



## Health Education

### **Emerald Article: Health promotion in pre-service teacher education: effects of a pilot inter-professional curriculum change**

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# Article Title Page

## Health promotion in pre-service teacher education: effects of a pilot inter-professional curriculum change

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**Structured Abstract:**

**Purpose** - This paper discusses a curriculum change in the provision of health promotion in pre-service teacher education in a one year postgraduate certificate in education (PGCE) secondary course in one Higher Education Institution (HEI) in England.

**Design/methodology/approach** - The paper describes the iterative development process, from an initial survey and mapping of the existing pre-service teacher training programme, which provided an evidence base for the piloting of a new health promotion component in the curriculum, and its subsequent evaluation. Changes to the health promotion element of the curriculum reflect the programme philosophy which balances the requirements of a competency based curriculum with a more liberal approach to education and training in which pre-service teachers are expected to critically reflect on, and evaluate their practice. This work adopts a socio-constructivist approach to teacher education, in which teachers develop their knowledge, skills and attitudes by interacting with others through dialogue, and learning from more knowledgeable others in a cooperative and scaffolded manner.

**Findings** - The paper presents the results of these changes and discusses implications for their sustainability. The changes made to the health promotion component of the programme and their implementation would not have been possible without the inter-professional collaboration that took place over three years.

**Originality/value** - To our knowledge similar work involving a multi-disciplinary collaborative approach to the development of a health education component of a pre-service teacher education curriculum has not been employed or reported on.

**Keywords:** teachers, health, promotion, education, curriculum

**Article Classification:** Research paper

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**Running Heads:**

## **Health promotion in pre-service teacher education: effects of a pilot inter-professional curriculum change in the UK**

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**Type of paper:** research paper

## **INTRODUCTION**

### **The role of teachers as health promoters**

Although the core purpose of teachers' work is not health promotion, they are nevertheless in a prime position to influence the health and well being of young people. Since compulsory education was introduced there has been an expectation that teachers' roles and the curriculum should include provision of some form of health education (Denman *et al*, 2002). Initially the focus was on the prevention of infectious disease and hygiene, this is still the case in the developing world (Tang *et al*, 2008). However, school health education and health promotion has evolved in England and elsewhere to encompass a more holistic perspective of health as exemplified by the model of the health promoting school (Denman *et al*, 2002). This is in line with the overarching remit of teachers to improve educational standards, as there is a growing body of evidence of the inter-relationship between positive health and education outcomes, and the quality of pupil health has a positive impact on educational outcomes and vice versa in many countries across the world (e.g. Hammond, 2003; Marks 2009; Mirowsky and Ross, 2005; Sorhaindo and Feinstein, 2006; Feinstein *et al*, 2008).

What evidence exists suggests that teachers receiving training about health education are more likely to develop a positive attitude about their role as health promoters and as a result become more involved in health education programmes for example in the UK (Davidson, 2007), the Netherlands (Leurs *et al*, 2007) and Finland (Paakkari *et al*, 2010), whilst Deschesnes *et al*. (2010) in Canada recognised

the need for a supportive environment to encourage teachers to promote health. Furthermore, those teachers who have been involved in training, tend to value and enjoy it and indicate they would like further training to enable them to overcome some of the perceived barriers for effective health education, for example, skill development, to increase their proficiency as health promoters (Buston *et al.*, 2002; Wight and Buston, 2003; Davidson, 2007; Leurs *et al.*, 2007; Marks, 2009).

However only a limited number of studies focus on the continuing professional development of in-service teachers and even less is known about what occurs at pre-service level during teacher education programmes, as Paakkari *et al.* (2010) note. Although, Thomas and Jones (2005) report on an effective intervention in Wales to increase pre-service teachers' confidence to teach personal, social and health education, surveys of health promotion in pre-service teacher training indicate that this element of training is inadequate and calls for improvements across Europe and elsewhere have not abated (Scriven, 1995; Walsh and Tilford, 1998; Mead 2003; Mead 2004; Jourdan *et al.*, 2008; Tang *et al.*, 2008). The research presented here is intended to add to this debate by discussing the impact of the introduction of a programme of health promotion in one pre-service teacher education programme in England that attempted to be coherent. Whilst Paakkari *et al.*'s (2010) study of Finnish pre-service teachers' ideas about health education as a school subject focussed on their perceptions of health education as a vehicle to develop their students' knowledge, skills and attitudes about health related issues, we concentrated on changes to pre-service teachers' confidence and competence to become health promoters in their future careers.

### **A previous review of the pre-service curriculum for teachers in a Higher Education Institution (HEI) in the UK**

The location for this study is a one year postgraduate certificate of education (PGCE), pre-service qualification, based in an HEI (a University in this case) the South of England, which trains students with a first degree or equivalent to teach children up to the age of 16.

Speller *et al*, (2010) carried out a survey of trainee teachers' knowledge and attitudes about health and health promotion in the same HEI in a previous year.

Using the Public Health Skills and Career Framework (PHSCF) (Skills for Health, 2008) which defines public health competencies in the UK at different levels of expertise, relevant competencies for pre-service teachers were selected encompassing health related knowledge and skills which could be transferable into the school context and which support the Qualified Teacher Status (QTS) standards that pre-service teachers in England work towards (Training and Development Agency for Schools, TDA, 2007). The curricula for primary (training to teach 5-11 year olds) and secondary (training to teach 11 – 16 year olds) pre-service teachers were then mapped against these competencies in the HEI. They demonstrated that while individual inputs relating to child health and well-being were present, the overall programme lacked coherence, potentially making it hard for the pre-service teachers to 'make the fundamental connections between health and education and ...the importance of this in their future role as health promoters', (Speller *et al.*, 2010:504).

In addition this study reported findings from pre and post course surveys of the same course in 2008-09 which showed aspects of the pre-service teachers' knowledge about health issues, particularly around physical activity levels for children, remained low even after training, and key health topics such as nutrition, alcohol, and smoking, were regarded as less important at the end of the course. However, the majority thought schools and teachers did have an important role to play in their pupils' health, although by the end of their training there was an increase in those who thought health promotion was not part of their remit. These findings may indicate that having experienced the reality of school, the pre-service teachers were more focussed on the specific remit of teaching a particular subject rather than seeing their role more holistically, and that they have moved away from 'early idealism' when they view their role in a more holistic manner (Pollard, 2005). This was of concern as it suggested that the initial teacher education programme discussed in this paper, which was the secondary PGCE course, preparing students to teach 11-16 year olds, did not appear to encourage and develop their health promoting role.

### **Aims of this paper**

This background provided the impetus to consider how the curriculum could be altered to provide a more coherent experience, and determine if a revised curriculum had any effect on the pre-service teachers' knowledge, skills, values and attitudes towards health education and their current and future roles as health promoters. This paper describes the theoretical rationale for the curriculum changes and reports on process evaluations over the pilot year of its introduction (2009-2010) and the outcomes on pre-service teachers' confidence and attitudes from a longitudinal survey on the 2009-10 cohort.

We were cognizant that promoting health is a complex process and that it is more effectively managed via a multidisciplinary and inter-agency approach. Such inter-professional collaboration can have a positive effect on influencing health and well-being (Horbar *et al*, 2001; Treadwell *et al*, 2002). These were important factors in establishing the initial research group, which was set up to steer the development of the changes and in particular the incorporation of inputs from a wide range of external agencies from local health services, children's services, government bodies, and voluntary organisations to support the delivery of the new health promotion curriculum.

### **Theoretical rationale for curriculum change**

Curricula can be planned to achieve a disparate number of aims, they may have a cognitive epistemological basis such as knowledge gain or skill development, or be more liberal in providing a context in which broader sets of ideas, values and attitudes are allowed to flourish (Peters, 1970; Kelly, 2009). Curricula can also be socially and politically motivated, for example to ensure control or power over a population in terms of a political ideology (Foucault, 1979), or at the other end of the spectrum, emancipation (Freire, 1972). Although, according to Kelly (2009) it is the overarching philosophical view of curriculum developers that determines the nature, content and approach to the delivery of the curriculum.

Some health education curricula can be regarded as emancipatory and empowering (Tones, 1985) and it is this approach towards health education that underpins the curriculum development that took place. This approach considers that curricula should not be overly prescriptive but should allow students to have some autonomy so that they can develop not only their knowledge base but also their own skills, attitudes and values towards health issues in order to become effective health promoters (Mead, 2011; Thomas and Jones, 2005), albeit bounded by the requirements of teacher education in England (Training and Development Agency, 2007). Changes to the curriculum were intended to enable pre-service teachers to fulfil their role as health promoters by providing them, at this early stage in their careers, with basic knowledge and skills with the intention of increasing their competence and capabilities about teaching and promoting health in school. Furthermore, the changes encompassed opportunities for the pre-service teachers to reflect on personal values and attitudes towards their own health and that of others, with the intention that they would continue to promote health throughout their careers. The overall philosophy of teacher education within the institution described is synergistic with these aims and is discussed below.

At the time of implementing these curriculum changes the government in England required that pre-service teachers were able to meet the standards for Qualified Teacher Status (TDA, 2007). One standard (21, a) specifically relates to promoting the health and well-being of pupils, stating that pre-service teachers should: *a) Be aware of the current legal requirements, national policies and guidance on the safeguarding and promotion of the well-being of children and young people, and b) Know how to identify and support children and young people whose progress, development or well-being is affected by changes or difficulties in their personal circumstances, and when to refer them to colleagues for specialist support.* In addition some standards deal with professional attributes which are part of the overall requirements of a teacher, such as having respect for one's students and creating a positive learning environment, these have particular pertinence for teachers as health promoters and were recognized as essential elements of successful health education (Paakkari *et al*, 2010).

However, merely meeting and evidencing particular competencies is regarded as a technical/functionalist approach to teacher education (Pollard, 2005). Furthermore Mead (2011:19) argues that a technical /instrumental approach to pre-service teacher education without the opportunity to reflect upon and develop professional values, 'can potentially weaken the intrinsic relationship between teachers' values, ownership of professional knowledge and pupil well-being'. From our perspective this approach will not result in pre-service teachers that are effective health promoters wherever in the world they may be training to teach.

The model of teacher education that underpins the course described in this paper encompasses a more liberal view of teacher education (Dewey, 1933) despite the competency based curriculum model imposed by the government (DfEE, 1998). Firstly, the notion of critical reflection (Schön, 1983) that has for some time been seen as an essential aspect of teacher education (Calderhead 1993) is embedded in all elements of the course. This involves pre-service teachers reflecting on and evaluating their practice, so that they move away from the early stages of teacher development, survival and technical competence, to become reflective about what they are doing and apply meta-cognitive skills in order to improve professionally (Pollard, 2005).

Secondly, learning seen as a socially constructed process in which knowledge is constructed by the learner through dialogic engagement with others (Vygotsky, 1962), and through experience (Dewey, 1933; Kolb, 1984). This approach using group work to negotiate a personal social and health education (PSHE ) lesson with their peers was shown to be successful in increasing pre-service teachers' confidence to teach PSHE in Wales (Thomas and Jones, 2005). Learning may also occur with a more knowledgeable other such as a mentor in school or university tutor, who scaffold the learning process via interactional support to facilitate learning. This approach was adopted in the development of this new health promotion curriculum component. We believe these philosophical and theoretical views of education are not specific to the English context but could be applied more widely.

The pilot discussed below aimed to address any gaps in health and education competencies and attempted to ensure that the approach taken to meet them was congruent with the overall philosophy outlined above.

## **METHODS**

### **Overview**

A mixed methods approach was used both for the previous review (Speller et al, 2010, discussed above) and for the further mapping and evaluation of the revised curriculum that resulted and is reported here, which was evaluated qualitatively and quantitatively via focus groups, questionnaires and an examination of the pre-service teachers' health education portfolios.

### **Pilot project design**

The project included mapping of the existing curriculum to identify gaps in provision, design and inclusion of new taught elements to improve knowledge and skills regarding health and wellbeing, a pre and post-course longitudinal survey of students' knowledge and attitudes, and process evaluation of impact and acceptability of curriculum changes.

### **Mapping the PGCE curriculum against health and wellbeing competencies**

The secondary PGCE course was generally subject specific, introducing an increased holistic component in the form of health promotion to the curriculum was considered as a mechanism to support the pre-service teachers in their wider school professional role. The PGCE programme had both a university-based and a school-based element. The university-based part of the course included one hour lectures and follow-up seminars for the whole cohort on education and children's policy. These taught sessions included information about the current health and education policies for children and young people in England (e.g. Every Child Matters (ECM) (Department for Education and Skills, DfES, 2005), and some aspects of personal, social, health and economic education (PSHEE), as well as information on specific

topics, or on vulnerable groups, (e.g. special educational needs, child protection, and health and safety). Some specific vulnerable groups were referred to in several sessions but without obvious connections being made between them or to a wider population context. Those studying Science also had a 1.5 hour session on sex and drug education, and Physical Education specialists received a one hour lecture on health and exercise.

Evidence from this mapping of the curriculum suggested that although many of the lectures could be associated with child health and health education, these connections were not being made explicit by tutors or students; whilst only some of the cohort received input on specific health related topics. Table 1 shows an overview of the result of the mapping exercise and highlights the considerable gaps in the curriculum at that time. The curriculum appeared to lack coherence in both the amount of health education different groups within the cohort received and ineffective links between different inputs. Furthermore, the overall mode of delivery of these sessions was didactic (i.e. information was transmitted from tutor to student in a top down manner, rather than provided in an enabling and developmental environment.)

INSERT TABLE 1 ABOUT HERE

The school-based element of the PGCE course included an assessed piece of work testing the pre-service teachers' knowledge of the policies enshrined in The Every Child Matters document (DfES, 2005) and inviting them to reflect on how their first placement school had responded to this policy agenda. A 'Professional Themes' programme that covered elements of personal social and health education (PSHE) was also part of the school-based element of the course, but the content varied widely from school to school. Other opportunities to engage with health education, for example PSHE lesson observation, a health day or week in school were only available opportunistically and were not assessed. The school-based elements of the course were therefore highly variable, and some pre-service teachers may have received very little about health education whilst they were on placement. Whilst it

is recognised that the public health competencies are not mandatory, several which could be valuable to teaching are missing entirely from the programme, and there was an over reliance on school placements to make up for much of the shortfall in the University-based health related elements of the programme.

Furthermore, some of the public health competencies were addressed only tangentially as part of the professional role of a teacher. Generic skills and knowledge may be gained but as the focus was not necessarily on health this knowledge and associated skills may not be transferred unless the links and connections are made overtly. The mapping exercise showed that, even at the level of raising awareness of pre-service teachers' knowledge, understanding and skills in relation to health, the existing curriculum did not provide a coherent or systematic coverage of health promotion.

### **Next steps**

The results from this mapping exercise, plus the results of the 2008-09 longitudinal survey were used to inform the development of a new health promotion component in the curriculum to be introduced in the following academic year. A focus group was also held in June 2009 with five pre-service teachers to help inform the design of the new curriculum. Sessions were audio-recorded and transcribed. While science secondary students reported that they had received some health inputs on the course, and some health related opportunities in school placements were mentioned, a number of useful suggestions were made about skills that they would have liked to have developed which could be improved in future training. These included the following topics which were incorporated into the curriculum change:

- practical guidance on how to teach health topics;
- how to tackle questions and discussion on sensitive issues such as drugs and sex education;
- practical aspects of health education such as first aid, as this pre-service teacher indicated, *'I haven't even got basic first aid! So even the most rudimentary first aid training would be helpful'*;

- cross-curricular themes; the importance of staff health, including mental well-being, keeping fit and role modelling;
- physical activity.

### **Embedding health promotion in the pre-service teacher curriculum**

The new health promotion curriculum was developed through collaboration with colleagues from health and education disciplines and launched at the beginning of the academic year 2009-10. The overall aims of the new curriculum were to provide *all* the secondary PGCE students with a coherent programme of health education that would enable them to develop knowledge and skills and a more positive attitude towards their future roles as health promoters. Specific objectives were

- to provide pre-service teachers with a clearer understanding of their role as health promoters and the knowledge and skills to deliver health education and PSHE lessons;
- to provide opportunities to reflect on their own learning and their attitudes towards health issues;
- to help them gain confidence and competence about teaching health related issues.

The new curriculum embraced a range of pedagogical approaches including an interactive health education lecture, an interactive health day involving many different health professionals and practitioners, optional school-based tasks and a reflective portfolio of evidence. The standards for qualified teacher status in England especially standard 21a, and selected public health competencies, both discussed earlier, were more explicitly addressed as a result of these changes. The two hour introductory lecture was delivered jointly by colleagues from health and education at the start of the course in September to all 240 secondary pre-service teachers. The overall aim of this was to raise the pre-service teachers' awareness about their role as health promoters and provide them with some theoretical understanding about health and well-being. It introduced models of health, social determinants of health and the relationship between health and educational outcomes. As a post lecture

task students were invited to reflect on their role as a potential teacher of PSHE/health education.

The interactive health day held later in the course was a multi-disciplinary and multi-agency event involving support and contributions from multiple sources. This was planned for January 2010 before the students began their second school placement. As the PGCE course has only eight days during the academic year for professional themes the allocation of a whole day was a considerable investment in teaching time. A wide range of personnel from local health and education services, charities and voluntary groups, provided either lectures or interactive workshops, or manned exhibition stalls. Workshops were run on issues such as sex and relationships education ('Building confidence in teaching about sensitive issues' and drugs education), emotional health and wellbeing, healthy lifestyles (healthy eating and physical activity), and child health information. The overall aim was to increase pre-service teachers' expertise and skills in the delivery of health education and PSHE, and raise their awareness about support available from external agencies, such as sexual health and drug education services.

The intention was that pre-service teachers would acquire new skills and knowledge, and gain confidence in dealing with sensitive topics, and increase their awareness of effective collaborative working through a better understanding of who does what in improving population health and well-being including the relationships between different organisations. Unfortunately during the night before heavy snow fell causing disruption across the area and a number of facilitators and exhibitors were unable to travel. Out of 240 students expected, 137 (57%) managed to attend, but the day was shortened for safety reasons.

The pre-service teachers were further invited to reflect on their learning and what they had gained from the day and include this in a portfolio of evidence.

The remaining element of the new curriculum involved students actively engaging in health promotion activities whilst they were undertaking school placements, such as:

finding out about school health related policies and how they were implemented, how health education is organized, managed and delivered, and engaging in some health education lessons. All of these could contribute to evidence that students were invited to include in their portfolio for submission at the end of the programme, to demonstrate competence against the QTS standards and public health competencies. For the pilot year this was a voluntary activity.

### **Project process and outcome evaluation**

#### ***Process evaluation of impact and acceptability of curriculum changes.***

A focus group was held with three pre-service teachers in December 2009 who had received the health education lecture at the beginning of the course, but not the health day scheduled for the following month. At that point they felt that while the lecture had been useful, this interviewee suggests that more detail was needed about, *'the importance of PSHE for the future'* and more specific information on how to teach PSHE, and sex education. For example another interviewee stated that, *'I would like to know **how** to teach sex education-it would be good to learn this in the university course and strategies for PSHE'*. Experience in placement schools was varied with some lack of awareness of healthy schools and of whether PSHE was taught at all. The importance of understanding the relationship between health and well-being and educational outcomes was highlighted by this interviewee, *'some students need to understand the link between a healthy mind and a healthy body'*.

All the focus group interviewees indicated that they would like to develop confidence in teaching skills, such as knowing more about how to handle difficult or uncomfortable situations. They also emphasised the importance of staff health, how to prevent stress, and how to deal with other people who were stressed. In this introductory year the 'portfolio' of health related tasks was voluntary, students however felt strongly that it should be compulsory to ensure that they undertook school-based tasks to consolidate their learning.

#### ***Health Day January 2010 evaluation***

52% of the attendees at the health day returned evaluation forms (71/137). The workshops and content of the event were rated highly despite the adverse snow conditions. The workshops on SRE, entitled 'building confidence in teaching about sensitive issues' and on 'emotional health and well-being', which included discussions of both staff and pupil health scored very highly (average score = 4.2/5).

Participants were asked to state two new things they had learned from the event. Responses indicated a greater understanding of the determinants of health, for example as this pre-service teacher commented, *'that school alone cannot change child health issues; the problems are more likely to lie 'upstream''*, and as another stated, that they were *'more aware of where to direct young people'* if they needed to. There was also increased awareness of a number of issues, for example:

- emotional health and wellbeing including bullying (38%) and the *'importance of my own emotional well-being'*;
- sex and relationships (28%), including *'new strategies for dealing with pupil's questions around SRE'* ;
- appropriate resources to use (24%) and *'opportunities for including health education in lessons'*;
- child health data (23%);
- social and emotional aspects of learning (SEAL) (19%).

Asked in which ways they felt more confident about teaching health and well-being, respondents nominated:

- knowledge and ideas on teaching PSHE and using SEAL (32%), and having *'ideas to promote emotional health and well-being in class'*.
- teaching SRE (*sex and relationships education*) and responding to pupils' questions on sensitive issues (28%);
- where to find resources (27%)
- the support available from external agencies (14%).

Asked which two actions they would take as a result of attending the health event, 31% stated that they would put ideas into practice or observe more PSHE and they would '*experiment with circle time*'; many said they were committed to finding out more about health by looking at reference materials (20%) or websites (17%); and finding out more about SEAL (27%). Also noted were intentions to put the learning into action in their school placements by finding out more about their next placement school (14%) and making notes or plans on applying information and ideas (10%) or completing the portfolio.

### ***Pre and post-course longitudinal survey***

Following the 2008-09 survey previously reported, a questionnaire was administered to all secondary PGCE pre-service teachers (n=249) at the commencement of the course in September 2009 and near completion in June 2010. The questionnaire was modified to focus more explicitly on what pre-service teachers thought should be included in a health education programme, their confidence to teach health related issues and views about how this should be taught. The baseline questionnaire was distributed during the health lecture, the follow-up during tutor time; written and oral explanations that participation was voluntary were given on both occasions. Consent was given on return of a completed questionnaire; 241 (96.8%) completed the baseline questionnaire; 171 (81.4%) of those who completed the course completed the follow-up questionnaire; 165 students (78.6%) completed both. The sample was predominantly female (f. 66%. 107; m. 34%, 56), with a mean age of 25.8 years (SD: 7.26, 21-56).

The pre-service teachers were asked at both time points to rate on a scale of 1-6 how important they felt it was that the course included training on a list of selected health related issues and also how confident they were to teach or lead on these topics. Frequencies and percentages were produced for the binary responses of very important / important (scored 1, 2 or other), very confident/ confident (scored 1, 2 or other) and disagreed or not (scored 5, 6 or other) at both baseline and follow-up, in the subgroup of teachers that completed both questionnaires. The number of teachers who changed the state of their response in both a positive and negative

direction is indicated and this change in state was tested using a McNemar's test (Tables 2 and 3).

The results at baseline and follow-up (Table 2) show that most pre-service teachers considered 'child protection', 'anti-bullying', 'working with parents', and 'social, emotional and mental health' to be most important, although at the end of the course these ratings had all dropped, for 'anti-bullying' and 'social, emotional and mental health' significantly. However, although ranked lower in importance, some other topics were rated as more important at the end of the course. These included 'staff health/well-being', 'alcohol', 'safety/accident prevention' and 'healthy school environment', although none of these changes reached statistical significance.

INSERT TABLE 2 AND 3 ABOUT HERE

Table 3 shows the pre-service teachers ratings of their confidence in their ability to either teach or take a lead on the same list of selected health related issues. Feeling 'confident' or 'very confident' to teach or take a lead in 'child protection' and 'anti-bullying' increased significantly by the end of the course. Pre-service teachers also felt increased confidence to tackle a number of other topics although the changes did not reach statistical significance. These included: 'working with parents'; 'social, emotional and mental health'; 'drugs'; 'sex and relationships'; 'smoking'; 'staff health/well-being'; and 'healthy school environment'.

Asked what training methods they found most helpful in increasing their confidence to teach health issues, items ranked 1 (most helpful) and 2 (helpful) were, in order: 'by having to teach it' (70%); 'by attending workshops' (66%); 'by observing others' (64%); 'by speaking to experienced teachers' (57%); 'by attending lectures' (47%); 'by discussing with other teacher or their peers' (44%); and 'by role playing' (42%).

### ***Portfolios June 2010***

Although the school-based activities and completion of the portfolio were optional, over eighty-five percent (n=187) of the cohort undertook at least some of the

activities and almost fifty percent (n= 92) completed most of the tasks. However the submission rate was disappointingly low, only 13 portfolios out of a possible 190 (7%) were returned. As mentioned above focus group respondents indicated that it should be compulsory, to prioritise it alongside other mandatory course requirements. This comment typifies views which many of the cohort expressed, *'I'm very sorry but I'm not going to be able to do the extra PSHE project as I had promised... It was a great opportunity and I really wish I had been able to do it'*.

Nevertheless, the completed portfolios were of a high standard and indicated that the pre-service teachers had engaged thoroughly with all aspects of the new health education curriculum. Many had reflected deeply about the importance of health education in school, *'Young people who are more educated are more likely to be health aware, more likely to take on health messages and hence more likely to be healthy and hence have greater motivation and ability to learn - a complete circle'*; and on their role as health promoters, *'As a potential teacher of PSHE I see it as incredibly important that we convey these messages to the students (and teachers) to encourage them to live healthy lifestyles and hence enhance their capacity to learn more and achieve economic well being'*.

## **DISCUSSION**

### **Overview of the results**

The pilot health promotion component of the pre-service course appears to have been successful in its overall aim to provide a coherent programme of health education. More importantly it appears to have provided these pre-service teachers with knowledge and skills that will enable them to have a more positive attitude towards their current and future roles as health promoters. We believe these changes have implications that are pertinent to all those interested in developing a more robust health education component in pre-service teacher education programmes.

Positive attitudes towards teaching health related topics are essential for the success of health education programmes wherever pre-service teachers are trained.

Davidson (2007), Leurs *et al.*, (2007) and Marks (2009) indicate that training in health education alters teachers' attitudes towards teaching health education so that they are more likely to become involved in such programmes. The pre-service teachers were positive about their future involvement in health promotion, and many stated that they intended to become more involved in PSHE when they took up their teaching posts. Importantly this positive attitude towards their role as health educators is likely to be followed up longer term as other evidence worldwide indicates (Buston, *et al*, 2002; Wight and Buston, 2003, Davidson, 2007; Leurs *et al.*, 2007; Marks, 2009). Furthermore, pre-service teachers reported improved confidence in teaching about health as a result of increased knowledge and skills (Thomas and Jones, 2005). Having teachers who are fully committed to health education programmes is vitally important to their success (Leurs *et al.*, 2007) in facilitating positive health, and in turn improved educational outcomes (Hammond, 2003; Mirowsky and Ross, 2005; Sorhaindo and Feinstein, 2006; Feinstein *et al.*, 2008).

While these results do not show a significant change before and after the pilot in many areas, they do show that the pre-service teachers considered health promotion to be an important aspect of their wider role, and that their confidence to teach or take a lead in many health related issues had increased, the latter being important when considering whole school approaches to health promotion. The teaching methods and approaches that they found to be most helpful were those we adopted in the pilot which further endorses our approach, and may well be applicable to contexts worldwide.

The pre-service teachers' responses indicated that the curriculum changes brought further beneficial outcomes including a growing understanding of the complexity of health promotion that requires multi-disciplinary/agency input (Department of Health, DoH, 2011). The need to deal with school health education in a holistic manner as part of a whole school approach has long been regarded universally as

essential to its success (e.g. Deschenes, 2010; World Health Organisation, 1997). In Finland Paakkari *et al*, (2010) showed that pre-service teachers perceive health education as a vehicle to develop their students' knowledge, skills and attitudes about health related issues holistically. Although the findings presented here are less robust it is encouraging that the pre-service teachers in this study were beginning to understand the complexity of school health promotion and had gained an appreciation of the necessity of a holistic approach for its success.

In addition the underlying philosophical and epistemological principles that the health promotion component of the curriculum was based upon appear to have had a positive impact, and are generalisable to many contexts. The pre-service teachers were given the autonomy to develop, not only knowledge and skills but also their attitudes towards health issues according to their own requirements, interests and stage of development. This approach is thought to emancipate and empower those that participate (Freire, 1972; Tones, 1985) and appears to have impacted positively on their views and opinions of health education as well as their self-efficacy (Bandura, 1977).

Furthermore, the mainly interactive non-didactic methods employed, including opportunities to practice newly acquired skills and knowledge in school, were well received. These approaches helped to scaffold the pre-service teachers' learning by working with experts and more knowledgeable others, for example the health experts and advisors during the health day and PSHE coordinators in school, as they demonstrated good practice and engaged in dialogue (Vygotsky, 1962). Experience of working in a non-threatening and supportive environment facilitated increased confidence, as well as the development of knowledge and skills (Dewey, 1933; Kolb, 1984).

Future development of the health education curriculum could also include more peer engagement to improve confidence (Thomas and Jones, 2005). It is hoped that the pre-service teachers will model this good practice in school as these positive learning environments are critical to the success of health education (Paakkari *et al*,

2010). Finally opportunities were provided to enable the pre-service teachers to critically reflect on their learning so that they could improve professionally (Schön, 1983). Certainly for some this seems to have been a valuable aspect of their experience and enabled them to consider their own practice as well as the importance of health education.

### **Changes made as a result of this pilot and next steps**

The success of the pilot has led to alterations to the pre-service curriculum in 2010-11; health promotion is now embedded in the secondary PGCE in the HEI discussed in this paper. This now includes a mandatory requirement that all pre-service teachers submit a reflective health education portfolio. This change is intended to ensure that all the pre-service teachers engage in, and benefit from, all aspects of the health promotion curriculum including the time they spend in school.

In addition during the current academic year (2011-12) health promotion was also introduced as a component for all primary pre-service teachers at the same institution. Gaining knowledge and skills during pre-service education means that teachers are more likely to feel confident in their ability to deliver health education and this will affect future decisions about their role as health promoters (Bandura, 1977). The health day in September 2011 seems to have been effective in helping the current cohort feel more prepared and confident to engage with health education, as this pre-service teacher says, *'I have found out a lot about PSHE lessons and how I can find ideas and resources to use in class. I definitely feel more confident about leading such lessons now.'* In addition reflecting on the wider role of the teacher and the values needed to promote health and wellbeing effectively appears to have been positive as illustrated by these comments: *'I understand a lot more about the pastoral role of a teacher, and will feel much more confident about teaching sex and drugs education' '...the strong link between health and wellbeing and attainment. Knowing this how to improve health and wellbeing in my classroom / the school as a whole'; 'I would take PSHE as seriously as my own subject specialism'.*

These outcomes augur well for the future of health education in school, not only in England but more broadly if these initiatives are adopted. The pre-service teachers in this study have not only become more confident about teaching health education but have also begun to reflect on their professional values that will enable them, as health promoters, to engage meaningfully with their pupils (Mead, 2011). The new Teachers' Standards that come into force in 2012 make no specific reference to health (DfE, 2011). This change will make it necessary that the knowledge and skills, and accompanying reflection on professional values for effective health promotion must be enshrined as a crucial element of pre-service teacher education, especially if these new teachers are to continue to develop their health promoting role (Davidson, 2007; Leurs *et al*, 2007; Marks, 2009; Thomas and Jones, 2005). This is now more important than ever in England in the light of proposals by the Government to remove support for PSHE in schools and to increase the role of schools in delivery of pre-service teacher education (DfE, 2010).

At a broader level inter-sectorial networking was essential in developing and delivering this curriculum. This has had a further benefit of increased joint working and a better understanding of roles across health, education and voluntary sectors which appear to have facilitated good outcomes for the pre-service teachers in the pilot. The expertise and commitment of many personnel and the interest and involvement of senior staff have all been critical to the success of the health promotion curriculum. This would not have been possible without interdisciplinary cross-faculty and cross-university collaboration. This has resulted in sustained and mutually beneficial working relationships between health, education and local providers and should more effectively support the future provision of health education in pre-service teacher training and ultimately in schools. This model to some extent mirrors the intentions that the government sets out for health promotion at a local level in *Healthy Lives, Healthy People* (DoH, 2011).

However a word of caution is needed about the future of school health promotion and the sustainability of the pre-service health programme. With an emphasis on health services becoming more responsible for health promotion, and as mentioned

earlier the removal of support for PSHE in school; teachers will, more than ever, need to be aware of the agencies that can support them in their endeavours to promote health. This programme goes some way to addressing the issue. Furthermore, changes to funding streams and employment contracts as a result of UK governmental policy changes mean that more resources are needed if the health component is to remain a permanent feature of the pre-service curriculum. On a positive note what evidence we have from the recent health day suggests that agencies and individuals are still willing and keen to support this initiative.

We will continue to improve the health promotion component of this HEI curriculum but the changes described here seem to bode well for the development of similar curricula more widely within pre-service teacher education, including primary courses. To fully understand the longer term impact further research is needed to follow-up new qualified teachers to see whether they continue to develop their roles as health promoters in the classroom and the wider school environment.

### **Strengths and limitations of the study**

The strengths of the evaluation include the use of mixed methods which have enabled further insight into the design of the curriculum changes as well as some evidence of its immediate impact. However limitations include missing follow-up data and potential lack of intervention effect as only about 50% of this cohort attended the health day due to bad weather and the follow up survey did not distinguish between those participants who had or had not experienced all elements of the pilot. Additionally the optional portfolio of school-based tasks, aimed at consolidating the learning in practice, was submitted by only a small number. There was little change in confidence in some important topic areas, e.g. nutrition and alcohol. The inclusion of workshop topics on the health day was based on generic skills such as dealing with sensitive issues, and pragmatically on availability of facilitators. Also it was not possible for all students to attend workshops on all topic areas. However these results suggest greater attention needs to be paid to coverage of these issues in the programme in the future.

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**Table 1. Overview of curriculum mapping, inclusion in curriculum of selected competencies relevant to pre-service teachers' future health promotion role.**

Competency areas selected from Public Health Skills and Career Framework (at level 3 of PHSCF)	Inclusion in curriculum
<p><b>3.1 Surveillance and assessment of the population's health and wellbeing</b></p> <ol style="list-style-type: none"> <li>1. Collect data on people and/or the health services they use, to contribute to knowledge of the populations' health and wellbeing</li> <li>2. Raise any issues with data collection or quality with a relevant person</li> </ol>	<p>Lectures</p> <ul style="list-style-type: none"> <li>-</li> </ul>
<p><b>3.2 Assessing the evidence of effectiveness of interventions, programmes and services to improve population health and wellbeing</b></p> <ol style="list-style-type: none"> <li>1. Collect evidence relating to a specific subject</li> <li>2. Contribute to the collation of evidence relating to a specific subject</li> <li>3. Recognise any invalid or inaccurate information and take appropriate action</li> <li>4. Summarise and present simple evidence</li> <li>5. Carry out specified tasks related to reviewing own area of work</li> <li>6. Apply evidence to own work</li> </ol>	<ul style="list-style-type: none"> <li>-</li> <li>-</li> <li>-</li> <li>-</li> <li>-</li> <li>-</li> </ul>
<p><b>3.3 Policy and strategy development and implementation to improve population health and wellbeing</b></p> <ol style="list-style-type: none"> <li>1. Apply policies and strategies in own role</li> <li>2. Feedback to relevant person when policies have helped or hindered people's health and wellbeing in own work</li> </ol>	<p>Lectures/School Placement</p> <ul style="list-style-type: none"> <li>-</li> </ul>
<p><b>3.4 Leadership and collaborative working to improve population health and wellbeing</b></p> <ol style="list-style-type: none"> <li>1. Contribute to the work of various teams or agencies</li> <li>2. Work as an effective team member</li> <li>3. Work effectively with other teams to improve population health and well being</li> <li>4. Communicate effectively with a range of people related to own work role</li> <li>5. Actively feedback team opportunities and issues to the relevant person</li> </ol>	<p>School Placement</p> <p>School Placement</p> <ul style="list-style-type: none"> <li>-</li> </ul> <p>School Placement</p> <ul style="list-style-type: none"> <li>-</li> </ul>
<p><b>3.5 Health Improvement</b></p> <ol style="list-style-type: none"> <li>1. Engage effectively with individuals and communities</li> <li>2. Implement specific activities within health improvement projects</li> <li>3. Communicate with people about their health and wellbeing and the actions they may take to achieve improvement</li> <li>4. Support individuals to communicate their views of and concerns about health and wellbeing, and convey these to others</li> </ol>	<p>School Placement</p> <p>Some</p> <p>Some</p> <ul style="list-style-type: none"> <li>-</li> </ul>
<p><b>3.6 Health Protection</b></p> <ol style="list-style-type: none"> <li>1. Contribute to interventions to protect health, wellbeing and safety in relation to own area of work</li> <li>2. Explain to individuals the reasons for monitoring risks and undertaking activities to protect health, wellbeing and safety</li> </ol>	<p>School Placement</p> <p>School Placement</p>

**Table 2. Proportion of secondary teacher trainees at the University of Southampton (n=165) rating how important they felt that their course included training in selected health issues**

	Importance of inclusion of topic				
	Baseline	Follow-up	n improved/ n decreased	Number with values at both time points	McNemar p value
	n (% important/very important)	n (% important/very important)			
Child Protection	163 (99%)	131 (93%)	1 / 10	140	0.012
Anti-bullying	164 (100%)	131 (93%)	0 / 10	140	<0.001*
Working with parents	144 (88%)	110 (78%)	14 / 29	140	0.032
Social, emotional & mental health	159 (98%)	122 (87%)	2 / 18	138	<0.001
Drugs	126 (77%)	107 (76%)	20 / 22	140	0.878
First Aid course	128 (78%)	89 (64%)	14 / 33	138	0.008
Sex & relationships	127 (77%)	108 (77%)	21 / 23	140	0.880
Smoking	120 (74%)	107 (76%)	21 / 21	139	1.000
Nutrition	119 (74%)	84 (60%)	15 / 32	137	0.019
Staff health/well-being	105 (65%)	102 (72%)	30 / 22	138	0.332
Alcohol	112 (68%)	100 (71%)	22 / 21	140	1.000
Safety/accident prevention	116 (71%)	104 (75%)	24 / 21	138	0.766
Healthy school environment	109 (67%)	98 (70%)	25 / 21	139	0.659
Physical activity/playground activities	106 (65%)	85 (61%)	26 / 28	138	0.892
School policy development	98 (60%)	86 (61%)	27 / 27	139	1.000

\*P value from one sample Chi- square test.

**Table 3. Proportion of secondary pre-service teachers (n=165) rating how confident they are in their ability to teach or take a lead on selected health issues**

	Confidence in ability to teach topic				
	Baseline	Follow-up	n improved/ n decreased	Number with values at both time points	McNemar p value
	n (% confident/very confident)	n (% confident/very confident)			
Child Protection	34 (22%)	59 (53%)	45 / 10	106	<0.001
Anti-bullying	40 (26%)	50 (46%)	32 / 10	105	<0.001
Working with parents	40 (26%)	41 (38%)	29 / 11	103	0.006
Social, emotional & mental health	28 (18%)	40 (37%)	28 / 10	104	0.005
Drugs	56 (36%)	51 (46%)	26 / 13	105	0.053
First Aid course	52 (32%)	37 (34%)	15 / 16	104	1.000
Sex & relationships	60 (38%)	53 (49%)	27 / 13	104	0.038
Smoking	81 (52%)	69 (63%)	26 / 16	104	0.164
Nutrition	81 (52%)	56 (50%)	15 / 19	107	0.608
Staff health/well-being	31 (20%)	34 (32%)	22 / 9	103	0.029
Alcohol	74 (48%)	57 (52%)	24 / 20	103	0.652
Safety/accident prevention	50 (32%)	50 (46%)	28 / 14	105	0.044
Healthy school environment	43 (27%)	48 (44%)	30 / 10	104	0.002
Physical activity/playground activities	65 (41%)	48 (44%)	17 / 16	103	1.000
School policy development	24 (15%)	22 (20%)	20 / 12	104	0.215