how these impact on the student population which they serve.

In conclusion SCoTENS/FMS encourages the initial teacher education community to embrace quality University- School- Community collaboration with an interdisciplinary perspective to ensure quality FMS research; practice and policy are an integral component of teacher education programmes. SCoTENS/FMS encourages the greater teacher education community to embrace the opportunity and drive the agenda of FMS for holistic health and educational gains across the lifespan.

15. Acknowledgements

The authors wish to acknowledge all study participants from both the Republic of Ireland and Northern Ireland. They would also like to acknowledge and thank their colleagues and students who assisted with the study. In particular, thanks are due to Ken Kelleher and Jack Nolan who collected the data for Section two of the study. Thanks are also due to Claire Devereux who advised, completed and supported the statistical analysis of the study. The authors would also like to thank Margaret O’Leary for editing, proofing and formatting the final document. Finally, the authors would like to extend their heartfelt thanks to SCoTENS for funding this much needed study.

16. References

Armour, Kathleen 2011. Effective career-long professional development for teachers and coaches. In *Sport Pedagogy: an introduction for teaching and coaching*, 229-243. London: Pearson

Australian Curriculum Studies Association (2000). Get Skilled. Get Active. *Primary Educator*, 6 (2), 26.

Baum, H.S. (2000). Fantasies and realities in university- community partnerships. *Journal of Planning Education and Research*, 20, 234-246.

Bender, G., (2008). Exploring conceptual models for community engagement at higher education institutions in South Africa. *Perspectives in Education*, 26 (1), 81-95.

Boyer. EL., (1990) *Scholarship Reconsidered: Priorities of the Professoriate*. Princeton, NJ: Carnegie Foundation for the Advancement of Teaching, 1990.

Breslin, G., Murphy, M., McKee, D., Delaney, B., & Dempster, M., (2012) The effect of teachers trained in fundamental movement skills programme on children's self perceptions and motor competence. *European Physical Education Review*, 114-126

Callea, M.B., Spittle, M., O'Meara, J., & Casey. M., (2008) Primary school teacher perceived self-efficacy to teach fundamental motor skills. *Research in Education*, Manchester University Press.

Checkoway, B. (1991). Reinventing the research university for public service. *Journal of Planning Literature*. 11(3), 307-319.

Checkoway, B. (1991). Unanswered questions about public service in the public research university. *Journal of Planning Literature*. 5(3), 219-225.

Checkoway, B., (2001). Renewing the civic mission of the American research university. *Journal of Higher Education*, 72(2), 125–147. (Special Issue: The Social Role of Higher Education).

Coulter, M., Marron, S., & Murphy, F. (2009) Teaching PE: the central role of the class teacher. *InTouch*. April Issue 102 p.38-39

Crawford, S., (2011). An examination of current adapted physical activity provision in primary and special schools in Ireland. *European Physical Education Review*, 17(1), 91-109.

Crawford, S., O'Reilly, R., & Flanagan, N. (2012) Examining Current Provision, Practice And Experience Of Initial Teacher Training Providers in Ireland Preparing Pre Service Teachers For The Inclusion Of Students With Special Education Needs in physical Education Classes. *European Journal of Adapted Physical Activity*, 5(2) 23-44.

- Creighton, S. J., (2006). Community partner indicators of engagement: an action research study on campus community partnership. Unpublished PhD thesis. In Brown luthango
- Creswell, J. W., (2013) *Qualitative Inquiry & Research Design: Choosing among five approaches*. 1st Edition. London: Sage Publications
- Creswell, J., (2007) *Qualitative Inquiry and research design* (2^{ns} ed.). U.K:Sage
- Denzin, N.K., (1989). *The research act: A theoretical introduction to sociological methods* (3rd ed.). New Jersey: Prentice Hall.
- Department of Education and Science (1999) *Report of the People with a Disability in Sport Taskforce*. Dublin:Government Publication Offices.
- Erickson, F., (1986) *Qualitative methods in research on teaching* in M.C. Wittrock (Ed.), *Handbook of research on teaching* (pp. 139 – 159), New York: Macmillan.
- Freire. P.,(1973) *Education for critical consciousness*. New York: Continuum Publishing Company
- Gallahue, D. L. & Ozmun, J.C., (2006). *Understanding Motor Development. Infants, Children, Adolescents, Adults*, 6th Edition New York: McGraw-Hill
- Gallahue, D., & and Donnelly, F. (2003). *Developmental physical education for all children* (4th ed). Champaign: IL: Human Kinetics.
- Gordon, B. and Inder, T. (2000). The competency levels of third year pre-service primary teachers in performing and learning fundamental motor skills. *Journal of Physical Education New Zealand* Vol 33 Issue 3 p.53-66
- Government of Ireland., (1999). *Primary school curriculum introduction*. Dublin: The Stationery Office. Retrieved 23 May 2014 from http://www.ncca.ie/uploadedfiles/Curriculum/PE_Gline.pdf
- Graham, G., Holt/Hale, S. & Parker, M. (2001). *Children Moving, 5th Ed*. Mountain View: Mayfield Press.
- Hardman. K., (2007). *Current Situation and Prospects for Physical Education in the European Union*. Brussels: European Parliament's committee on Culture and Education.
- Hardy, L., King, L., Farrell, L., Macniven, R., Howlett, S. (2010). Fundamental movement skills among Australian preschool children. *Journal of Science and Medicine in Sport*, 13(5), 503-508
- Harrington, D., Belton, S.J., Woods, C., et al. (2014) Results from the Republic of The Republic of Ireland's Report Card on Physical Activity in Children and Youth. *Journal of Physical Activity and Health* 2014; 11(suppl.1)
- Hodge, S., Tannehill, D., and Kluge, M., (2003). Exploring the meaning of practicum experiences for PETE students. *Adapted Physical Activity Quarterly*, 20, 381-399.

House of the Oireachtas (2005) Joint Committee on Education and Science 3rd Report, The Status of Physical Education, Dublin. Government Press Office.

Jess, M., (2011). Becoming an effective primary school physical education teacher. In K. Armour (Ed.), *Sport pedagogy: An introduction for teaching and coaching* (pp. 271-286). Harlow, England: Pearson

Kvale. S., & Brinkermann. S., (2009) *Interviews the craft of qualitative research interviewing* (2nd ed). Thousand Oaks, CA:Sage

Lander, N., Barnett, L., Brown, H. and Telford, A., (2014). Factors influencing PE teachers instruction, assessment and confidence when teaching FMS. *Journal of Science and Medicine in Sport*. 18S, 1-22.

Lubans, D.R., Morgan, P.J., Cliff, D.P., Barnett, L.M., Okely, A.D. (2010). Fundamental Movement Skills in Children and Adolescents: Review of Associated Health Benefits. *Sports Medicine*, 40 (12): 1019-1035.

Luke, E., Kelly, V., & Melograno J. (2004) *Developing the Physical Education Curriculum: An Achievement-Based Approach*. Champaign, IL: Human Kinetics

Marron, S., Murphy, F., and Coulter, M. (2011) AIESEP 2011 International Conference 22-25 June, University of Limerick, Ireland. No. 224p.435-455. Retrieved 15 May 2012 from <https://www.iccbookings.com/AIESEP2011/index.php>

Meegan, S., MacPhail, A., (2006) Irish physical educators' attitude toward teaching students with special educational needs. *European Physical Education REVIEW* 12(1); 75-97

Meegan, S., and MacPhail, A., (2006). Irish physical educator's attitude toward students with special educational needs. *European Physical Education Review*, 2(1), 75-97.

Morgan, P., and Bourke, S. (2008). Non-specialist teachers' confidence to teach PE: the nature and influence of personal school experiences in PE. *Physical Education and Sport Pedagogy* Vol. 13, No. 1, January 2008, pp. 1-29

New South Wales (NSW) Department of Education and Training (2000). *Get Skilled: Get Active*. A K-6 resource to support the teaching of fundamental movement skills. Accessed from: <http://www.curriculumsupport.education.nsw.gov.au/primary/pdhpe/assets/pdf/gsga/wholebooklet.pdf>.

Okely, A.D. , and Booth, M. L., (2004) Mastery of fundamental movement skills among children in New South Wales: prevalence and socio demographic distribution. *Journal of Science, Medicine and Sport*; 7 (3) 358-372)

Overdorf, V.G. and Coker, C.A. (2013). The efficacy of movement analysis and intervention skills. *Physical Educator*, 70(2), 195-205.

Parker, M., Patton, K., and Tannehill D. (2012). Mapping the landscape of communities of practice as professional development in Irish physical education. *Irish Educational Studies*, 31(3), p. 311-327.

- Petrie, K., (2010). Creating confident, motivated teachers of physical education in primary schools. *European Physical Education Review* 16(47).
- Rovegno, Inez., and Dolly, J. (2006) Constructivist perspectives on learning. In Kirk, D., Tannehill, D. 2011 Professional learning in communities of practice. In *Sport Pedagogy: an introduction for teaching and coaching*, 312-324. London: Pearson
- Schön, D.A. (1987). *Educating the reflective practitioner: Towards a new design of teaching and learning in the professions*. San Francisco: Jossey-Bass.
- Stroot, S.A., & J.L. Oslin. (1993). Use of instructional statements by preservice teachers for overhand throwing performance of children. *Journal of Teaching in Physical Education* 13: 24-45.
- Tannehill, D. (2011). *Professional Learning Communities of Practice. Sport Pedagogy – An Introduction for Teaching and Coaching*, p. 312-313. England: Pearson.
- Teaching Council. (2010). *Policy on the Continuum of Teacher Education*
<http://www.teachingcouncil.ie/section1/default.asp?NCID=555> (accessed June 14, 2011)
- Tsangaridou, N. (2006) Teachers' knowledge. In *The Handbook of Physical Education* London: Sage Publications.
- van Beurden, E., Zask, A., Barnett, L., and Dietrich, U. (2002). Fundamental movement skills – How do primary school children perform? The 'Move it Groove it' program in rural Australia. *Journal of Science and Medicine in Sport* 5 (3): 244-252.
- Vickerman, P. (2004). *The training of Physical Education Teachers for the Inclusion of Children with Special Educational Needs: PhD Thesis, School of Education, University of Leeds, Leeds, U.K.*
- Vickerman, P. (2007) *Teaching Physical Education to Children with Special Educational Needs*. London. Routledge.
- Wenger, E. (2006) *Communities of Practice: A brief introduction*. Retrieved 3 July 2014 from <http://www.ewenger.com/theory/>
- Wenger, E.C. and Snyder, M., (2000). *Communities of Practice: The Organizational Frontier. Harvard Business Review*. January-February, p. 139-145.