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Understanding professional issues in physical education - a Scottish insight

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ABSTRACT

Key to the effective enactment of policy and high quality learning and teaching in schools is a contemporary understanding of teachers' beliefs, and an awareness of the professional issues which are particularly important to them. Despite a surge in academic and policy interest in physical education in Scotland, only two studies have examined teachers' views on a range of professional issues in the last 25 years. To address this limitation, researchers at the University of Edinburgh designed the 'Professional Issues in Physical Education Survey' (PIPES) which aims to inform and support professional learning and research in physical education in future years. The article reports on the systematic development and piloting of PIPES, and how this reflected in the high degree of consensus the teachers reported for the professional issues identified. Findings indicated that concerns over pupil engagement, subject aims, curriculum time, resources and workload took precedence over more generic curriculum ambitions such as interdisciplinary learning and transitions. In addition, it is anticipated that the methodological groundwork undertaken in PIPES will be helpful in supporting other Anglophone countries to develop similar survey instruments particular to their own contexts.

KEYWORDS: Professional issues, policy enactment, physical education, pedagogical practices, physical education teachers' views

INTRODUCTION

Within the broad area of policy, practice and professionalism, Ball, Maguire and Braun (2012) argue that the complexities of understanding changes and reforms in secondary schooling would be improved by developing an appreciation of school-based policy priorities and enactment rather than policy implementation guidelines. Approaching research in this way enables consideration to be taken of the "overall texture and rhythms of teachers' work - the different times of year in schools and the deadening tiredness with which teachers often grapple" (Ball *et al.,* 2012, p.5).

Despite these intentions, Ball *et al.* (2012, p.10) acknowledge that their evaluation of policy endorsement and enactment in four case study schools in England contained "a dearth of values-talk"; an occurrence attributed to policy thinking being dominated by more instrumental priorities. Concern over vagueness of values, and their connections to teachers' thoughts and reflections of professional issues and priorities, is also evident in Scotland. For example, Priestley and Humes (2010, p. 351) consider that the new learner-centred Curriculum for Excellence (CfE) contains little by "way of an extended justification for either its terminology or its recommendations" even though key policy documents believe that a clear framework of national expectations exists whereby teachers "have greater scope and space for professional decisions about what and how they should teach, enabling them to plan creatively within broader parameters" (Scottish Executive, 2006, p.1). This broad intention is consistent with the approach to curriculum change informed by Bernstein's (2000) theory of the social construction of pedagogical discourse, whereby social epistemological thinking "recognises that subjects are defined by what people do and say, rather than only by the logical word games played by analytical philosophers of education or definitions constructed by policy-makers and authors of books" (Kirk, 2010, p.19). This approach has been widely used within contemporary physical education by researchers such as Evans (2004) in order to investigate the effects of sectional interests within the field, relative to issues of social class and social justice. We argue, within the context of this article, that similar possibilities exist with teacher respondents being invited to "consider the possibility of a future that is at the moment unknown to us and so as yet unimagined" (Kirk, 2010, p.121).

Similar engagement processes are also reflected in Sachs's (2003) contrasting of managerial professionalism (founded on teachers' individual accountability and compliance with policy directives), and democratic professionalism (where teachers engage proactively with the complexities of changing social and economic conditions). These descriptions capture something of the current Scottish policy context where the intention is to support teachers to make the most of their increased professional autonomy and decision making responsibilities, at the same time as holding teachers accountable for realising age and stage experience and outcomes targets (HMIE, 2007). These challenges are not unique to Scotland, for as Menter, Hulme, Elliot and Lewin (2010) note in their evidence gathering process for the recent review of teacher education (Scottish Government, 2011), similar tensions exist between teacher autonomy and teacher accountability in many countries. As such, Menter *et al.* (2010) classify progression in teacher agency, from the effective teacher through to the transformative teacher, via the reflective and enquiring teacher. Moreover, it is increasingly being seen that it is the transformative teacher who is most capable of being critical, creative and relatively autonomous, and making the most of their enhanced professional role. This article aims to explore some of the main issues and tensions associated with achieving transformational teaching through examining practitioner's perceptions of current professional and policy related issues, namely realising which are a priority to physical education teachers in Scotland currently. The article begins by defining in greater detail the specifics of the Scottish professional and policy context prior to describing at length the methodological development of the 'Professional Issues in

Physical Education Survey' (PIPES). Thereafter, a discussion section analyses the robustness of the questionnaire as a useful method for understanding better Scottish physical education teachers' different subject priorities, as well as presenting the preliminary findings from PIPES. Furthermore, it is our hope that the early findings reported in this article will provide a stimulus for other researchers, and raise awareness of particular issues that could be the focus of future research.

PHYSICAL EDUCATION IN SCOTLAND: A BRIEF INTRODUCTION

During the early part of the twenty first century, physical education has in many western countries become a subject which is pivotal to the realisation of whole school aims due to increased societal concerns about young people's lifestyles and physical activity levels (Culpan and Galvan, 2012; Macdonald, 2013). In Scotland, the re-positioning of physical education within health and wellbeing (HWB) led to a doubling of curriculum time (to two hours per week for each child between 3 and 18 years under CfE) and an increase in teacher numbers (Thorburn, Jess and Atencio, 2011; Scottish Government, 2014). This phase of policy activity coincided with a period of increased academic interest in Scottish physical education, with researchers writing on: conceptual matters associated with physical education *e.g.* Thorburn and Horrell (2014); the policy process and physical education *e.g.* Horrell, Sproule and Gray (2012), Gray, Mulholland and MacLean (2012a, 2012b); interactions between policy and practice *e.g.* Maclean, Mulholland, Gray and Horrell (2013); supporting practitioners practice *e.g.* Jess, Atencio and Thorburn (2011), Thorburn, Carse, Jess and Atencio (2011); as well as physical education from a general perspective in Scottish education *e.g.* Thorburn and Gray (2010); Thorburn and Horrell (2011). These studies have predominantly adopted qualitative research designs. Atypically Maclean *et al*. (2013) made more use of a mixed method research design, with 88 secondary school teachers from 16 local authorities completing a questionnaire exploring teachers' perceptions of curriculum change. Findings from the questionnaires were then merged with data collected from 17 semi-structured interviews with teachers in one particular local authority. However, in quantitative terms, given that Scotland has 1759 physical education teachers (819 female teachers; 940 male teachers) in 362 secondary schools across 32 local authorities (Scottish Government, 2015) there remains a gap in our understanding of teachers' prioritising of professional issues at a national level at this time.

Therefore, developing a questionnaire which provides an informed and accurate profile of teachers' current views, in particular the importance they place on a range of professional issues, and which may also provide the stimulus for more specific qualitative-informed research studies, is long overdue. Such a survey would recognise the importance of physical education in Scottish schools and the limited extent to which teachers' views on key professional issues are currently understood. Furthermore, the broad investigative span of such a study might also go some way to addressing Hardman and Marshall's (2000, p.223) call for individual countries to collect further, better quality, baseline data, amid concerns that "inadequate watching briefs" are taking place globally in physical education.

On this basis PIPES was developed and distributed nationwide. Prior to this, the last national survey of physical education teachers in Scotland was completed over

a generation ago (Sharp, 1990). That particular survey adapted an earlier questionnaire used in England and Wales in the 1970s and 1980s (Kane, 1974; Physical Education Association, 1987). Furthermore, a single copy of the questionnaire was forwarded to principal teachers of physical education in every secondary school (n=484) achieving a 61% (n=295) return rate. The questionnaire was subject centred with questions focused on: teachers' personal profiles; curriculum time; activities; new course awards and subject objectives. The reporting, involving a rank ordering of nine objectives, confirmed that teachers perceived the development of 'motor skill' to be of upmost importance, with 'aesthetic appreciation' the least highly rated objective within physical education: findings which were consistent with both Kane's (1974) survey and the survey conducted by the Physical Education Association (1987). The latter point is particularly important in a Scottish context, as it suggests that male and female teachers had similar subject priorities even though physical education teacher training took place in separate institutions until 1986. However, a degree of caution is required on this point as the return rate in Sharp's (1990) study was four to one in favour of male teachers. Nevertheless, this finding tends to support the view that even though female teacher education courses emphasised aesthetic appreciation more than the motor skills emphasis in male teacher education courses, this did not noticeably impact on female teachers' subject beliefs and perceived priorities at this time (Kirk, 2002). In addition Sharp's (1990) study reports on contrasting subject definitions as being a problem rather than something more vibrant. For example, Sharp (1990, p.21) comments that an "attempt to define what the subject is all about seems to have plagued the literature for at least the last 40 years", before adding later in the conclusion that:

> …it is frustrating to recognise that so many people still attempt to define what physical education is…(and)…perhaps a single effort should be made to inform everyone what the aims of physical education are and then the subject should be laid to rest! (p. 54).

Arguably, such sentiment has not aged well and given the plethora of education, health and sport stakeholders who now have an enhanced interest in physical education it appears wise to recognise that subject values and beliefs remain a contested rather than a settled matter in physical education (Stolz and Kirk, 2015). This point is given added momentum by noting that the only national survey to follow Sharp (1990) was one where the attention was again relatively narrow with a focus on: department composition, courses in physical education, time allocation, facilities and extra-curricular provision (Littlefield, Green, Forsyth and Sharp, 2003).

METHODOLOGY

A research meeting of physical education lecturers at the University of Edinburgh identified the merits of completing a national framing project, namely a cross-sectional survey, which would gauge in more precise terms how Scottish physical education teachers currently perceive a broad range of professional issues. In doing so the purpose was to explore teachers' perceptions of the relative importance of the contemporary issues identified, and to consider these alongside the wider physical education literature. The process began by gaining ethical approval from the relevant University authorities to pilot and distribute the survey. This was a

relatively straightforward procedure given the informed consent arrangements which were part of the introduction to the survey, and the later anonymous nature of data reporting and analysis.

DEVELOPING THE QUESTIONNAIRE

Phase one

Due to the degree of changed policy and practice expectations there have been in Scottish physical education over the last 30 years (Jess and Thorburn, 2016), we considered it unwise to use the questionnaires employed by Kane (1974), Sharp (1990) and Littlefield *et al.* (2003). Furthermore, an examination of related surveys conducted out with Scotland arguably confirmed Hardman and Marshall's (2000) concerns that too many studies focus in on a particular aspect of physical education: e.g. practitioners' attitudes towards educational reforms (Zach and Inglis, 2013); beliefs held in relation to their preparedness, enjoyment and confidence (Randall, Robinson, and Fletcher, 2014); attitudes concerning the teaching of physical activity and fitness (Guan, McBride and Xiang, 2005; Kulinna and Silverman, 2000); attitudes towards the use of information and communications technology (Thomas & Stratton, 2006); the examination of teachers' attitudes towards pupils with special educational needs (Meegan and MacPhail, 2008); as well as analyses of beliefs regarding the inclusion of pupils with additional support needs (Wang, Qi and Wang, 2015). Consequently, the instruments employed across those particular studies were tightly focused, with many developed, or amended, for the specific context and purpose of each investigation, limiting their usability for the setting and circumstances of the present study.

Further we did not consider it appropriate to use other international measures of teachers' values and perceptions of physical education such as the Value Orientation Inventory (VOI) (Ennis and Chen, 1993), employed in various broader, more explorative studies that have been undertaken: *e.g.* Liu and Silverman's (2006) investigation into the value profiles of Taiwanese teachers; Behets and Vergauwen's (2004) examination of the values held by both elementary and secondary practitioners in Flanders; as well as Curtner-Smith and Meek's (2000) study of the values held by practitioners and their correspondence with curriculum aspirations in England. Again, it was felt that the VOI would be insufficiently specific to the current Scottish policy and practice context. Furthermore, despite its continued popularity (*e.g.* see Capel's (2015) recent study of the value orientations of student teachers in England), the revised version of the VOI was developed nearly a quarter of a century ago (Ennis and Chen, 1993). Although, representative of physical education teachers' goals at that particular point in time, it might be reasonable to suggest that it now requires further revision. Updating this tool would enable the VOI to reflect changes in the prioritising of professional issues, as well as newer perspectives that have emerged in relation to theory and practice in the field of physical education over the last 23 years.

In moving forward, the research group reviewed: aforementioned writings by members of the research group; key policy documents in Scottish physical

education (Learning and Teaching Scotland, 2009; Scottish Executive, 2004a; Scottish Executive, 2004b; Scottish Government, 2011), as well as numerous journal articles and books which have considered areas such as teachers' values and future directions in physical education *e.g.* Reid (1997); Green (2000); Kirk (2010); Stolz, (2014). More specifically, Moy, Renshaw and Davids's (2014) research on trainee teachers' engagement with learner-centred games teaching approaches was helpful in shaping some of the teaching and learning issues developed. Similarly, Kulinna, Brusseau, Ferry and Cothran's (2010) investigation into preservice teachers' beliefs toward curricular outcomes was useful in ensuring that curriculum development issues reflected international, as well as national, perspectives in physical education. At other times, reviewing literature beyond the confines of physical education was helpful *e.g.,* with regard to primary-secondary school transition, where West, Sweeting and Young (2010) explored the difficulties of adjustment to both school and peer social systems at the beginning of secondary education. A similar process took place when considering career satisfaction, where Eren's (2015) exploration of the relationship between career choice satisfaction and sense of personal responsibility helped inform the issues included in the survey. Overall, the process was helpful in identifying 20 of the most pertinent professional issues concerned with:

Whole school

- school ethos
- curriculum time
- resources/facilities
- staffing
- senior management team support
- transitions between primary and secondary schools
- school/community partnerships
- how teachers included pupils with additional support needs

Professional development

- professional learning and development
- career satisfaction
- career progression

Subject area

- subject aims
- curriculum development under CfE (in the broad general education phase in the early and middle secondary school years)
- curriculum development under CfE (for new examination awards in the middle and senior secondary school years)
- assessment

Teaching and learning

- teaching and learning strategies
- pupil engagement
- curriculum personalisation and choice

Phase two

Taking into consideration the size, as well as the geographical distribution of the population, an online survey was judged to be the most effective method for gathering data (Frippiat, Marquis and Wiles-Portier, 2010; Shih and Fan, 2009). To ensure that completing the survey was a clear and straightforward process, general principles for web-based questionnaire design were followed (Fan and Yan, 2010; Vicente and Reis, 2010). An initial challenge was getting interested teachers to contribute to the development of PIPES. An approach to Education Scotland (the national body with responsibility for school inspection and learning and teaching development) was helpful in gaining support, in principle, for the research, and for the use of their network of Physical Education Lead Officers (PELOS) to distribute the survey. Following this endorsement pre-testing was undertaken.

Pre-testing: A group of principal teachers, curriculum leaders, and faculty heads (n=28), across 12 different local education authorities, including the private sector, agreed to take part in two rounds of pre-testing. On each occasion the participants considered each of the 20 issues (*e.g.* 'subject aims') and rated on a 5-point scale the extent to which they viewed each issue as important (1 = *not important*; 5 = *very important*). To ensure the questionnaire was consistent and stable, the test-retest reliability of each issue was considered following Bernard's (2013) recommendation, namely each teacher completing PIPES twice, with a one week interval between. Upon completion of the test and subsequent retest, both the proportion of agreement (%), and single measure intra-class correlation coefficients (ICC), with a 95% confidence interval (CI), were calculated for all 20 issues.

In the initial pre-test the proportion of match agreement between the two tests varied from 36% to 86%, with 14 of the issues displaying either *good* or *moderate* reliability, and the remaining six demonstrating *poor* reliability based on criteria established by Singh *et al.* (2011). Furthermore, the ICC calculated between the test and retest scores for each of the 20 issues ranged from 0.10 (-0.4-0.58) to 0.95 (0.85-0.98). Utilising Landis and Koch's (1977) categories for strength of agreement, 12 of the issues were considered *almost perfect e.g.* 'personalisation and choice' or *substantial e.g.* 'school ethos', with six issues falling within the *moderate* band *e.g.* 'staffing'. The strength agreement for the remaining two issues was considered *slight e.g.* 'assessment'. A second pre-test of a revised version of PIPES was then undertaken. On this occasion the proportion of agreement increased, ranging from 62% to 92%, with all 20 issues displaying either *good* or *moderate* stability when considered against Singh *et al.'s* (2011) criteria. Similar increases also occurred in the ICC for each of the 20 issues, ranging from 0.51 (-0.04-0.82) to 0.86 (0.61-0.96). According to Landis and Koch's (1977) guidelines 17 of the issues now fell within either the *almost perfect e.g.* 'ASN/inclusion' or *substantial* band *e.g.* 'resources/facilities'. The remaining three issues *e.g.* 'curricular time' were categorised as *moderate*. The results from the second pre-test indicated that PIPES was now fit for purpose in terms of its reliability.

Between the initial and second round of pre-testing the PIPES research group considered matters concerning the face validity of PIPES, namely the nature of the measure (Clark-Carter, 2004). Upon examination of the initial pre-test results, it was felt that the participants may have been influenced by the wording of the statement that they had to respond to. This is a matter of central importance in questionnaire design (May, 2001; Robson, 2011), and one which may have led to the teachers in the initial pre-test providing an immediate judgement which could have been influenced by their situation at the time of completion. This could result in state-like responses, namely temporary views, as opposed to more stable enduring judgements. Therefore, a decision was taken to revise the statement that preceded the 20 issues in subsequent versions of PIPES in order to secure a more long-standing response. Furthermore, the notion of the respondents judgment being *'…personal and considered…'* would also be emphasised within successive versions of the survey.

Coolican (2004) advises utilising expertise within the field to examine whether a measure is encompassing and representative, namely that the content is valid. Accordingly, the 28 teachers were asked, post pre-tests, to consider if the 20 items covered the range of issues facing the profession at this time and provided the opportunity to suggest further and/or alternative issues. Five additional issues were suggested after the initial pre-test, and upon consideration the research group felt that two of new the issues proposed, namely 'extra-curricular activities' and 'teaching and learning strategies' warranted inclusion in PIPES. The three other suggestions were considered to be too narrow, and already covered by the existing 20 issues. Two issues from this first version of the survey, namely 'active schools' and 'use of technology', were considered too specific, and could be encompassed within existing issues.

The research group appreciated that substantial development work was required to achieve a questionnaire that was fit for purpose in relation to validity and reliability (Punch, 2009). Although it may appear to have been a protracted process the time taken to design and advance the PIPES was necessary. Following the guidance of Fan and Yan (2010), a recurrent process of pre-testing, followed by a pilot, allowed for multiple revisions and improvements to be made to the questionnaire. The PIPES research group met regularly in between the pre-testing and pilot to review the results and participant feedback, with successive refinements made accordingly to the questionnaire. As well as examining the properties of the survey, the group also reviewed the pre-testing and pilot data for emergent patterns and ideas that could be investigated in subsequent stages (Arys *et al.,* 2006). This led to the addition of a further four professional issues within PIPES following the pilot, in order to investigate an emergent theme concerning policy related items. Comparisons can be drawn here between PIPES and Sharp (1990), especially in relation to the manner and time the authors spent on addressing the validity of the instrument, namely the pre-engagement with the profession and other associated bodies. However, it should be acknowledged that the questionnaire from Sharp's (1990) study was an amended version of an earlier questionnaire designed for use in England and Wales (Kane, 1974), which may have been of limited relevance given

the differences between the Scottish education system and the rest of the UK (O'Brien and Christie, 2008).

Phase three

The University of Edinburgh's physical education research group presented at Education Scotland's bi-monthly national meeting of the PELOS, where for the most part one lead officer per local authority was in attendance. The purpose of the presentation was to raise the national profile of PIPES. Furthermore, given the impending involvement of the PELOS in distributing the survey, the research group felt it important that the PELOS received background information about the nature and purpose of the study. This subsequent phase of PIPES was restricted to practitioners in a position of responsibility for physical education in Scotland, namely all principal teachers, curriculum leaders, and faculty heads, as well as the PELOS themselves. The aim of this piloting phase was threefold. Firstly, to make certain the 20 issues in PIPES were in fact those facing the profession currently, thereby further validating the content of the instrument. Secondly, it was expected that this penultimate phase would give the research group an indication of probable interest in PIPES, through the response rate, as well as information on the viability and effectiveness of the distribution procedures (Rothgeb, 2008). Finally, publicity and recognition are important considerations for increasing response rate (Stopher, 2012), and it was anticipated that an increased involvement from teachers, as well as direct involvement from Education Scotland through their network of PELOS would raise awareness, and provide advance notice of PIPES amongst the profession.

Pilot: Invitations to take part in PIPES were sent via email to all teachers currently in a position of responsibility in each of the 32 local education authorities through their respective PELOS. The online survey remained open for a six week period, and in accordance with Sue and Ritter's (2007) guidelines, fortnightly reminders were also sent out. During this time 150 teachers completed PIPES, that is a 36% response rate (based on figures from the most recent census - Scottish Government, 2015), with teachers from 31 out of the 32 local authorities represented. Following the pilot, the research group identified two areas requiring attention - further professional issues for the survey and additional methods for distributing PIPES. Firstly, upon examination of the descriptive data, it was evident that wider aspects of CfE, namely 'transitions' and 'personalisation and choice', were perceived to be less important when ranked against other issues. As a result, a decision was taken to explore this tentative finding by adding a further four issues to PIPES, increasing the number of items to 24. This included two further issues relating to wider aspects of CfE policy, namely 'inter-disciplinary learning' and 'skills for learning, life & work', and two policy issues particular to physical education, namely the PE specific 'significant aspects of learning' and 'lifelong participation in physical activity'. The rationale for this was to determine whether the lower level of importance observed in the pilot was limited to wider aspects of CfE policy, or extended to more subject specific issues. Finally, it was realised that the national launch afforded an opportunity to also gather some qualitative data, and a decision was taken to include a solitary open question in PIPES. This question required participants to identify their single most important professional issue, and explain

why they considered it be important currently. Although this particular data set is not presented here, it is the intention to report the findings in subsequent papers, concentrating on specific issues, enabling us to corroborate as well as elaborate upon the preliminary set of findings reported in this article. We appreciate that in presenting the broad, initial findings some of the issues may appear to have been overlooked.

In an attempt to ensure maximum coverage the decision was taken to involve other approaches, along with Education Scotland's PELOS network, to distribute and promote PIPES. Firstly, the Scottish Association for Teachers of Physical Education (SATPE) was approached and agreed to help promote and distribute PIPES to all their members via their regional representatives, in a similar fashion to Education Scotland's PELOS network. Secondly, social media is increasingly recognised as an effective platform for publicising and distributing online surveys (Denscombe, 2014; Stopher, 2012). Consequently, members of the PIPES research group routinely used social media for professional purposes and utilised the medium to circulate and publicise the survey. Thirdly, information regarding PIPES was emailed out to each secondary school's general email address marked for the attention of all members of the physical education department. Lastly, a cohort of undergraduate physical education students (n=80) from the University of Edinburgh was provided with information about the survey and with the request to distribute it amongst the physical education teachers within their respective schools whilst on placement, which coincided with the launch of PIPES.

LAUNCHING PIPES

Phase four

After an extended period of pre-testing and piloting, PIPES was launched. The survey was open for a six week period. All secondary physical education teachers in Scotland were invited to take part in this phase of the study. Following protocols established in the previous pilot phase, the PELOS and SATPE representatives sent out fortnightly reminders inviting teachers to take part. Furthermore, social media provided instant updates on the progress of PIPES (Stopher, 2012). During this period a total of 387 teachers completed the survey, a response rate of 22% of the total population of secondary school physical education teachers in Scotland (Scottish Government, 2015). Included in this sample were teachers from 31 of the 32 local authorities in Scotland, and teachers working in the independent sector.

FINDINGS AND DISCUSSION

The discussion of findings focusses on two key concerns. Firstly, an evaluation of the robustness of the procedures adopted, followed by an analysis of the quantitative data collected on the teachers' perceptions of current professional issues.

Upon review the return rate achieved by PIPES may appear modest in comparison to the postal surveys carried out by Sharp (1990) and Littlefield *et al.* (2003). However, given the budgetary and time constraints associated with postal

surveys (Vicente and Reis, 2010), it was not a viable option for PIPES. As such, a lower return rate was anticipated given the data collection method employed, namely an online survey (Muijs, 2004; Fan and Yan, 2010), as well as the voluntary nature of the study. Furthermore, in contrast with PIPES the two previous Scottish surveys had a narrower focus relying on responses solely from principal teachers of physical education. Moreover, upon closer examination, it appears Sharp's (1990) study was not initially restricted to principal teachers, but only made use of the data gathered from their responses. This may have been necessary due to a limited return from non-promoted physical education teachers, as it was reported that only 20 out of a possible 484 schools returned multiple questionnaires (Sharp, 1990). However, despite the return rate of PIPES achieving representativeness should be the prime goal when appraising any sample to allow findings to be generalised, and should surpass matters concerning the numbers of responses received (Ary, Cheser-Jacobs, Razavieh and Sorensen, 2006; Punch, 2009).

A perceived strength of PIPES is the representativeness of the sample. Through a comparison of specific subgroups, namely gender and age, in the most recent teacher census in Scotland (Scottish Government, 2015), with those who responded to PIPES, it was found that the teachers in the study are proportional to the current population of secondary physical education teachers in Scotland (see Tables 1 and 2). A chi square test confirmed that the discrepancies between the proportion of male and female secondary physical education teachers in the present sample (58.5% and 41.5% respectively) and the values of 53.4% (male) and 46.6% (female) from the most recent teacher census are not significant (chi square p >.05). Furthermore, the discrepancies between the age bands of the teachers in the PIPES sample, namely 20-29 years (30.3%), 30-39 years (35.2%), 40-49 years (13.7%) and 50 years + (20.8%) and the values of 20-29 years (36.5%), 30-39 years (33.3%), 40-49 years (11.1%) and 50 years + (19.1%) in the Scottish teacher census were also found to be statistically insignificant (chi square p >.05). Both tests indicate the representativeness of the sample and enhance confidence in the generalisability of the findings.

TABLE 1: GENDER - COMPARING THE PROPORTION OF MALE AND FEMALE TEACHERS WHO RESPONDED TO PIPES WITH THE CORRESPONDING DATA FROM THE SCOTTISH TEACHER CENSUS (2015)

	Female	Male
Scottish Government Teacher Census (2015)	46.6%	53.4%
Professional Issues in PE Survey (PIPES)	41.6%	58.4%

Chi square goodness-of-fit test confirms that there was no significant difference in the proportion of male and female secondary PE teachers in the PIPES sample in comparison to the corresponding values in the Scottish teacher census (2015) X^2 (1, n=387) = 3.73, $p<.053$

TABLE 2: AGE - COMPARING THE AGE BANDS OF PIPES PARTICIPANTS WITH CORRESPONDING DATA FROM THE SCOTTISH TEACHER CENSUS (2015)

	20-29 Years	30-39 Years	40-49 Years	50 Years +
Professional Issues in PE Survey (PIPES) (2015)	30.7%	35.1%	13.6%	20.6%
Scottish Government Teacher Census (2015)	36.5%	33.3%	11.1%	19.1%

Chi square goodness-of-fit test confirms that there was no significant difference in the age bands of the teachers in the PIPES sample compared with the values in the Scottish teacher census (2015) X^2 (3, n=387) =7.07, $p<.070$

Despite their high return rates, matters concerning representation do not appear to have been given due consideration in previous studies, most notably Littlefield *et al.* (2003), resulting in a potential sampling bias, namely data skewed towards a subset of the population (Bryman, 2008; Muijs, 2004). Unlike Sharp (1990), who claims representation based on the number of returns from each region within Scotland, Littlefield *et al.* (2003) make no such claims and provide little information on the representativeness of their sample, instead emphasising the number of returns achieved. Given the disparity reported in both previous studies concerning the number of female principal teachers in post at the time, the need to address issues relating to representation was arguably warranted.

Due to the extensive piloting undertaken it was expected that the professional issues chosen for inclusion in the study would be important to teachers. This was the case and is reflected in the results shown where there tends to be an atypically high distribution of results rated as 'very important' (Table 3 overleaf). However, such a distribution is not uncharacteristic, and the results in the present study are in accord with other international surveys involving the profession *e.g.* Kulinna and Silverman (2000) and Guan *et al.* (2005). Both of these studies examined the relative importance physical education teachers place on various, more generic, outcome goals for their subject. Similar to the issues reported in PIPES, all four of the goals, namely physical activity and fitness, self-actualization, motor skill development, and social development in Kulinna and Silverman (2000) and Guan *et al.'s*, (2005) studies were perceived to be important. Furthermore, the PIPES findings are also consistent with the general conclusions drawn from Curtner-Smith and Meek's (2000) examination of English physical education teachers' value orientations. Therefore, before proceeding to examine more closely the results from PIPES it is important to acknowledge that previous research suggests that physical education teachers, irrespective of country, prioritise multiple values, objectives and issues. Although these results allow those particular values and issues to be ranked accordingly, one needs to be mindful that all are deemed, to varying degrees, to be important.

That said, there was the opportunity for teachers to respond more strongly to issues in the PIPES. This is evident in the mean scores found in the lower quartile of the

results (Table 3), and particularly so with regard to the lowest ranked issue, 'interdisciplinary/cross-curriculum learning'. The issue of foremost importance was 'pupil engagement'. Just over fourth-fifths of teachers (80.1%) ranked this issue as being 'very important'; indicating that teachers considered 'pupil engagement' fundamental to learning, wider achievement and formal attainment (for those pupils opting to pursue examination awards in physical education). Thus, even though teachers are required to consider a surplus of new generalised imperatives such as 'personalisation and choice', 'skills for learning, life and work' as well as ongoing concerns such as 'workload' and 'resources/facilities', securing high levels of pupil engagement remains fundamental to "a set of practices which make sense as an organisational vernacular, or at least which hold the inherent incoherences in some kind of institutional balance" (Ball *et al.*, 2012, p.141).

The endorsement for 'pupil engagement' is matched in the top quarter of results by the associated issues of 'subject aims', the 'curriculum development' of new National Qualification (NQ) awards (namely examination awards) and 'lifelong participation in physical activity' (Table 3). With reference to subject aims, just over two-thirds (66.9%) of teachers considered this issue 'very important', which mirrors the findings of other research on the full implementation of CfE in 2011-2012. For example, Gray *et al.* (2012a) highlighted that the CfE policy process in physical education demonstrated that control was largely retained by key policy stakeholders relative to the supposed policy position of teachers being empowered to use their enhanced professional autonomy and decision making responsibility to the full in designing and implementing curriculum. This led to physical educationalists re-evaluating the aims and purposes of the subject - previously it had been relocated from being part of the 'expressive arts' to becoming part of 'HWB'. Gray *et al.* (2012a) consider this a mixed blessing: on the plus side those highly effective physical education departments could continue to run successful programmes. On the downside however, it could be viewed as a missed opportunity for modestly successful departments to be supported in their attempts to ensure physical education is relevant and central to the vision of learner-centred education articulated under CfE. These tensions are further reflected in Maclean *et al.'s* (2013) findings where two-thirds (66%) of physical education teachers considered that there was a need for change with the generic curriculum, but only just over half of teachers (54%) considered that there was a need to change the physical education curriculum. This led Maclean *et al.* (2013, p.94) to conclude that for real structural change to occur "those concerned with PE at the school and policy level need to be clearer about the educational purpose of PE."

Just under two-thirds of teachers (63.3%) considered the present focus on new examination awards to be 'very important', again a finding reflected in recent research. Both Thorburn and Collins (2006) and MacPhail (2007) found that many teachers were perplexed by a policy process, similar to CfE, which expected teachers to become creative, critical and autonomous professionals who can tailor courses for their own school within a framework which seeks to maximise learning opportunities under broadly defined parameters. However, this process has often

Table 3: Scottish secondary physical education teachers' perceptions of contemporary professional issues (n=387) (ranked in order of relative importance 1 = 'not important' 5 = 'very important')

Items - Professional Issues in PE	Not important 1	2	3	4	Very important 5	Mean	SD	Rank
Pupil engagement	0	5	14	58	310	4.74	0.59	1
Subject aims	0	4	27	97	259	4.58	0.67	2
Lifelong participation in physical activity	1	7	31	79	269	4.57	0.74	3
Staffing	2	5	28	98	254	4.54	0.73	4
Curriculum development (NQ's)	1	7	21	113	245	4.53	0.71	5
School ethos	0	11	31	100	245	4.50	0.76	6
Career satisfaction	4	4	33	102	244	4.49	0.78	7
Curriculum time	0	5	43	106	233	4.47	0.74	8
Curriculum development (BGE)	0	7	31	126	223	4.46	0.72	9
Workload	3	12	38	90	244	4.45	0.85	10
Teaching & learning strategies	0	6	40	132	209	4.41	0.74	11
Resources/facilities	2	11	39	110	225	4.41	0.82	12
Extra-curricular programs	7	7	51	125	197	4.29	0.89	13
Professional learning & development	2	9	57	149	170	4.23	0.82	14
SMT support	7	22	54	106	198	4.20	1.00	15
Assessment	1	13	66	144	163	4.18	0.85	16

ASN/Inclusion	3	11	72	140	161	4.15	0.87	17
Skills for learning, life & work	3	26	67	144	147	4.05	0.94	18
Personalisation & choice	0	21	62	187	117	4.03	0.83	19
Significant aspects of learning (SAoL's)	7	16	75	160	129	4.00	0.93	20
Partnerships	5	19	94	159	110	3.91	0.91	21
Transitions	5	31	76	113	162	3.71	0.92	22
Career progression	16	26	98	169	78	3.70	1.00	23
Interdisciplinary/Cross-curricular learning	18	70	138	118	43	3.25	1.03	24

been curtailed by a lack of clarity in the policy documentation, definition of subject knowledge, and delays in producing support materials (Thorburn and Gray, 2010). Noting that over two-thirds of teachers (69.5%) considered the present focus on 'lifelong participation in physical activity' to be 'very important' matches Kirk's (2013, p.975) assertion that making such gains remains physical education's "most cherished ambition". It is also reflected in the findings of Maclean *et al.* (2013, p.88), where there was a positive endorsement for closer links between physical education and HWB as this can "help teachers showcase what they can do". Conversely, the findings here might simply represent the current discourse, prominent within policy, as well as wider societal views concerning young people's lifestyles and their reduced physical activity levels (Culpan and Galvan, 2012; Macdonald, 2013).

As noted earlier, emerging from the Maclean *et al.* (2013) study was a view that physical education teachers saw the need for change within the curriculum. However, the extent to which meeting these intentions is evident in PIPES responses is more difficult to detect. Table 3 shows that the lower quartiles of teacher responses are dominated by more generic curriculum issues and concerns, namely 'personalisation and choice', 'skills for learning, life and work', and 'significant aspects of learning'. Similar imbalances have been widely reported in recent Scottish studies, for example, Priestley and Minty (2013) noticed a disparity between teachers' first order level of engagement with CfE, where teachers typically provide a buoyant account of their sympathy and agreement with learner-centred curriculum aims, with later second order engagement and the specifics of curriculum enactment. This finding might suggest that teachers frequently rely on transmissionist views of knowledge and learning, rather than the more constructivist views which CfE espouses. Priestley and Minty (2013) go on to exemplify how these imbalances are likely to be particularly evident in areas such as interdisciplinary/cross-curriculum learning *viz.* specialist subject learning.

Within PIPES 'interdisciplinary/cross-curriculum learning' is the lowest ranked of any professional issue with just over one in ten teachers (11.1%) considering this area to be 'very important'. This is comparative to over half of teachers (57.6%) considering that curriculum developments for 3-15 years, as part of learners' broad general education, was 'very important'. This is intriguing as the question prompt for the latter statement indicated that learners' broad general education was being considered as a wide ranging issue which included in large part interdisciplinary/cross-curriculum learning taking place in order to provide relevant and stimulating contexts, that are both challenging and enjoyable, and which meet the varied needs of learners (Scottish Government, 2008). Such a disparity might indicate that teachers perceive there being a greater importance on issues which relate to subject discipline responsibilities than those that are seen as being important at a general professional level. This pattern of prioritising 'subject' over 'general' issues could account for why four further issues in the lower quartile of results: 'personalisation and choice'; 'significant aspects of learning'; 'partnerships' and 'transitions' are ranked lowly. Furthermore, the prioritising of 'pupil engagement', 'subject aims' and the 'curriculum development-NQ awards' within the top quartile of responses might indicate that a more fundamental traditional and managerial view of professionalism is in operation. Moreover, this is at the same

time as policy is emphasising how greater engagement with new generic curriculum entitlements and imperatives, which are enacted by working in democratic and collaborative environments, should be sought (Sachs, 2003; Priestley, Minty and Eager, 2014).

An area for future consideration concerns a cluster of career associated issues such as: 'career satisfaction' (top of second quartile of issues identified); 'staffing' and 'school ethos' (both in the first quartile of issues identified) which indicate that everyday quality of professional life issues matter to teachers. This is in contrast to 'career progression' which is not such a notable concern with only just over one in five teachers (20.2%) ranking this as being 'very important'. Allied to this there might be some surprise that teachers do not consider 'professional learning and development' to be of greater importance. Just over two-fifths of teachers (43.9%) rated 'professional learning and development' as being 'very important' to them, even though there is an increased professional expectation for teachers to be actively involved in their own professional update, and a focus on career-long professional learning in Scotland (Scottish Government, 2011). Lastly, there is evidence in the second quartile of results (Table 3), that a set of evergreen professional issues namely, 'curriculum time', 'workload' and 'resources/facilities', remain important to teachers. This is evident in PIPES and was also a notable feature of earlier reporting (Sharp, 1990; Littlefield *et al.*, 2003). And so it is, for example, that over three-fifths (60.2%) of teachers consider curriculum time 'very important', even though Scottish Government targets for the doubling of curriculum time (to two hours per week for each child between 3 and 18 years under CfE) have largely been achieved (Scottish Government, 2014). This situation could be interpreted in different ways which would benefit from further research. For example, confused concerns over time might reflect teachers' ongoing unease over lack of status and a perceived marginalised position in the curriculum. Alternatively, it could be viewed as further evidence of policy implementation insufficiently connecting with policy engagement and the real concerns of teachers (Ball *et al.*, 2012).

CONCLUSION

This article aimed to understand Scottish physical education teachers' prioritising of professional issues as a necessary condition for comprehending how teachers are likely to engage with policy proposals in the future. After defining specifics of the current Scottish professional and policy context, methodological detail on the conception, development and implementation of PIPES were provided. The explanation of how the survey was designed, validated and piloted is extensive, though we considered it important to be transparent and provide a comprehensive account of all the steps undertaken. Furthermore, it was important to show the substantial effort made to ensure the items in the survey were comprehensive and relevant to the context of Scottish physical education currently. Thereafter, this article presents the broad, preliminary findings from the quantitative data obtained, in the hope that some of them might capture the interest, and act as a catalyst for others to investigate further in the future. The initial findings presented indicate that even though there was an atypically high distribution of results, closer analysis showed a marked prioritising for subject and practice issues which were close to

physical education, relative to issues which were more associated with whole school aims and wider professional concerns. These findings are significant, in that not only are they a much needed update for developing a better understanding of physical education teachers' views in Scotland, they indicate to the larger physical education community the need for examining teachers' perceptions of practice and for researching further qualitative issues surrounding: subject teaching; subject connections with whole school aims, and conditions which would beneficially support career long professional learning. Finally, we hope that the methodological groundwork completed in PIPES will be helpful in assisting, as well as empowering, other countries in the Anglophone world to develop and administer similar context-specific surveys in the future.

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