INITIAL TEACHER EDUCATION

CONTENT ANALYSIS

Scottish Government
May 2017

ITE content analysis

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ITE content analysis

Executive Summary

This report is the first attempt to understand the way in which ITE providers support student teachers to develop the knowledge, skills and attributes required to be a 21st century teacher in Scotland. It should be considered a baseline study which provides evidence of one area of the ITE provision, i.e. the number of hours dedicated to each key area of literacy, numeracy, health and wellbeing, equality and data literacy.

This initial data collection exercise has shown that there are differences in the time dedicated to key areas above, both within programmes, undergraduate (primary), postgraduate (primary), postgraduate (secondary) and across the type of programme i.e. comparing dedicated number of hours to key areas across programmes.

Introduction

The vision of the education system in Scotland is that it will deliver both excellence and equity for all children. The National Improvement Framework sets out the central purposes for education, with the current key priorities being:
- Improvement in attainment, particularly in literacy and numeracy
- Closing the attainment gap between the most and least disadvantaged children
- Improvement in children and young people's health and wellbeing
- Improvement in employability skills and sustained, positive school leaver destinations for all young people

The National Improvement Framework calls for the gathering, evaluation and use of appropriate data at all levels to inform improvement across the system. The key drivers of improvement are:
- School leadership
- Teacher professionalism
- Parental engagement
- Assessment of children's progress
- School improvement
- Performance information

Scope of the data collection

The report informs a key deliverable of the Teacher Professionalism driver which states in the action plan that the Scottish Government will;

> *Publish information on the range of literacy, numeracy, health and wellbeing, data literacy and social justice coverage in initial teacher education programmes.*

The report uses information supplied by the Scottish universities offering ITE programmes. It provides an account of the number of hours dedicated to each key area of literacy, numeracy, health and wellbeing, equality and data literacy. The report will list the range of assessment strategies as reported by the ITE providers to assess attainment of student teachers during their ITE programmes. It will also list the range of pedagogy/andragogy used by ITE providers in learning and teaching to support student teachers learning and development of professional practice.

In comparing the number of hours dedicated to any key area it should be remembered that the:-

- undergraduate (primary) programme has a duration of four academic years
- PGDE (primary) and PGDE (secondary) are both of one academic year duration.

Therefore direct comparison is not possible as the undergraduate course is of a different duration and is also accredited at a different SCQF level. Comparison between PGDE (primary) and PGDE (secondary) is also of limited value as the data for PGDE (secondary) only includes 'core' dedicated contact hours and does not report on subject specific inputs.

This report is unique in that it is the first attempt to draw together the number of hours dedicated to key areas within ITE programmes and therefore a degree of caution must be allowed when interpreting any of the data.

This report does not identify individual universities at any stage of the report and does not make qualitative comparison of programmes. Instead the report presents the data in a common format of the quantitative measures of the key areas, as defined by the Deliverable 1.

In Scope

This data collection exercise is premised on reporting the quantifiable and dedicated number of hours of contact for key areas as outlined in the deliverable as literacy, numeracy, health and wellbeing, equality and data literacy. The following data is in scope for this data collection;

- Number of hours of
  - direct instruction/lectures
  - workshop attended by all students
  - tutor directed time
- Elective study programmes Assessment methodology
- Pedagogy/andragogy

Out of scope

The following data is out of scope for this data collection;

- Quality of programme content
- The number of hours dedicated to wider aspect of educational theories of learning, assessment and effective pedagogical approaches
- For PGDE secondary programme, the number of subject specific hours in the key areas of literacy, numeracy, health and wellbeing, equality and data literacy;
  - Contributions of subject specific dedicated hours are not reported as the variety across subject areas is too great to give any meaningful comparison data. For example, some subjects have a tendency to have a literacy basis, e.g. English, Social subjects and thus it would be expected student teachers in these subjects are exposed to more dedicated time to literacy.
- A description of the range of approaches used to help students develop pedagogies to support them to teach the key areas
- A rationale for any ITE programme construction
- Undergraduate (secondary) programmes – these proved to be too diverse to collate into a valid report due to the wide variation in programme structure in combined and concurrent undergraduate (secondary) programmes.

Key Findings

The key findings from the data reported by ITE providers are as follows;

Key findings

- The dedicated hours of contact for literacy, numeracy, HWB, equality and data literacy across each ITE programme is wide ranging.

- There is less variance in number of hours dedicated to key areas across post graduate (secondary) programmes.

- Numeracy generally has the lowest difference of dedicated hours within programmes.

- A wide range of assessment strategies were reported by ITE providers although there are some common features across all ITE programmes.

- A wide range of pedagogy/ andragogy strategies were reported by ITE providers.

Summary

This initial data collection exercise has shown that there are differences across both the type of programme; undergraduate (primary), postgraduate (primary), postgraduate (secondary), and the dedicated number of hours on the key areas of literacy, numeracy, HWB, equality and data literacy.

This report highlights the complexity of ITE programmes and the generally holistic approach taken within all ITE programmes, including the experiential learning in context which prepares student teachers to teach the curriculum and become professionals who are responsive to the needs of all learners. Therefore, the main finding of differences in reporting across ITE providers, both across programme type and within key areas, as outlined in the deliverable, might not be unexpected.

Key strengths

Each University provides student teachers with an experience of ITE that builds the foundations for them to begin constructing their identity and professionalism and commits them to life-long learning. ITE providers offer a range of learning experiences. They support and develop student teachers with a variety of skills and interests which arguably provides schools with skilled teachers able to meet the diverse needs of children and young people.

Further research

Teacher preparation is seen as one of the significant variables in the differences in the performance of new teachers. There is broad agreement across Scotland for the need for further research to support improvement in teacher education.

1.   Introduction

The National Improvement Framework published in January 2016 sets out the central purpose for education in Scotland, which is to create a more successful country with opportunities for all to flourish through increasing sustainable economic growth. This vision of the education system will delivers both excellence and equity in equal measure for all children in Scotland. The current key priorities for the National Improvement Framework are:

- Improvement in attainment, particularly in literacy and numeracy
- Closing the attainment gap between the most and least disadvantaged children
- Improvement in children and young people's health and wellbeing
- Improvement in employability skills and sustained, positive school leaver destinations for all young people

This aspiration for Scottish education builds on and references the recommendations of Teaching Scotland's Future (Scottish Government, 2010) (http://www.gov.scot/Resource/Doc/337626/0110852.pdf) with its ambitions to continue to invest in a highly professional and skilled workforce to support children's progress and attainment.

The National Improvement Framework calls for the gathering, evaluation and use of appropriate data at all levels to inform improvement across the system. The key drivers of improvement are:

- School leadership
- Teacher professionalism
- Parental engagement
- Assessment of children's progress
- School improvement
- Performance information
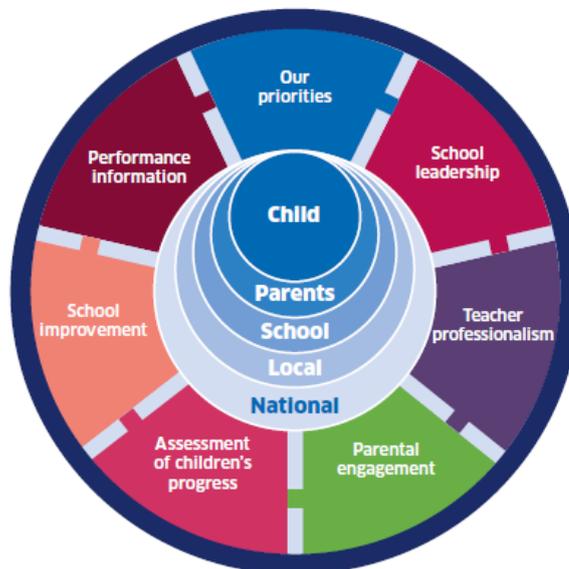
Source: National Improvement Framework 2016

The six key drivers for improvement provide a focus and structure for gathering the right type of evidence to inform the education system and minimise unintended consequences. Each key is driver equally important and all are interconnected to support continuous improvement

1.1 Teacher professionalism

Scotland already has a professional graduate teaching workforce with high professional standards, which are set by the General Teaching Council for Scotland (GTCS). These professional standards were called "an inspiring set of professional standards" which are "bold and supportive" in the recent OECD report (2015) (http://www.oecd.org/education/school/Improving-Schools-in-Scotland-An-OECD-Perspective.pdf). These Professional Standards support teachers as life-long learners to engage in on-going professional learning to continue to improve their own skills, knowledge and actions in order that they can support improved outcomes for all children and young people.

Continuing to enhance the professionalism of teachers and the quality and impact of their professional learning is fundamental to supporting attainment and achievement of all children and young people. Improvement in the professional learning of teachers was evidenced in the Evaluation of the Impact of the Implementation of Teaching Scotland's Future (Scottish Government, 2016) (http://www.gov.scot/Resource/0049/00495434.pdf) which concluded that
- Teachers are more engaged with professional learning
- There is a greater focus on the impact of professional learning on pupils
- There is a consensus that teachers are engaging in professional dialogue more often
- There is a greater willingness to try new approaches

There is a shared aspiration in Scottish education, discussed in Teaching Scotland Future (Scottish Government, 2010) for all teachers to be 'reflective, accomplished and enquiring professionals' who are experts in teaching literacy, numeracy and contributing to the health and wellbeing of children and young people.

Scottish teachers are aspiring to this 'expertise' status implementing the Curriculum for Excellence, and through the Experiences and Outcomes within the key areas that are responsibility for all, i.e. literacy, numeracy and health and wellbeing. These are taken as core elements that should pervade curriculum design and implementation. This means for example, teaching maths assumes some literacy on the part of students and anyone exploring the world in any subject ranging from English to History and beyond needs some understanding of numeracy. All teaching must be delivered with the health and wellbeing and the inherent rights of the child in mind and using all the data tools at hand to support improved outcomes for children and young people. This is further enhanced by the distinguishing features of key areas of the curriculum which require subject specific content and skills which also contribute to the key areas of literacy, numeracy, health and wellbeing, equality and data literacy.

2.   Initial Teacher Education

2.1   Policy

Teaching Scotland's Future (Scottish Government, 2010) recommendations proposed policy reform of initial teacher education to ensure that newly qualified teachers are prepared to deliver high quality teaching and learning experiences for all pupils and are committed to being life-long learners. This included developing teachers who are confident in their ability to address social disadvantage, work with additional support needs, and teach literacy and numeracy.

The National Improvement Framework's, Teacher Professionalism driver, addresses the data gathering for Initial Teacher Education (ITE) programmes' by reporting on the number of hours dedicated to literacy, numeracy and health and wellbeing, equality and data literacy. This was defined in the action plan as deliverable 1.

Deliverable 1
> *Publish information on the range of literacy, numeracy, health and wellbeing, data literacy and social justice coverage in initial teacher education programmes.*

This is a starting point to begin an evaluation of how student teachers are being prepared to teach literacy and numeracy, support children's health and wellbeing, become data literate and ensure equality across the education system. This starting point will be supported through deliverable 2.

Deliverable 2
> *Publish data on the views of newly qualified teachers, schools and local authorities on how well prepared newly qualified teachers are to teach literacy and numeracy, support children's health and wellbeing, use data effectively to enhance learning and teaching, and ensure equality.*

The report to address deliverable 2 is due for publication soon; these two deliverables will help to develop an understanding of the quality of the learning experiences of our graduate teachers and their readiness to support all children and young people.

2.2   General Teaching Council for Scotland

All Initial Teacher Education programmes across Scotland are accredited by the GTCS. The Teachers (Education, Training and Recommendation for Registration) (Scotland) Regulations 1993 required that with certain prescribed exceptions instruction in the Theory, Methods and Practice of teaching must be given by teachers registered with the Council. While these Regulations are now revoked, this specific requirement is maintained under Schedule 5 of the Public Services Reform (General Teaching Council for Scotland) Order 2011. The Order states that:

> **29** (1)   It is for the GTCS to determine what constitutes a recognised teaching qualification for individuals seeking registration as a school teacher.

> **29** (2)   A determination may make such provision about the education and training required to attain such a qualification as the GTCS thinks fit.

The guidelines for Initial Teacher Education (ITE) programmes in Scotland published in June 2013, state the overall aims for programmes of ITE is to;

"prepare student teachers to become competent, thoughtful, reflective and innovative professionals, who are committed to providing high quality teaching and learning for all pupils."

Through GTCS governance, all programmes must ensure that student teachers meet the requirements of the Standard for Provisional Registration (SPR). This is part of the Standards for Registration, a mandatory requirement for Registration with the General Teaching Council for Scotland allowing teachers to be employed by local authorities and as of October 1 2017, a requirement that all teachers recruited to the independent sector must hold GTCS registration.

The means by which such professionals will be developed is through ITE programmes whose design match the requirements set out by the Quality Assurance Agency for Higher Education and the Standard for Provisional Registration in Scotland. These programmes will support students to develop subject specific knowledge and understanding, skills, abilities, and dispositions but also to have a wider view of education that keeps the child at the centre and understands that on-going professional learning is vital to enable teachers to support improvement and improve the life chances of all of our children and young people.

2.3   University Programmes

Across Scotland, eight Universities and the Royal Conservatoire of Scotland offer Initial Teacher Education programmes. ITE aims to produce adaptable, flexible teachers who are able to collaborate and cooperate with other professionals and are ready to the face challenges of teaching in the 21st century through a commitment to life-long learning. This is underpinned by theoretical knowledge of purposes, principles and practices of education, which supports student teachers to develop skills in curriculum, pedagogy and assessment in order to meet the needs and interests of children and young people. The site based learning/placements in schools enables student teachers to connect theory to practice, developing professional expertise and deep knowledge of the complexities of schools and their place in their community.

A key component of all ITE programmes is professional values and what these mean for student teachers as they develop their practice and professional identity. Student teachers develop an in-depth understanding of the complex processes of learning by engaging with theory, research and practice. Through these experiences student teachers develop the capacity to become transformative teachers who make a positive impact on the outcomes for learners and have the capacity to become future leaders of the profession.

To continue to attract talented graduates and to broaden the routes into teaching, John Swinney, Deputy First Minister and Cabinet Secretary for Education and Skills, in November 2016, unveiled plans for new innovative ways of developing teachers of the future, backed by over £1 million from the Scottish Government Attainment Fund.

The plans put forward by the Scottish Council of Deans of Education include the following;

- Integrated routes combining PGDE and Induction year
- Undergraduate programme to include Home economics
- Joint degrees with secondary specialism (increasing the number of qualified teachers in technologies, physics and chemistry)
- Primary specialisms (graduate primary teachers with additional subject specialisms including, literacy, numeracy, additional support needs and STEM subjects and teaches who can teach P6 and S3 in mathematics)

- Current local authority employees into education (expand existing programmes)
- Returners to teaching programme
- Newly qualified teachers from Ireland, particularly in STEM subject

GTCS has made contact with and offered support for ITE providers of these new innovative routes and a planned programme of accreditation is underway. Two of these programmes have recently achieved accreditation.

2.4   Quality assurance

At present the quality of ITE programmes are measured at the input stage through both University procedures and accreditation by the General Teaching Council for Scotland. Although Universities have internal means of quality assurance for their programmes, these systems do not include any measurements of the quality of graduate teachers as they begin their induction year. With a focus on teacher professionalism, the National Improvement Framework is helping to initiate a conversation around how to ensure and monitor the quality of graduate teachers and teacher education across our education system.

3   Scope of the data collection

ITE in Scotland is generally considered to be of a high standard, in the recent *Complete University Guide 2018*, (www.thecompleteuniversityguide.co.uk) Scottish Universities filled 5 of the top 8 places (n=77) for the whole UK, however, there is no collated evidence that supports a holistic understanding of the quality of the many differing programmes available for student teachers. One common perception across the teaching profession is that ITE does not contain enough focus on key areas of priority such as literacy, numeracy and health and wellbeing.

Eight Universities across Scotland and the Royal Conservatoire of Scotland offer Initial Teacher Education programmes of study. The number of programmes accredited by the General Teaching Council at present is 33 with a further 9 programmes awaiting accreditation.

This report will focus on accredited undergraduate (primary) programmes, postgraduate (primary) and postgraduate (secondary) programmes offered across Scotland, see table 1, and will exclude any undergraduate (secondary) programmes, any flexible entry or top-up programmes for teaching qualifications.

An overview of teacher education programmes offered by ITE providers is captured in table 1.

Table 1 – Overview of ITE programmes by ITE providers

University	Undergraduate (primary)	PGDE (primary)	PGDE (secondary)
University of Aberdeen	✓	✓	✓
University of Dundee	✓	✓	✓
University of Edinburgh	✓	✓	✓
University of Glasgow	✓	✓	✓
University of Highland and Islands	✗	✓	✓
University of Stirling	✓	✗	✗
University of Strathclyde	✓	✓	✓
University of West of Scotland	✓	✓	✓
Royal Conservatoire of Scotland	✗	✗	✗
Total number of ITE providers	**7**	**7**	**7**

Note – Royal Conservatoire of Scotland offer a BEd Music programme, therefore as an undergraduate (secondary) qualification this is beyond the scope of this report.

3.1   The report

This report has been compiled using information supplied by the Scottish universities offering ITE programmes. It provides an account of the number of hours dedicated to each key area of literacy, numeracy, health and wellbeing, equality and data literacy. The report will list the range of assessment strategies as reported by the ITE providers to assess attainment of student teachers during their ITE programmes. It will also list the range of pedagogy/andragogy employed by ITE providers in learning and teaching to support student teachers learning and development of professional practice.

This report does not identify individual universities at any stage of the report and does not make qualitative comparison of programmes. Instead the report presents the data in a common format of the quantitative measures of the key areas, as defined by the deliverable 1.

In comparing the number of hours dedicated to any key area it should be remembered that the undergraduate (primary) programme has a duration of four academic years and both PGDE (primary) and PGDE (secondary) are both of one academic year duration. Therefore direct comparison is not possible as the undergraduate course is of a different duration and is also accredited at a different academic level. Comparison between PGDE (primary) and PGDE (secondary) is also of limited value as the data for PGDE (secondary) only includes 'core' dedicated contact hours and does not report on subject specific inputs.

A holistic approach is taken by all ITE providers to support student teachers develop skills and knowledge in teaching keys areas that are the responsibility of all. As such, literacy, numeracy and health and wellbeing, equality and data literacy are embedded across all learning in ITE programmes. Therefore, the figures quoted in the report are indicative as they only account for the number of hours ITE providers dedicate to the key areas of literacy, numeracy, health and wellbeing, equality and data literacy. These figures do not incorporate the following factors of ITE programme design:

- Many programmes of study incorporate and embed the *'responsibilities of all'* into other units/topics/modules of work thus modelling to students how they can meet their responsibilities for literacy etc. in their practice

- The number of hours students will consider *'responsibilities of all'* as part of their professional practice placements. This is a significant proportion of time as students following the PGDE route spend 50% of their time on site based learning/school placement and those following the undergraduate route spend at least 30 weeks in schools
- All programmes of study consider the wider curriculum and introduce students to theories of learning, assessment and effective pedagogical approaches
- Following the publication of 'Teaching: Scotland's Future' (Scottish Government, 2010) undergraduate initial teacher education programmes have provided a wider and richer learning experience so that time is embedded into programme design for students to study modules out with their discipline

This report is unique in that it is the first attempt to draw together the number of hours dedicated to key areas within ITE programmes and therefore a degree of caution must be allowed when interpreting the data.

The number of hours student teachers attend university as part of their ITE programme has not changed in essence. However, the expectation of policy and curriculum dictates that, in addition to literacy and numeracy, other key areas such as health and wellbeing, equality and data literacy now have more prominence within ITE programmes. This may be a contributing factor to the reported number of hours reported for 'traditional core' of literacy and numeracy as time is found to accommodate these 'new' key areas.

3.2   In Scope

This data collection exercise is premised on reporting the quantifiable and dedicated number of hours of contact for key areas as outlined in the deliverable as literacy, numeracy, health and wellbeing, equality and data literacy. The following data is in scope for this data collection;

- Number of hours of
    - direct instruction/lectures
    - workshop attended by all students
    - tutor directed time
- Elective study programmes
- Assessment methodology
- Pedagogy/andragogy

3.3   Out of scope

The following data is out of scope for this data collection;

- Quality of programme content
- The number of hours dedicated to the wider aspect of educational theories of learning, assessment and effective pedagogical approaches
- For PGDE secondary programme, the number of subject specific hours in the key areas of literacy, numeracy, health and wellbeing, equality and data literacy;
    - Contribution of subject specific dedicated hours are not reported as the variety across subject areas is too great to give any meaningful comparison data. For example, some subjects have a tendency to have a literacy basis, e.g. English, Social subjects and thus it would be expected student teachers in these subjects are exposed to more dedicated time to literacy.

- A description of the range of approaches used to help students develop pedagogies to support them to teach the key areas
- A rationale for any ITE programme construction
- Undergraduate (secondary) programmes – these proved to be too diverse to collate into a valid report due to the wide variation in programme structure in combined and concurrent undergraduate (secondary) programmes.

4   Data collection

4.1   Approach

This was conducted between July 2016 and March 2017 using a quantitative data collection approach. This approach used a structured data collection instrument that was created to collect data from diverse experiences into predetermined response categories. This approach was taken to generate data which could be easily summarised, compared and generalised.

4.2   Data collection exercise

A meeting was convened with each Dean of Education of the ITE universities or their representative to initiate a discussion around the parameters of the data gathering exercise and to address the Deliverable 1;

> *"Publish information on the range of literacy, numeracy, health and wellbeing, data literacy and social justice coverage in initial teacher education programmes"*

During these meeting it was discussed that all ITE provider colleagues may not have the same definition for each key area, particularly data literacy. With support from colleagues at the University of Dundee, definitions were created which were added to the data collection instrument. These definitions were endorsed by the Scottish Council of Deans of Education.

The structured data collection instrument was created with support from the University of West of Scotland. This data collection instrument (appendix 1) asked for the following data in each key area;
- the total number of hours of explicit instruction
- the assessment methodology used to assess student learning
- pedagogy/andragogy modelled to support student learning.

Due to the range of responses, the data was returned to the Dean of Education or their representative in a simplified data collection instrument for validation to ensure the data was an accurate representation of their programmes. This on-going dialogue supported transparency and uniformity of reporting and allows the data to be reported as a whole with no identifiers.

A final round of meetings with each Dean of Education or their representative was completed in partnership with the Education Scotland link officer for the University. This meeting presented an opportunity for university colleagues to ensure that the data collected was an accurate representation of their ITE provision.

5   Data analysis

5.1   Comparison by ITE programmes

The routes into teaching encompassed within this study are combined undergraduate degree (primary), Postgraduate diploma in Education (primary) (PGDE primary) and Postgraduate diploma in Education (secondary) (PGDE secondary).

A combined degree, such as an undergraduate primary qualification, is one where the teaching qualification is awarded within the degree. A combined degree must involve four academic years of full-time study or equivalent part-time study. At least 30 weeks must be devoted to site based learning/school/educational placement experience. More than half of this experience should occur in the final two years of the programme, with a substantial block taking place in the last year.

Postgraduate Diploma in Education (PGDE primary)/PGDE secondary)) must be a full-time programme lasting for a minimum of 36 weeks, or the equivalent on a part-time basis. At least 50% of the programme must be devoted to site based learning/school/educational placement experience which should take place in each school term with a block of at least 4 weeks taking place towards the end of the programme

Each ITE provider reported the number of hours of dedicated contact hours for students, this includes direct instruction/lectures, workshops and tutor directed time, for the key areas of literacy, numeracy, health and wellbeing (HWB), data literacy and equality.

5.1.1 Undergraduate (primary)

There are seven providers of undergraduate education (primary) across Scotland, see table 2.

Table 2 – Undergraduate (primary) ITE providers

ITE provider	Programme
University of Aberdeen	MA Primary Education
University of Dundee	MA Primary Education
University of Edinburgh	MA Primary Education with subject specialism MA Gaelic with Primary Education
University of Glasgow	M Educ with Teaching Qualification (Primary) MA Primary Education
University of Stirling	BA Primary Education with subject specialism BA Early Years (Primary Education)
University of Strathclyde	BA (Hons) Primary Education
University of West of Scotland	BA (Hons) Primary Education

Graph 1 provides an overview of the data with upper and lower limits, and the mean number of hours dedicated to key areas across ITE providers of undergraduate primary education programmes.

Graph 1 - Number of dedicated hours for each key area

(Note- the number of hours is the combined number of hours from year 1 to year 4 as reported by each ITE provider)
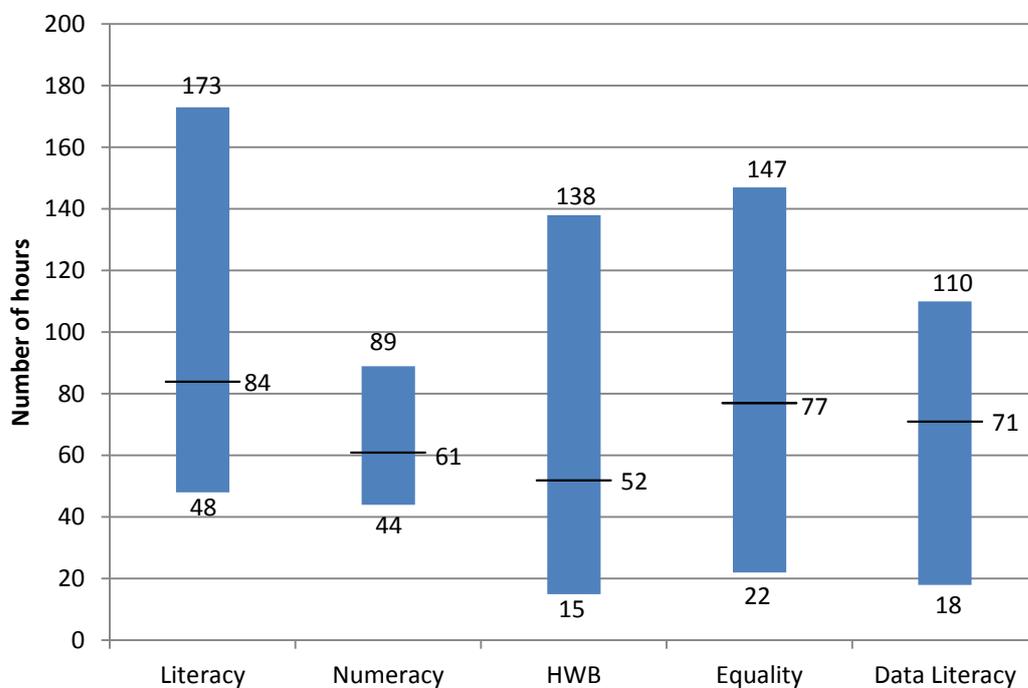
In comparing the mean number of dedicated hours across the key areas, as can be seen in graph 1, there is a marked difference between the number of hours dedicated to each key areas. From the mean data, 84 hours are dedicated to literacy compared with 52 hours dedicated to health and wellbeing, this is a difference of 32 hours of dedicated hours for these key areas.

The average number of dedicated contact hours reported by ITE providers of undergraduate (primary) programmes is; for literacy is 84 hours and for numeracy is 61 hours. Given both literacy and numeracy are of the highest priority, this raises questions of equivalence in student teachers opportunity for learning in these key areas.

Graph 2 shows the range of dedicated hours in each key area across ITE providers displayed from highest number of dedicated hours to lowest number of dedicated hours.
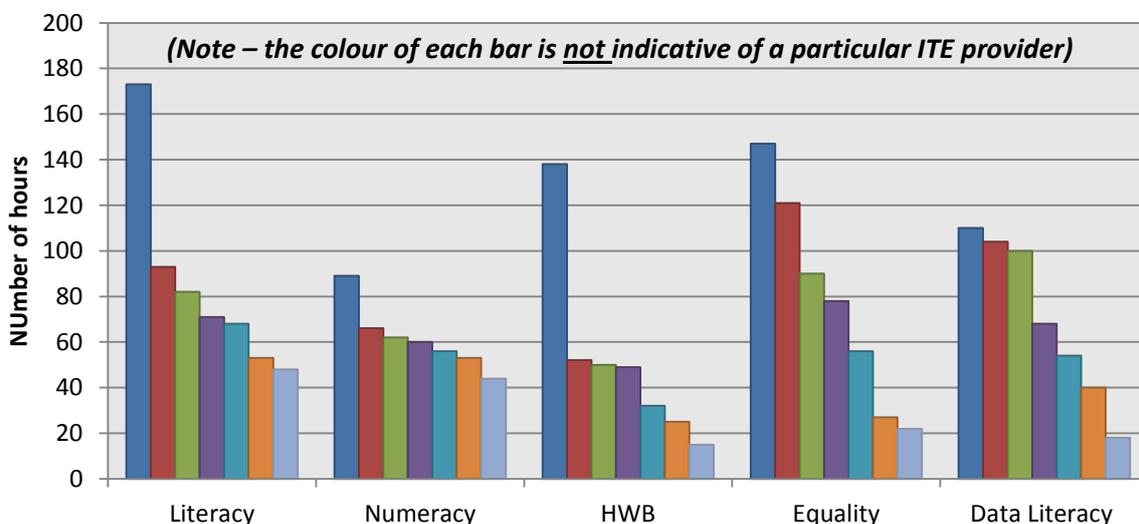
Graph 2 – Range of hours dedicated to each key area (highest to lowest)

It can be seen from graph 2 that within the provision for literacy across the ITE providers, one University reported an uncharacteristically high number of hours dedicated to this key area in comparison to other providers. The same can also be said for the provision of HWB with one ITE provider reporting an unusually high number of dedicated hours in comparison to other ITE providers.

Given that the undergraduate programme has duration of four years, it is notable that the number of hours dedicated to some key areas such as health and wellbeing, which is a responsibility of all, is as low as 15 hours of dedicated contact time. This may be mitigated by some ITE providers offering elective programmes of study. These elective programmes of study supports personalisation and choice for student teachers and helps student teachers to increase their knowledge, skills and abilities in areas of particular interest.

Although there is a significant range the number of hours dedicated to key areas across undergraduate (primary) ITE programmes, table 3 shows that there is a smaller variation between ITE providers in the number of hours dedicated to numeracy, however a range of 45 hours is still significant in terms of learning opportunity for student teachers.

Table 3 – Overview of undergraduate (primary) dedicated hours for key areas

Content area	Number of hours			
	High	**Low**	**Mean**	**Range**
Numeracy	89	44	61	45
Data Literacy	110	18	71	92
HWB	138	15	52	123
Literacy	173	48	84	125
Equality	147	22	77	125

Literacy and equality both have the highest range of 125 hours. For literacy the range is greatly influenced as one provider reported considerably more dedicated hours in this key area.
The same is true for equality from a different ITE provider. The range for HWB of 123 hours is also high.

5.1.2 Elective programmes of study

All ITE providers offer some elective programmes of study allowing student teachers to personalise their learning experience and to explore further some of the key aspects of the curriculum, table 4 shows the elective programmes of study offered by ITE provider.

Table 4 – Elective programmes of study offered by ITE providers

Elective programme of study	Number of ITE providers offering this elective programme of study
Literacy	5
Numeracy	5
Health and Wellbeing	6
Equality	4
Data literacy	1

5.2   Postgraduate diploma (primary)

There are seven providers of a post graduate qualification in education (primary) across Scotland, see table 5.

Table 5 – Postgraduate (primary) ITE providers

ITE provider	Programme
University of Aberdeen	PGDE Education (Primary)
University of Dundee	PGDE Education (Primary)
University of Edinburgh	PGDE Education (Primary)
University of Highlands and islands	PGDE Education (Primary)
	PGDE Education (Gaelic Medium) Primary
University of Glasgow	PGDE Education (Primary)
University of Strathclyde	PGDE Education (Primary)
University of West of Scotland	PGDE Education (Primary)

Graph 3 provides an overview of the data reported by ITE providers with upper and lower limits, and the mean number of hours dedicated to key areas across ITE providers of postgraduate primary education programmes.

Graph 3 - Number of dedicated hours to each key area
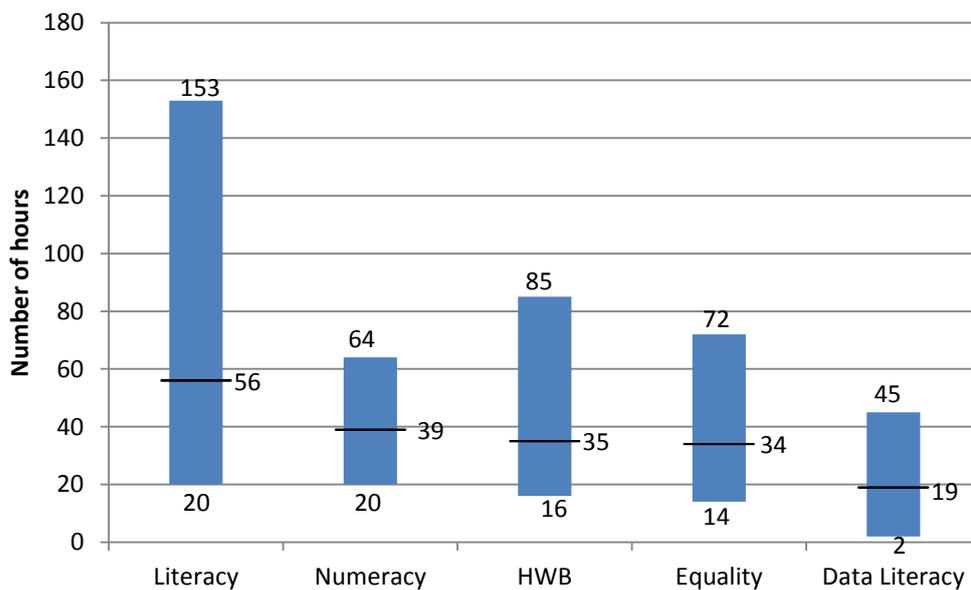
In comparing the mean number of dedicated hours across key areas, as can be seen in graph 3, there is a difference between the number of hours dedicated to each key areas. From the mean data, 56 hours are dedicated to literacy compared with 19 hours dedicated to data literacy, this is a difference of 37 hours of dedicated time for these key areas.

The average number of dedicated contact hours reported by ITE providers for literacy is 56 hours and numeracy is 39 hours for the ITE postgraduate (primary) programme. As with the undergraduate

(primary) programmes this difference raises questions of equality of opportunity for student teachers to explore and learn about these key priority areas.

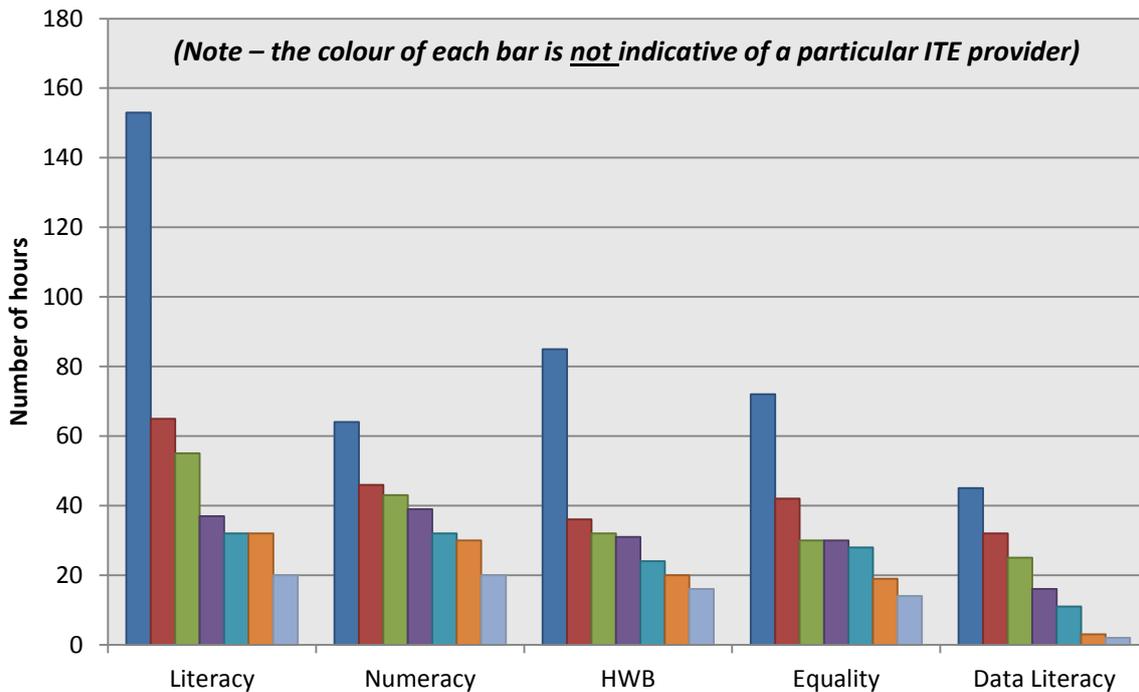Graph 4 shows the range of dedicated hours reported in each key area across ITE providers of postgraduate (primary). These are displayed from highest number of dedicated hours to lowest number of dedicated hours.

Graph 4 – Range of hours dedicated to each key area (highest to lowest)

It can be seen from graph 4 that within the provision for literacy across the ITE providers, one University has reported a particularly high number of hours dedicated to this key area in comparison to other providers. This pattern of one provider reporting particularly high numbers of dedicated contact time is repeated for both HWB and equality.

Literacy has the highest range of 133 hours, however again the range is greatly influenced as one provider reported considerably more dedicated hours in this key area.

Table 6, shows there is a smaller variation across postgraduate (primary) ITE programmes in the number of hours dedicated to data literacy. The key area of literacy shows the highest variation in number of dedicated hours across ITE providers for postgraduate (primary) programmes.

Table 6 – Overview of postgraduate (primary) dedicated hours for key areas

Content area	Number of hours			
	High	**Low**	**Mean**	**Range**
Data Literacy	45	2	19	43
Numeracy	64	20	39	44
Equality	72	14	34	58
HWB	85	16	35	69
Literacy	153	20	56	133

It is worth noting that the lowest reported dedicated contact hours for data literacy was reported as 2 hours. This is unexpected given the current emphasis in policy on using data to inform and support pupils learning needs and the commitment of ITE providers to provide students with a foundation on which to move forward in their teacher journey as 'enquiring professionals'.

5.2.1   Elective programmes of study

Elective programmes of study allow personalisation and choice for student teachers and support them to increase their knowledge, skills and abilities in areas of particular interest. Only one ITE provider reported that they offered elective programmes of study as part of the PGDE (primary) programme. The elective programmes of study are offered in the key areas of literacy, numeracy and health and wellbeing.

5.3   Postgraduate diploma (Secondary)

There are seven providers of a postgraduate qualification in education (secondary) across Scotland, see table 7. For a fuller description of the subjects offered by each ITE provider, see appendix 2.

Table 7– Postgraduate (secondary) ITE providers

ITE provider	Programme
University of Aberdeen	PGDE Education (secondary)
University of Dundee	PGDE Education (secondary)
University of Edinburgh	PGDE Education (secondary)
University of Highlands and Islands	PGDE Education (secondary)
University of Glasgow	PGDE Education (secondary)
University of Strathclyde	PGDE Education (secondary)
University of West Scotland	PGDE Education (secondary)

Graph 5 provides an overview of the data with upper and lower limits, and the mean number of hours dedicated to key areas across ITE providers of postgraduate secondary education programmes.

Graph 5 - Number of dedicated hours to each key area
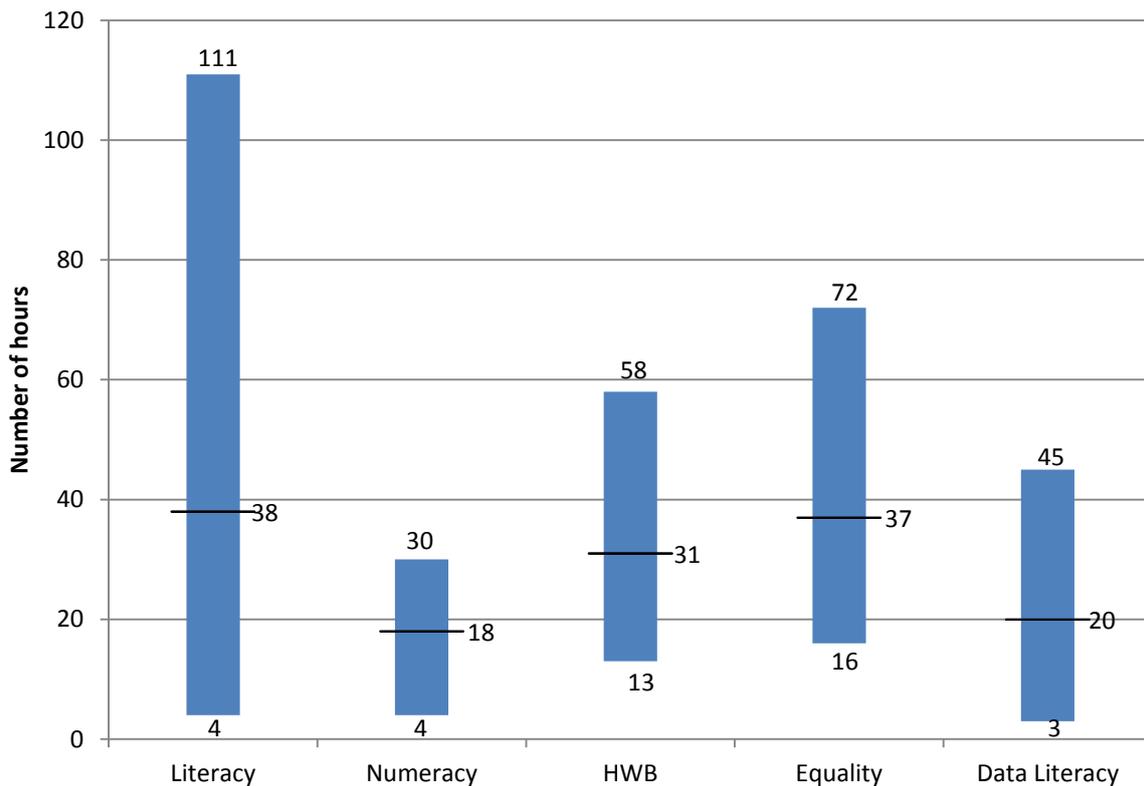
In comparing the mean number of dedicated hours across the key areas, as can be seen in graph 5, there is a noticeable difference between the numbers of hours dedicated to key areas. From the mean data, 38 hours are dedicated to literacy compared with 18 hours dedicated to numeracy; this is a disparity of 20 hours of dedicated hours for these key priority areas.

The range between the upper and lower limits also is notable in respect to equality of student experience of ITE programmes across Scotland and would be worthy of further qualitative research into the impact of the number of dedicated hours on student teacher outcomes.

Graph 6 shows the range of dedicated hours in each key area across ITE providers displayed from highest number of dedicated hours to lowest number of dedicated hours.

Graph 6 – Range of hours dedicated to each key area (highest to lowest)
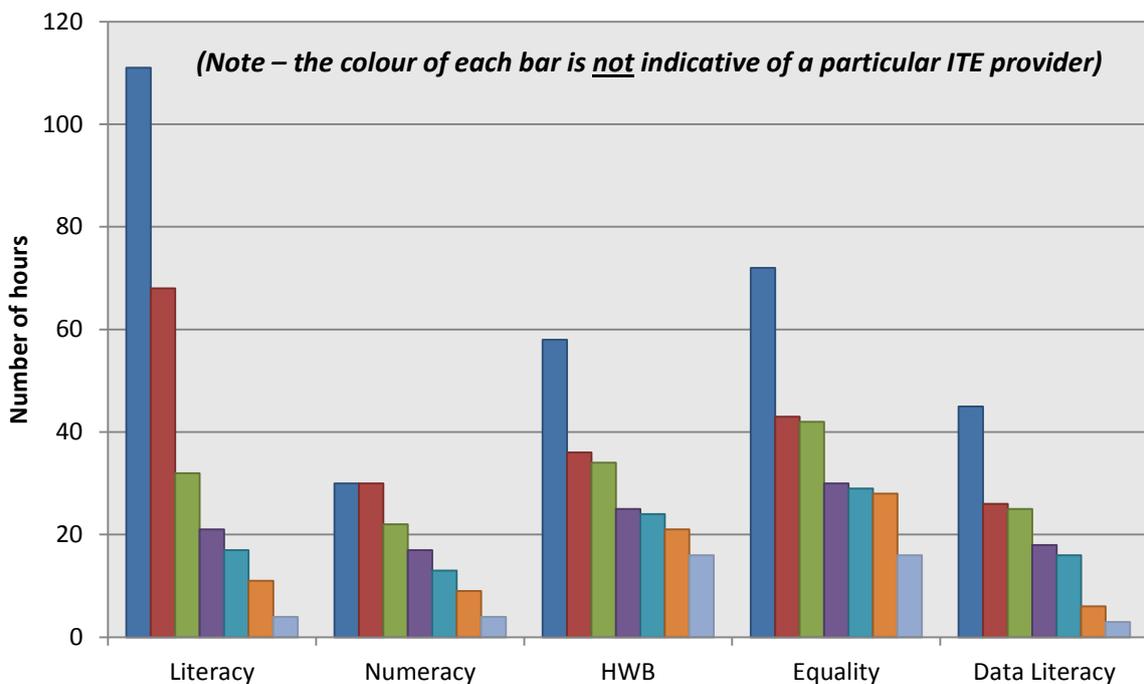
Note - Although the lower end of the range appears very low in some of the key elements, in particular literacy and numeracy, these figures do not include subject specific literacy and numeracy.

It can be seen from graph 6 that within the provision for literacy across the ITE providers, one University has reported noticeably higher number of hours dedicated to this key area in comparison to other ITE providers. This pattern of one provider reporting particularly high numbers of dedicated contact time is repeated for HWB, equality and data literacy.

Table 8, shows that there is a smaller range in the number of dedicated hours for numeracy across postgraduate (secondary) ITE programmes. The key area of literacy shows the highest range in number of dedicated hours across ITE providers.

Table 8 – Overview of postgraduate (secondary) dedicated hours for key areas

Content area	Number of hours			
	High	**Low**	**Mean**	**Range**
Numeracy	30	4	18	26
Data Literacy	45	3	20	42
HWB	58	13	31	45
Equality	72	16	37	56
Literacy	111	4	38	107

5.3.1 Elective programmes of study

Only two ITE providers reported that they offer elective programmes of study as part of the PGDE (secondary) programme. One ITE provider offered elective programmes of study in the key areas of literacy, numeracy and health and wellbeing, equality and data literacy. The other ITE provider offered elective programmes of study in the key areas of literacy, numeracy and equality.

6   Key findings for ITE provision by ITE programme

From the data reported by ITE providers it can be seen that;

The dedicated hours of contact across each ITE programme is wide ranging.

The highest number of hours reported for any key area across all programmes was 173 hours for literacy. The lowest number of hours reported for any key area across all programmes was 2 hours for data literacy.

Within the undergraduate (primary) programmes the lowest range of dedicated hours was for the key area of numeracy with 45 hours, with the highest range in dedicated number for literacy and equality at 125 hours.

For the post graduate (primary) programmes the lowest range of dedicated hours was for the key are of data literacy at 43 hours, with the highest range in dedicated number for literacy at 133 hours.

For the postgraduate (secondary) programmes the lowest range of dedicated hours was for the key are of numeracy 26 hours, with the highest range in dedicated number for literacy at 107 hours.

Table 9 shows the key area with the lowest and highest range within each ITE programme.

Table 9 –The range of hours showing the lowest range and the highest range in key areas for programme type.

Programme of study	Key area with the lowest range of dedicated hours	Key area with the highest range of dedicated hours
Undergraduate (primary)	Numeracy	Literacy and equality
Postgraduate (primary)	Data literacy	Literacy
Postgraduate (secondary)	Numeracy	Literacy

The lowest range of hours dedicated to key areas is across post graduate (secondary) programmes, table 10.

Table 10 – Range of dedicated hours highest to lowest for each programme type in each key area

	Range of dedicated hours highest to lowest		
Literacy	PGDE (primary)	➢ Undergraduate (Primary)	➢ PGDE (secondary)
Numeracy	Undergraduate (Primary)	➢ PGDE (primary)	➢ PGDE (secondary)
HWB	Undergraduate (Primary)	➢ PGDE (primary)	➢ PGDE (secondary)
Equality	Undergraduate (Primary)	➢ PGDE (primary)	➢ PGDE (secondary)
Data Literacy	Undergraduate (Primary)	➢ PGDE (primary)	➢ PGDE (secondary)

Further qualitative research on the impact of number of hours of study on the 'readiness to teach' of student teachers across key area would help determine the best next steps to develop the quality of experience of graduating student teachers.

7   Comparison of provision by key area

In comparing the number of hours dedicated to any key area it should be remembered that the undergraduate (primary) programme has a duration of four academic years and both PGDE (primary) and PGDE (secondary) are both of one academic year duration. Therefore direct comparison is not possible as the undergraduate course is of a different duration and is also accredited at a different SCQF level. Comparison between PGDE (primary) and PGDE (secondary) is also of limited value as the data for PGDE (secondary) only includes 'core' dedicated contact hours and does not report on subject specific inputs. Therefore the following section will highlight interesting findings but these are not to be taken as direct comparisons.

7.1   Literacy

The current priorities for the National Improvement Framework include improvement in attainment in literacy. Being literate is a life skill that supports personal, social and economic growth. Developing and using language allows children to develop and express their emotions, thinking, learning and sense of personal identity. Literacy is fundamental to all areas of learning, as it an integral part of the curriculum for all learners, no matter which 'subject' they are studying.

Literacy is a responsibility of all and all teachers have a responsibility to teach literacy within their context. ITE providers have an obligation to ensure that their graduating students are proficient in their knowledge, skills and abilities in teaching literacy and as such a broad definition of literacy was provided to support the data collection exercise, see appendix 1.

Graph 7 provides an overview of the data reported by ITE providers with upper and lower limits, and the mean number of hours dedicated in literacy across the ITE programmes.

Graph 7 - Number of dedicated hours to literacy across ITE programmes
Note – PGDE (secondary) does not include subject specific hours for literacy
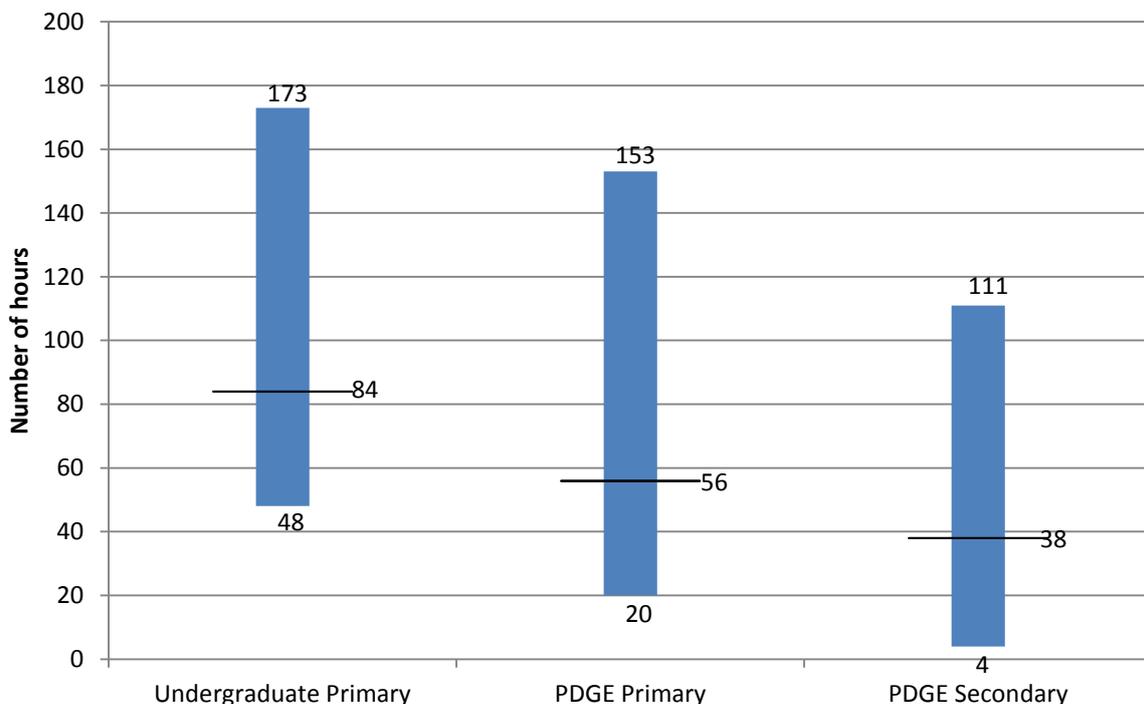
Graph 7 shows that the average number of hours of dedicated contact for the Undergraduate

(Primary) programme is higher than that for the PGDE (primary) and PGDE (secondary) programmes, as would probably be expected given the duration of each programme of study. The number of hours of dedicated contact hours for PGDE (primary) is higher than for the PGDE (secondary) which again is not surprising given that subject specific literacy in the PGDE (secondary) programme were out of scope for of this report.

Graph 8 shows the range of hours dedicated to literacy across ITE providers reported from highest number of dedicated hours to lowest number of dedicated hours.

Graph 8 – Range of hours dedicated to literacy (highest to lowest)
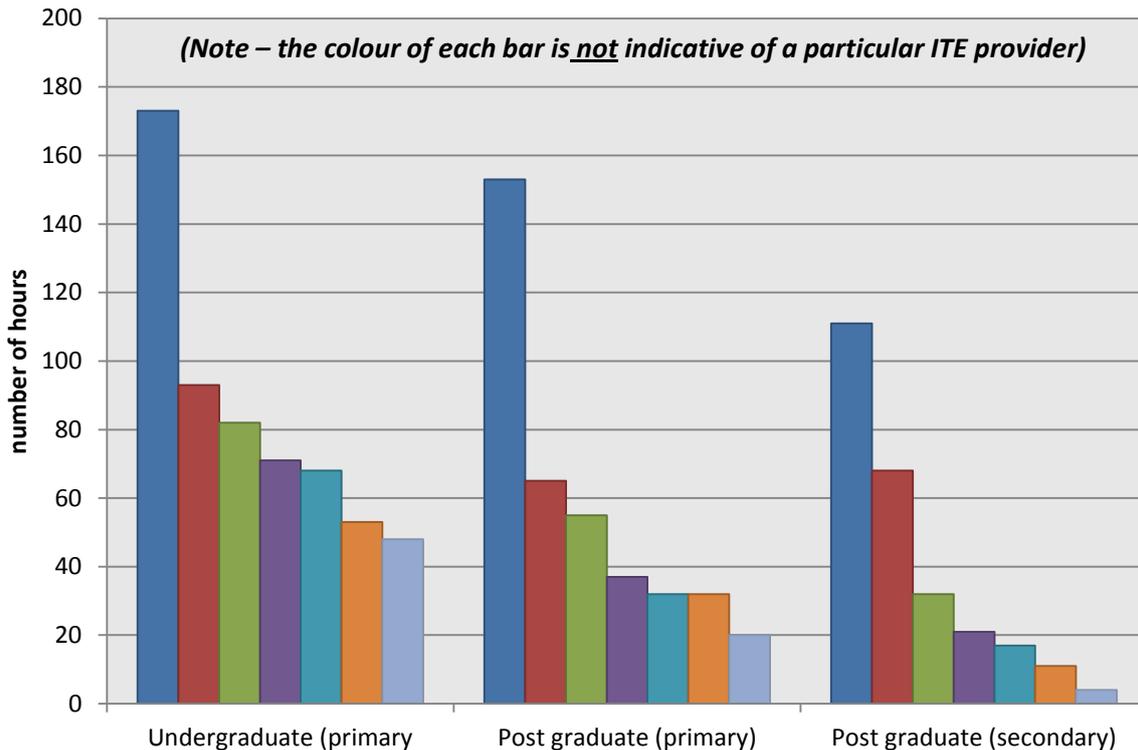
It can be seen from graph 8 that within the provision for literacy across the curriculum, one undergraduate ITE providers reported a noticeably higher number of hours dedicated to this key area in comparison to other ITE providers.

For both PGDE (primary) and PGDE (secondary) it is the same ITE provider who reported noticeably higher number of hours dedicated to literacy across the curriculum.

Table 11, shows that there is the smallest range for literacy across ITE providers for PGDE (secondary). The PGDE (Primary) programmes showed greatest variation in the number of dedicated contact hours for literacy.

Table 11 – Overview of dedicated hours for literacy across ITE programmes

Programme of study	Number of hours			
	High	Low	Mean	Range
PGDE Secondary	111	4	38	107
Undergraduate Primary	173	48	84	125
PGDE Primary	153	20	56	133

The number of hours dedicated to literacy is wide ranging across all of the ITE programmes. It is interesting that one ITE provider reported only 48 hours of dedicated contact hours for an undergraduate programme and one ITE provider reported 4 hours of dedicated contact hours for their PGDE (secondary) programme as a 'core' literacy input.
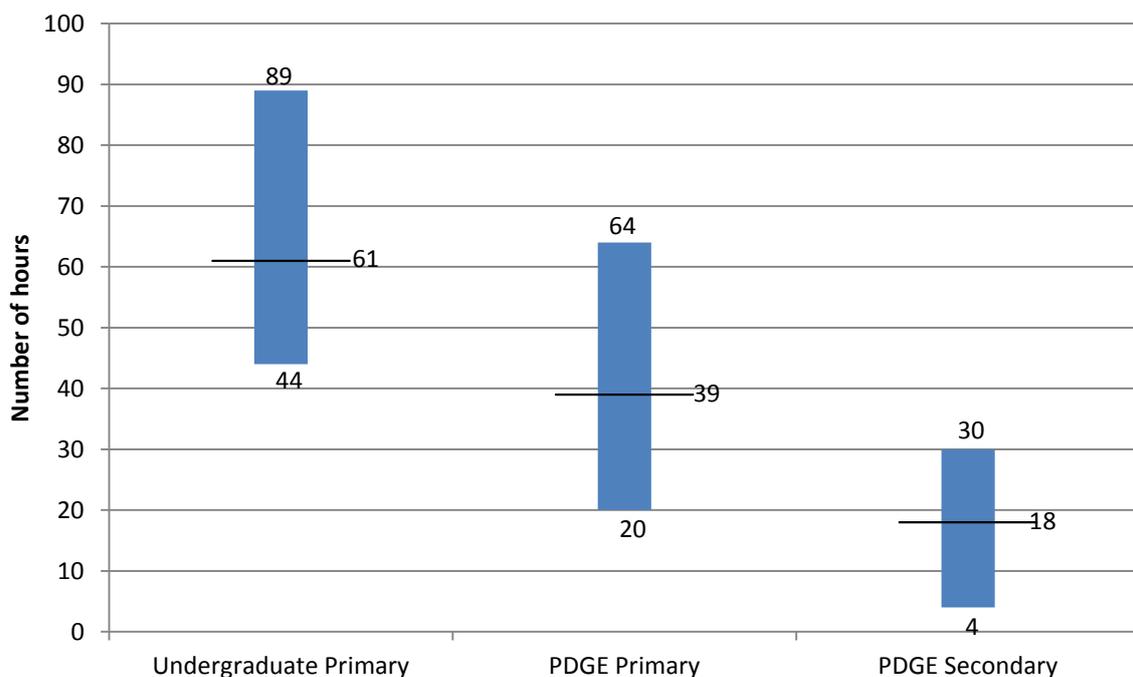
7.2   Numeracy

The current priority for the National Improvement Framework include improvement in attainment in numeracy. Numeracy is not only a subset of mathematics; it is also a life skill which permeates and supports all areas of learning, allowing young people access to the wider curriculum. Being numerate helps children and young people to function responsibly in everyday life and also be an effective contributor to society. Being numerate increases young people's opportunities within the world of work and forms foundations which can be built upon through lifelong learning.

Like literacy, numeracy is a responsibility of all and all teachers have a responsibility to teach numeracy within their context. ITE providers have an obligation to ensure that their graduating students are proficient in their knowledge, skills and abilities in teaching numeracy and as such a broad definition of numeracy was provided to support data collection, see appendix 1.

Graph 9 provides an overview of the data reported by ITE providers with upper and lower limits, and the mean number of hours dedicated in numeracy across the ITE programmes.

Graph 9 - Number of dedicated hours to numeracy across ITE programmes
*Note – PGDE (secondary) does not include subject specific hours for numeracy*

There is a similar trend in the numeracy data as seen with the data for literacy, from most dedicated contact hours in Undergraduate (primary) through PGDE (Primary) to PGDE (secondary).

Graph 10 shows the range of dedicated hours to numeracy across ITE providers reported from highest number of dedicated hours to lowest number of dedicated hours.

Graph 10 – Range of hours dedicated to numeracy (highest to lowest)
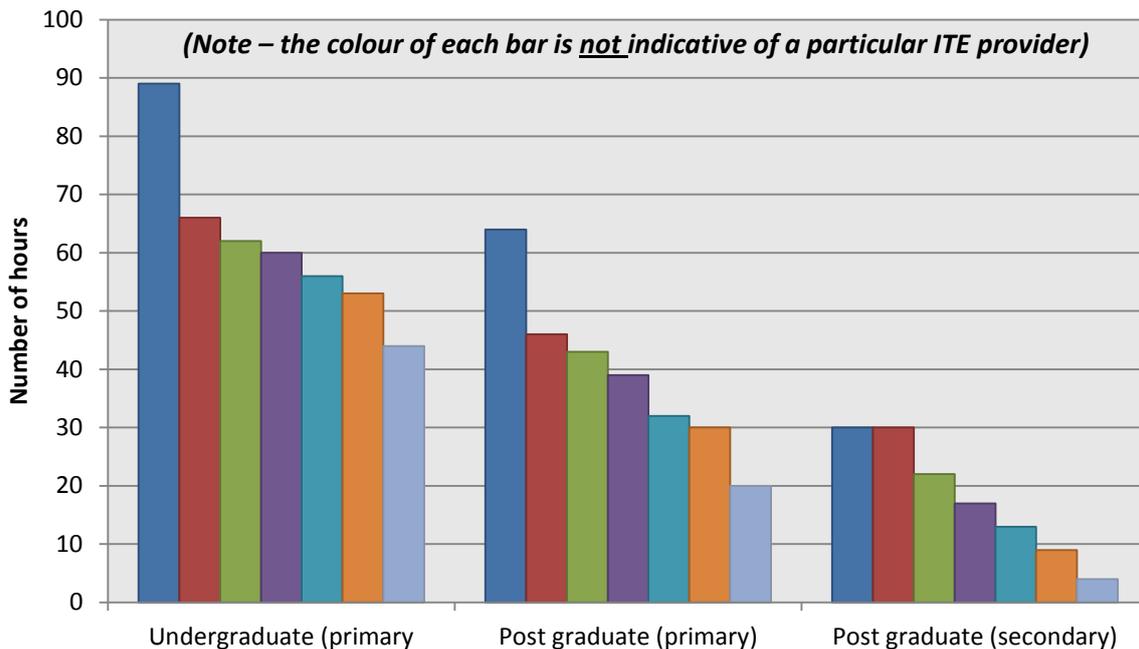
It can be seen from graph 10 that within the provision for numeracy across the curriculum, one undergraduate ITE provider and one PGDE (primary) provider reported noticeably higher numbers of hours dedicated to this key area in comparison to other ITE providers.

Table 12, indicates the smallest range for numeracy across ITE providers is within PGDE (secondary) programmes, with both primary programmes (undergraduate and postgraduate) both having a similar range.

Table 12 – Overview of dedicated hours for numeracy across ITE programmes

Programme of study	Number of hours			
	High	**Low**	**Mean**	**Range**
PGDE Secondary	30	4	18	26
PGDE Primary	89	44	61	45
Undergraduate Primary	64	20	39	44

The number of hours dedicated to numeracy is wide ranging across all of the ITE programmes. It is interesting that one ITE provider reported only 44 hours of dedicated contact hours for an undergraduate programme for a four year programme and one ITE provider reported 4 hours of dedicated contact hours for their PGDE (secondary) programme as a 'core' numeracy input.
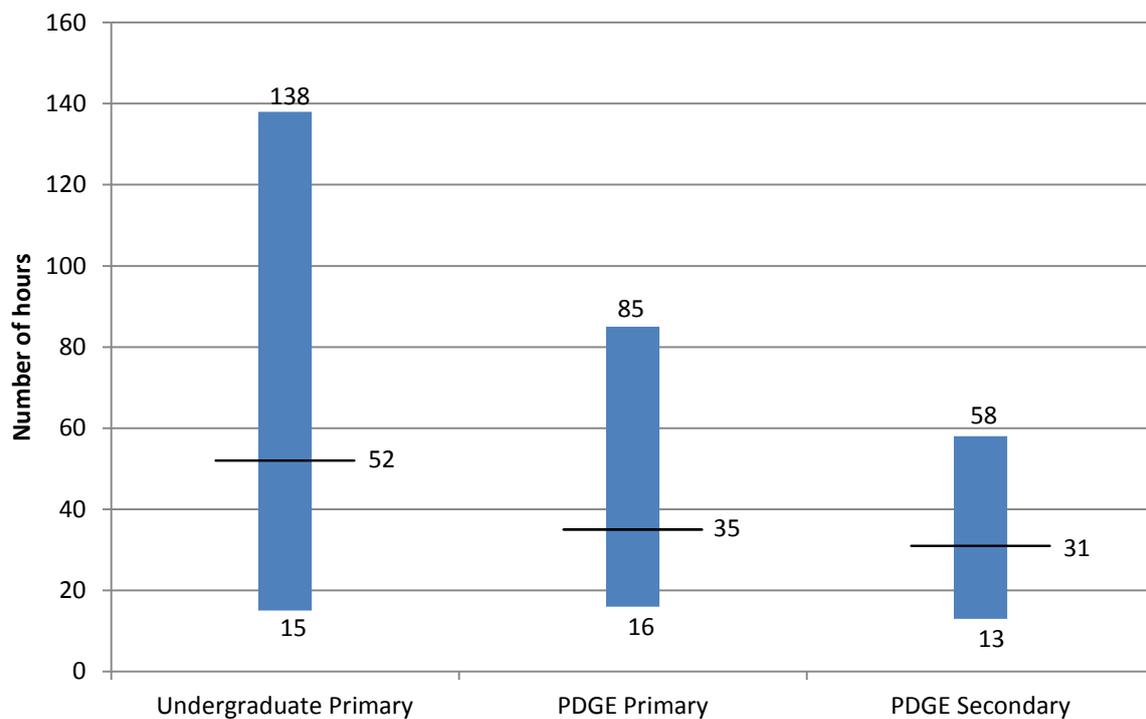
7.3   Health and Wellbeing

Health and wellbeing is a responsibility for all and as such all teachers have a responsibility to contribute to the health and wellbeing agenda. Good health and wellbeing are fundamental to effective learning and a skill for life. Children and young people need to be supported to develop the knowledge and understanding, skills, capabilities and attributes which they need for mental, emotional, social and physical wellbeing now and in the future. Learning through health and wellbeing enables children and young people to make informed decisions, experience positive aspects of healthy living and make a successful transitions into adult life.

ITE providers have an obligation to ensure that their graduating students understand the expectations of meeting all children and young people's health and wellbeing needs and as such a broad definition of health and wellbeing was provided to support data collection, see appendix 1.

Graph 11 provides an overview with upper and lower limits and the mean number of hours indicated in HWB across the ITE programmes.

Graph 11 - Number of dedicated hours to health and wellbeing across ITE programmes

There is a similar trend in the health and wellbeing data as seen in the literacy and numeracy data, from most dedicated contact hours in Undergraduate (primary) through PGDE (Primary) to PGDE (secondary). However, there is less of a difference between ITE programmes with regard to the mean number of dedicated contact hours for HWB, in comparison to the data for literacy and numeracy.

Although there are options for elective programmes of study for with a health and wellbeing focus in almost all undergraduate programmes, further qualitative research may be worthwhile to determine student teachers perception on their readiness to contribute fully to the health and wellbeing of children and young people given the number of dedicated hours reported are relatively low in some cases.

Graph 12 shows the range of dedicated hours reported by ITE providers for health and wellbeing across ITE providers reported from highest number of dedicated hours to lowest number of dedicated hours.

Graph 12 – Range of hours dedicated to health and wellbeing (highest to lowest)
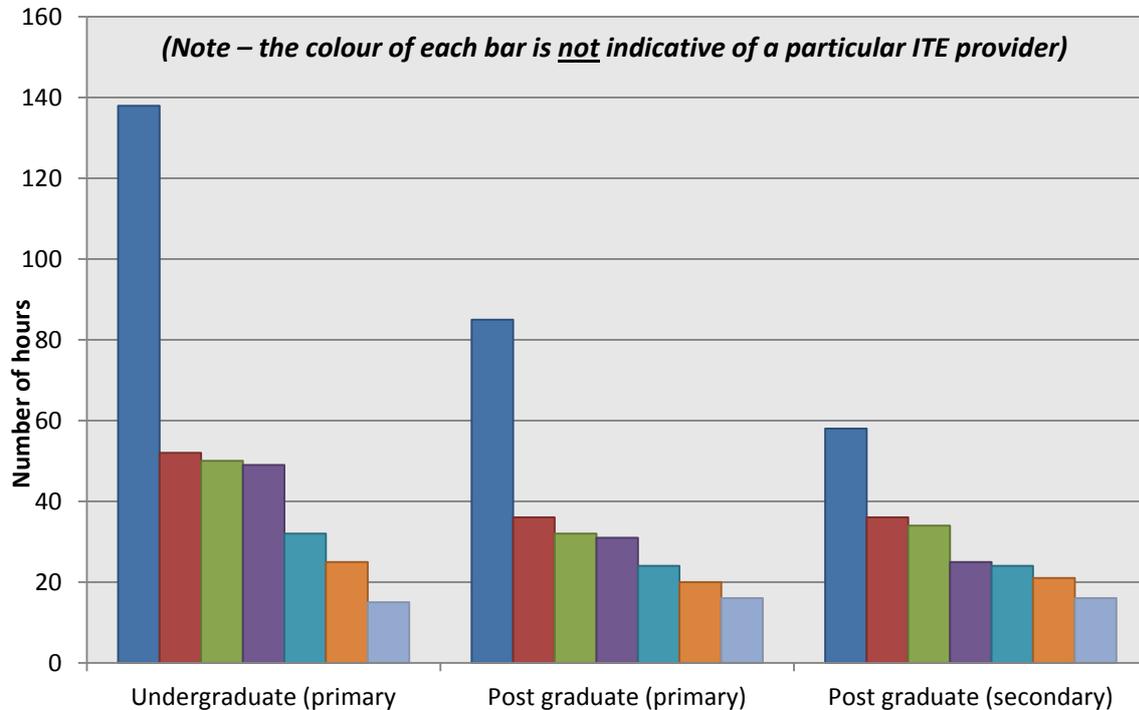
It can be seen from graph 12 that within the provision for health and wellbeing across the curriculum, one undergraduate ITE provider reported a noticeably higher number of hours dedicated to this key area in comparison to other ITE providers.

For both PGDE (primary) and PGDE (secondary) it is the same ITE provider who reported noticeably higher number of hours dedicated to health and wellbeing across the curriculum.

Table 13, indicates that the smallest range for health and wellbeing across ITE providers is within PGDE (secondary) programmes. The Undergraduate (Primary) programmes showed greatest variation in the number of dedicated contact hours for health and wellbeing.

Table 13 – Overview of dedicated hours for HWB across ITE programmes

Programme of study	Number of hours			
	High	Low	Mean	Range
PGDE Secondary	58	13	31	45
PGDE Primary	85	16	35	69
Undergraduate Primary	138	15	52	123

The number of hours dedicated to health and wellbeing is wide ranging across the ITE programmes. It is interesting that one ITE provider reported only 15 hours of dedicated contact time for an undergraduate programme. This raises questions as to whether 15 hours of dedicated contact hours

is enough to provide a foundation for student teachers to build their knowledge and contribute fully to this agenda.

7.4 Equality

The current priority for the National Improvement Framework include improvement in children and young people's health and wellbeing. Equality is a fundamental cornerstone of health and wellbeing and is a pervading theme across all of Scottish education. All teachers should be committed to the principles of equality through fair, transparent, inclusive and sustainable policies and practices in relation to: age, disability, gender and gender identity, race, ethnicity, religion and belief and sexual orientation. Equality is ensuring that all children and young people's needs are met and they are supported to attain and achieve to their best.

Equality is at the heart of professional values and underpins professional practice. ITE providers have an obligation to ensure that their graduating students understand the expectations of meeting all children and young people's needs in fair and just ways to ensure equality as such a broad definition of equality was provided to support the data collection exercise, see appendix 1.

Graph 13 provides an overview of the data as reported by ITE providers, with upper and lower limits and the mean number of hours indicated in equality across ITE programmes.

Graph 13 - Number of dedicated hours to equality across ITE programmes
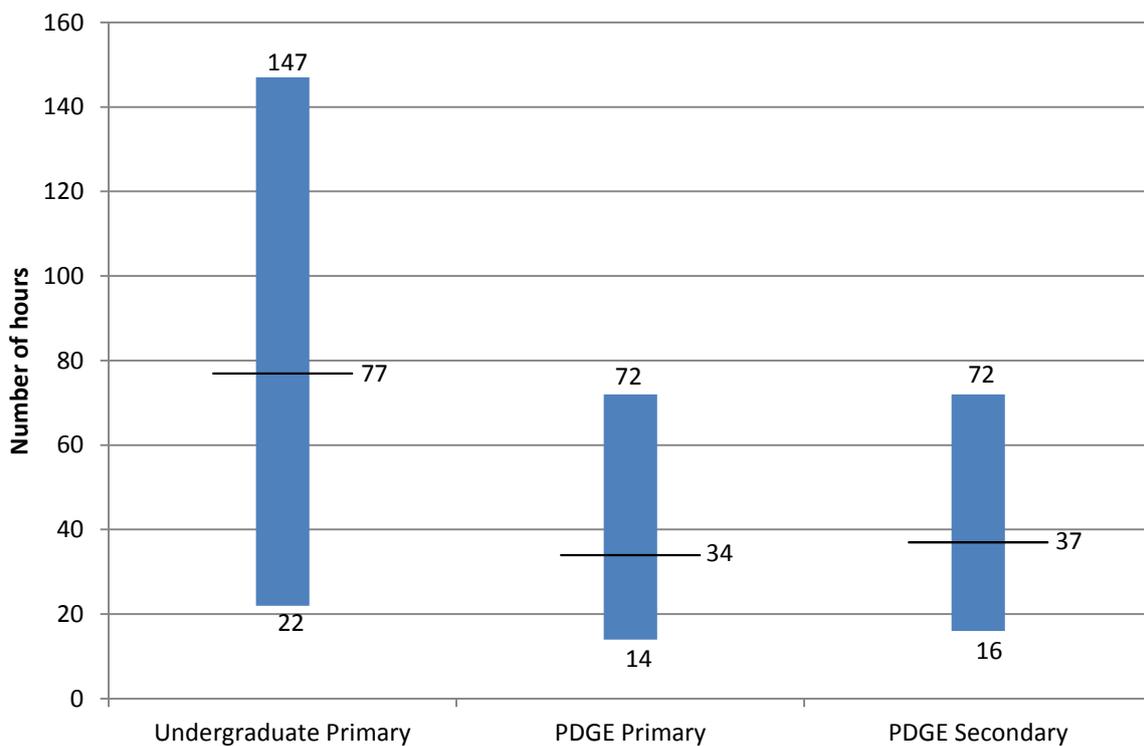
Graph 13 shows that the number of hours of dedicated contact for the Undergraduate (primary) programme is higher than that for the PGDE (primary) and PGDE (secondary) programmes given the duration of each programme of study, this would possibly be expect. It is interesting to note that the number of hours dedicated contact for both PGDE (Primary) and PGDE (secondary) are similar.

Graph 14 shows the range of dedicated hours to equality across ITE providers reported from highest number of dedicated hours to lowest number of dedicated hours.

Graph 14 – Range of hours dedicated to equality (highest to lowest)

The range of hours dedicated to equality, an underpinning element for all Professional Standards, across undergraduate (primary) programmes raises questions of equality of provision for student teachers. This also raises questions around the expectation of teacher professionalism with values such as social justice underpinning their practice.

Table 14, shows that there is the smallest range for equality across PGDE (secondary) programmes. The Undergraduate (primary) programmes showed greatest variation in the number of dedicated contact hours for equality.

Table 14 – Overview of dedicated hours for equality across ITE programmes

Programme of study	Number of hours			
	High	**Low**	**Mean**	**Range**
PGDE Secondary	72	16	37	56
PGDE Primary	72	14	34	58
Undergraduate Primary	147	22	77	125

It is notable that the number of hours dedicated contact time for equality across all programmes appears to be low given the commitment in policy for excellence and equity for all children and young people.

7.5   Data Literacy

The current priority for the National Improvement Framework include using data to build a sound understanding of the range of factors that contribute to a successful education system. Data literacy is a term used to describe how data can be used to ask questions around pupil needs, teachers practice and school improvement. Being data literate means that teachers can use the rich data which is found in their classroom and schools to support improvement in their own practice and to explore the best ways to meet the needs of their pupils.

Being data literate is an essential tool for teachers to be able to generate and interpret data to make professional judgements and support attainment and achievement. ITE providers have an obligation to ensure that their graduating students can use data to inform the next steps for their learners and also their own practice. A broad definition of data literacy was agreed to support the data collection exercise, see appendix 1.

Graph 15 provides an overview of the data with upper and lower limits, and the mean number of hours indicated in data literacy across the ITE programmes.

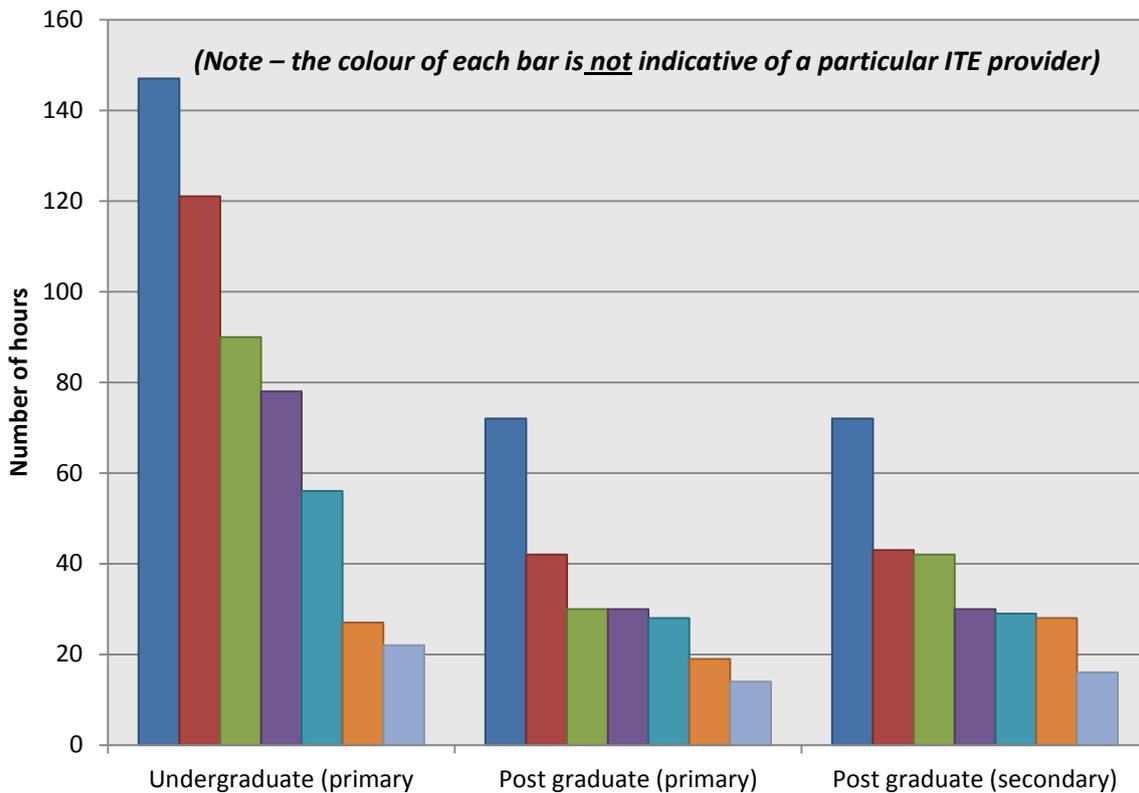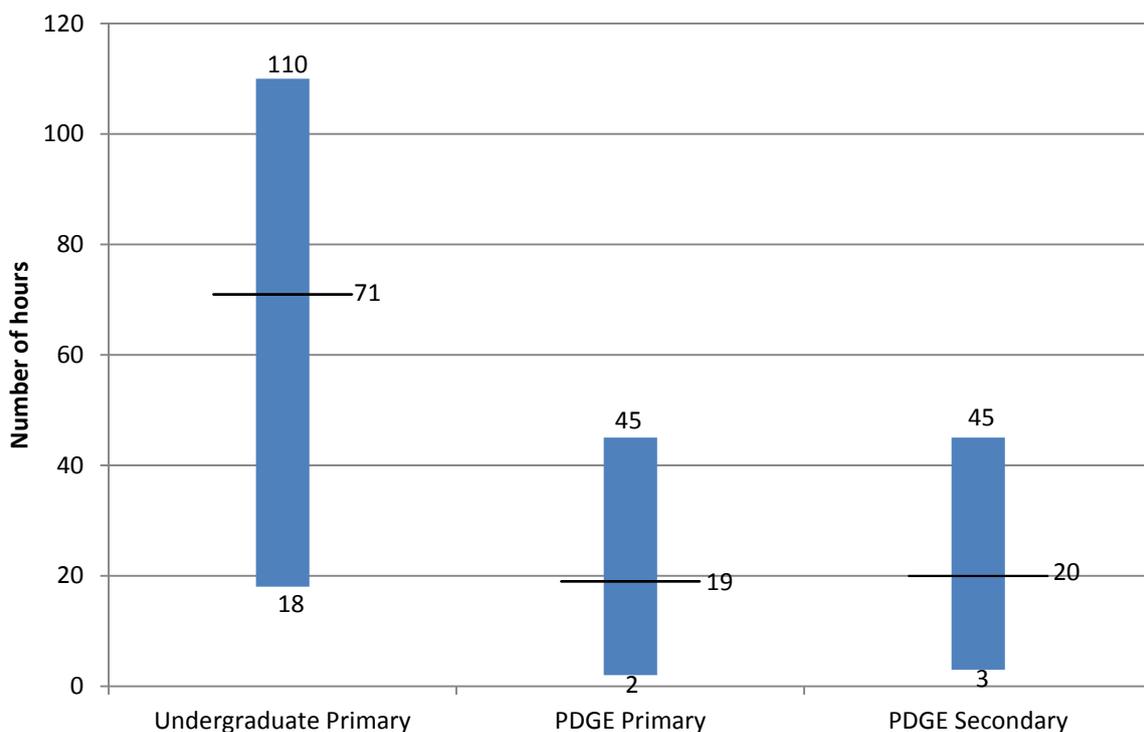*Graph 15 - Number of dedicated hours to data literacy across ITE programmes*

Graph 15 shows that the number of hours of dedicated contact for the Undergraduate (Primary) programme is higher than that for the PGDE (primary) and PGDE (secondary) programmes given the duration of each programme of study, this would probably be expected. It is interesting to note that the mean number of dedicated contact for both PGDE (Primary) and PGDE (secondary) are almost identical.

Graph 16 shows the range of dedicated hours as reported by ITE providers to data literacy across ITE providers reported from highest number of dedicated hours to lowest number of dedicated hours.

Graph 16 – Range of hours dedicated to equality (highest to lowest)
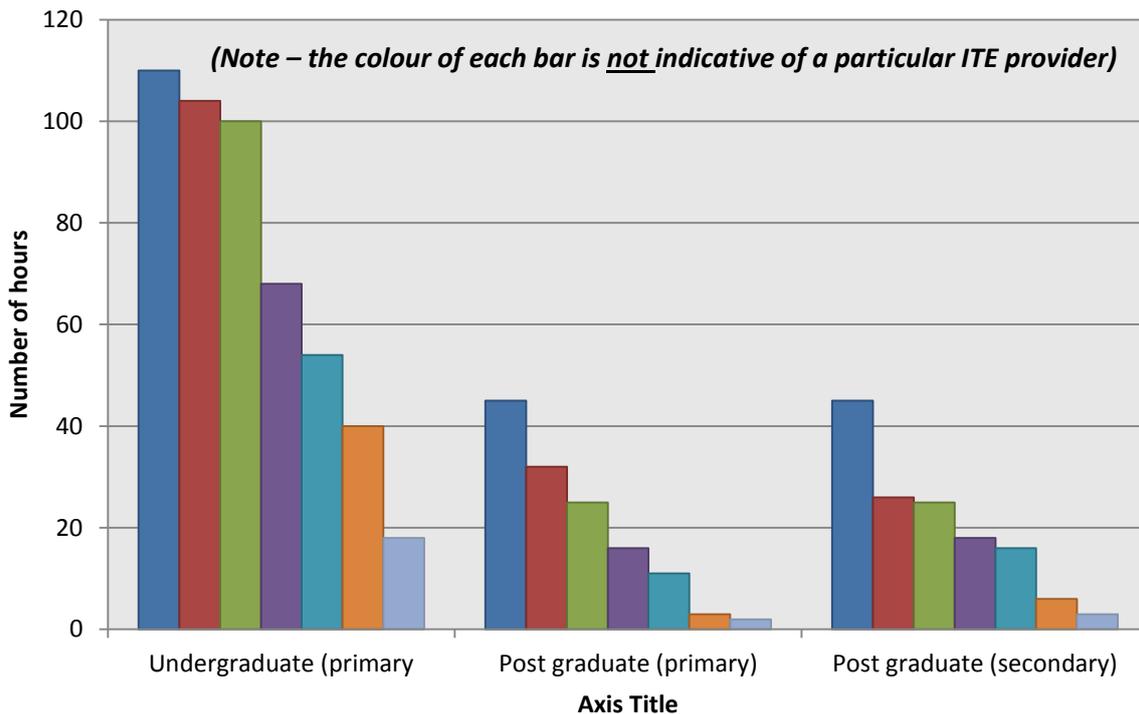
The aspiration set out in Teaching Scotland's Future (Scottish Government, 2010) is that teachers are 'enquiring professionals' who can engage with and undertake research to improve their practice. This aspiration is supported by teachers who are data literate, who can derive meaningful interpretations from data, including the ability to ask and answer questions using data as part of evidence based thinking. In some cases the number of hours dedicated to data literacy is very low.

Table 15 shows that the range for data literacy across PGDE programmes and postgraduate (secondary) programmes is similar. The Undergraduate (Primary) programmes showed greatest variation in the number of dedicated contact hours for data literacy.

Table 15 – Overview of dedicated hours for data literacy across ITE programmes

Programme of study	Number of hours			
	High	Low	Mean	Range
PGDE Secondary	45	3	20	42
PGDE Primary	45	2	19	43
Undergraduate Primary	110	18	71	92

It is interesting that one ITE provider reported only 18 hours of dedicated contact hours for an undergraduate programme for data literacy. Only one ITE provider reported offering an elective programme of study in this key area.

8. **Key findings for ITE provision by key area**

From the data reported by the ITE providers it can be seen that;

Numeracy generally has the lowest range of dedicated hours within programmes.

Table 16 below, shows the comparison based on the range for key area across programme type.

Table 16 – Comparison of the range for each key area across programme type

Undergraduate (Primary)		PGDE (Primary)		PGDE Secondary	
Range	Key area	Range	Key area	Range	Key area
44	Numeracy	43	Data Literacy	26	Numeracy
92	Data Literacy	45	Numeracy	42	Data Literacy
123	HWB	58	Equality	45	HWB
125	Equality	69	HWB	56	Equality
125	Literacy	133	Literacy	107	Literacy

Across each of the programmes literacy is the most dispirit area with respect to number of dedicated hours of contact.

9 **Assessment Strategies**

ITE providers are responsible for ensuring the quality of graduating student teachers. Within ITE programmes of study, student teachers are assessed on a regular basis. The purpose of assessment is to;
- encourage, guide and improve student learning
- allow students to demonstrate the outcomes of their learning
- measure student performance
- award or withhold qualifications/credit

ITE providers try to model the behaviours they wish student teachers to adopt towards assessment; therefore assessment can be learning experiences in themselves. Active assessment strategies enhance student teachers understanding and promote skills that will be beneficial to them throughout their teacher journey. The ability to see the big picture, develop effective oral and written reports and the ability to work cooperatively with their peers are skills that are promoted by ITE providers.

As can be seen in appendix 3, a wide range of assessment strategies were report by ITE providers and there are some commonalities of assessment strategies across all ITE programmes.

10 **Pedagogy/Andragogy**

Pedagogy is the theory and practice of education; it is about the study of how best to teach. This can address the art of teaching (being responsive and creative), the craft of teaching (the skills and practice) and the science of teaching (research informed practice). The teaching of adults, as a specific group, can be referred to as andragogy. This term has come to be understood as an alternative to pedagogy, where pedagogy can be thought of as teacher-centred or directed, andragogy refers to being learner-centred or directed.

As can be seen in appendix 4, a wide range of pedagogy/ andragogy strategies were report by ITE providers. The pedagogy and andragogy used in all programmes is very similar with a few unique methods employed by some ITE providers.

11   Summary

11.1   Main Findings

This initial data collection exercise has shown that there are differences in the time dedicated to key areas i.e. literacy, numeracy, HWB, equality and data literacy, both within programmes, i.e. undergraduate (primary), postgraduate (primary), postgraduate (secondary) and across the type of programme i.e. comparing dedicated number of hours to key areas across programmes.

All ITE providers found this data collection exercise challenging. All ITE providers embed the areas of the curriculum that are the responsibility of all within the whole programme, i.e. take a holistic approach to student teacher learning. As such to deconstruct these programmes of study into hours dedicated to literacy, numeracy, health and wellbeing, equality and data literacy proved very difficult. The approach adopted by the ITE providers supports student teachers to understand and develop knowledge and skills in context which is more closely aligned to how they will use this knowledge and skills in their teaching practice.

This report highlights the complexity of ITE programmes and the generally holistic approach taken within all ITE programmes, including the experiential learning in context which prepares student teacher to teach the curriculum and become professionals who are responsive to the needs of all learners. Therefore, the main finding of differences in approach reported across ITE providers, both across programme type and within key areas, as outlined in Deliverable 1, might not be unexpected.

Given this is the first attempt to understand the way in which ITE providers support student teachers to develop the knowledge, skills and attributes required to be a 21st century teacher in Scotland, it should be considered a baseline study which provides limited evidence of one area of the ITE provision. Qualitative studies, such as the one currently in progress to answer Deliverable 2 will help build a clear picture of current ITE provision across Scotland. This project will gather views and perceptions from probationer teachers from session 2015-16, probationer supporters and probation managers to deepen the understanding of the student experience of ITE in Scotland.

11.2   Key strengths

Each University provides student teachers with an experience of ITE that builds the foundations for them to begin constructing their identity and professionalism, within the teaching profession, and commits them to life-long learning. Most ITE providers also offer a unique focus to the ITE experience. These distinctive features enhance the overall Initial Teacher Education provision across Scotland and helps produce new teachers with both a minimum competence, aligned with the Standard for Provisional Registration but also deeper learning in areas such as literacy, equality or international education depending on which ITE provider the student teacher elected to study with. This range of experiences develops student teachers with a variety of skills and interests which arguably provides schools with skilled teachers able to meet the diverse needs of children and young people.

11.3   Next steps/Further research

Further qualitative research would build on this initial quantitative study and the on-going qualitative study around gathering views around perceptions of ITE experience. Teacher preparation is seen as one of the significant variables in the differences in performance of new teachers and there is broad agreement across Scotland for the need for further research to support improvement in teacher education.

Scottish Government in partnership with GTCS has commissioned a research project which seeks to involve all stakeholders in the development of a contextually-appropriate means of measuring quality in initial teacher education in Scotland. This project is designed to be developmental in nature, securing, as it does, a sound base for the study of quality in ITE in its initial phases and then testing this in subsequent years and will focus on the following;

- providing criteria which can be endorsed by ITE providers as to what constitutes a quality ITE programme Scottish context(s)
- how the quality in Initial Teacher Education can be measured in the Scottish context(s)
- exploring the impact of the various routes into teaching on student teachers readiness to teach

Appendix 1

Data collection instrument

National improvement framework- Teacher Professionalism - Deliverable 2
Publish information on the range of literacy, numeracy, health and wellbeing, data literacy and social justice coverage in initial teacher education programmes.

University of xxxx

Literacy
The <u>UNESCO</u> defines literacy as the "ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society".

From the Curriculum for Excellence: Literacy across learning, Principles and practice (p1) states:

> Within *Curriculum for Excellence*, literacy is defined as:
>
> *the set of skills which allows an individual to engage fully in society and in learning, through the different forms of language, and the range of texts, which society values and finds useful.*
>
> Literacy experiences and outcomes promote the development of skills in using language, particularly those that are used regularly by everyone in their everyday lives. These include the ability to apply knowledge about language. They reflect the need for young people to be able to communicate effectively both face-to-face and in writing through an increasing range of media. They take account of national and international research and of other skills frameworks. They recognise the importance of listening and talking and of effective collaborative working in the development of thinking and in learning.

http://www.educationscotland.gov.uk/learningandteaching/learningacrossthecurriculum/responsibilityofall/

<u>Number of hours</u>
The total number of hour of explicit instruction is xx

Subject specific literacy will also be implicitly address through the following areas

<u>Understand and skills assessments</u>
Student teachers will be assessed on their literacy skills through

<u>Pedagogies</u>
Pedagogies employed to support student learning are;

Numeracy
From the Curriculum for Excellence: Numeracy across learning, Principles and practice (p1) states:

> Numeracy is not only a subset of mathematics; it is also a life skill which permeates and supports all areas of learning, allowing young people access to the wider curriculum.
> We are numerate if we have developed:

the confidence and competence in using number which will allow individuals to solve problems, analyse information and make informed decisions based on calculations. A numerate person will have acquired and developed fundamental skills and be able to carry out number processes but, beyond this, being numerate also allows us to access and interpret information, identify possibilities, weigh up different options and decide on which option is most appropriate.

http://www.educationscotland.gov.uk/learningandteaching/learningacrossthecurriculum/responsibilityofall/

Number of hours
The total number of hour of explicit instruction is

Subject specific numeracy will also be implicitly address through the following areas

Understand and skills assessments
Student teachers will be assessed on their numeracy skills through

Pedagogies

Pedagogies employed to support student learning are;

Health and Wellbeing
From Curriculum for excellence: health and Wellbeing across learning: responsibility for all Principles and practice (p1):

Children and young people should feel happy, safe, respected and included in the school environment and all staff should be proactive in promoting positive behaviour in the classroom, playground and the wider school community. Robust policies and practice which ensure the safety and wellbeing of children should already be in place.

http://www.educationscotland.gov.uk/learningandteaching/learningacrossthecurriculum/responsibilityofall/

Number of hours
The total number of hour of explicit instruction is xx hours

HWB will also be implicitly address through the following areas

Understand and skills assessments
Student teachers will be assessed on their understanding of the HWB agenda in the following ways;

Pedagogies
Pedagogies employed to support student learning are;

Equality (and equity)
Promoting equality and equity removes discrimination of individuals or group of individuals and ensures all are treated equally specific to their needs, including areas of race, gender, disability, religion or belief, sexual orientation and age. We also need to recognise that some individuals are at a larger disadvantage than others and so require more support in order to help everyone attain the same type of healthy lifestyle.
Educational equality and equity rely on all students being supported to achieve and attain academic success regardless of disadvantage or specific needs. This is more important than ever as there is evidence to suggest that an individual's level of education is dedicatedly correlated to the quality of life they will live.

Number of hours
The total number of hour of explicit instruction is xx hours

Equality will also be implicitly address through the following areas

Understand and skills assessments
Student teachers will be assessed on their understanding of the equality agenda in the following ways;

Pedagogies
Pedagogies employed to support student learning are;

Data literacy
Data literacy is the ability to derive meaningful information from data. Originally this was viewed as numerical and statistical data interpretation with an understanding the reliability of data to draw conclusion. This definition has been expanded to include the ability to ask and answer questions using data as part of evidence based thinking. This evidence based approach uses the most appropriate data, and interprets it to develop and evaluate data based inferences and explanations to solve real problems and communicate findings. The data collected could be both qualitative and quantitative in nature and can be derived from big data set through to classroom observations and professional noticing.

Number of hours
The total number of hour of explicit instruction is xx hours

Data literacy will also be implicitly address through the following areas

Understand and skills assessments
Student teachers will be assessed on their understanding of data literacy in the following ways;

Pedagogies
Pedagogies employed to support student learning are;

Appendix 2

List of Postgraduate (secondary) subjects offered by University

There are seven providers of a postgraduate qualification in education (secondary) across Scotland, a full list of the subjects offered are in the table below

ITE provider	Programme	Subjects offered
University of Aberdeen	PGDE Education (secondary)	**Sciences** (Biology/Chemistry/Physics) **Humanities** (Geography/History/Modern Studies/Religious Education) **Technologies** (Computing Science/Business Education/ Home Economics) **Languages** (English/ Modern Languages (French/German/Mandarin) /Gaelic) **Creative and Aesthetic** (Drama/Physical Education) **Mathematics**
University of Dundee	PGDE Education (secondary)	**Sciences** (Chemistry/Physics) **Technologies** (Home Economics) **Mathematics**
University of Edinburgh	PGDE Education (secondary)	**Sciences** (Biology/Chemistry/Physics) **Humanities** (Geography/History) **Languages** (English/Modern Languages (French/German/Mandarin/Spanish)) **Creative and Aesthetic** (Art /Drama /Music/Physical Education) **Mathematics** **Technologies** (Technical Education)
University of Highlands and Islands	PGDE Education (secondary)	**Sciences** (Biology/Chemistry/Physics) **Technologies** (Technical Education/Home Economics)
University of Glasgow	PGDE Education (secondary)	**Sciences** (Biology/Chemistry/Physics) **Humanities** (Geography/History/Modern Studies/Religious Education) **Technologies** (Computing Science/Business Education) **Languages** (English/ Modern Languages (French/German/Italian/Spanish)) **Creative and Aesthetic** (Art) **Mathematics**
University of Strathclyde	PGDE Education (secondary)	**Sciences** (Biology/Chemistry/Physics) **Humanities** (Geography/History/Modern Studies/Religious Education) **Technologies** (Technical Education/Computing Science/Business Education/ Home Economics) **Languages** (English/ Modern Languages (French/ German/ Mandarin/ Italian/ Spanish)/Gaelic) **Creative and Aesthetic** (Art/Music/Physical Education) **Mathematics** **Psychology**

University of West Scotland	PGDE Education (secondary)	**Sciences** (Biology/Chemistry/Physics) **Languages** (English/ Modern Languages (French)) **Creative and Aesthetic** (Art/ Physical Education) **Mathematics**

Appendix 3

List of assessment strategies

ITE providers were asked to give an indication of the types of assessment strategies used to assess student attainment and achievement. Table 17 shows the range of assessment methodology employed and modelled to allow student teachers an opportunity to add this to their repertoire of assessment strategies.

Table 17 - The range of assessment methodology employed and modelled by ITE providers

Note – The responses for PGDE (Primary) and PGDE (secondary) were the same as have been reported together in the table 17

ITE programme	Context for Learning and Assessment	
	University context	**During school placement/ site based learning opportunities**

Undergraduate (primary)	Written assignment such as a discussion paper, a critical review, a critical analysis
	Literacy skills - online assessment/ virtual learning environment (vle)
	Tutorial sessions and tutor directed online activities
	Coursework
	Individual/ group presentation
	Examination
	Formative (peer) assessment - evaluate collaborative blog posts looking at scientific literacy.
	Learning Log
	Engagement with policy documentation and data from research
	Research enquiry
	    identify an area,
	    design a data collection plan
	    undertake data collection and
	    analysis
	Dissertation
	Micro teaching
		Reflecting on an implemented lesson plan in terms of inclusive practice,
		    Reflecting against the
		    Standards,
		    Gathering, interpreting,
		    critically evaluating and
		    presenting information,
		    Considering ethics and
		    sensitivities
		    Critical evaluating against
		    literature is vital
		    Classroom practice during
		    school experience.
		classroom practice
		written and oral literacy skills
		completion of masters level assignments

Postgraduate (primary) and Postgraduate (secondary)	Assignment/formative critical analysis essay Online diagnostic self-assessment tool. Professional enquiry (focus on classroom organisation and management) Formative (peer) feedback/feed forward Blog posts Group presentation Professional enquiry/thesis (research	Formative feedback and summative feedback Student observation of evaluations and reflections during school experience/of student teaching files Tutor observation Tutor directed reports/tasks Viva Demonstrate research informed knowledge and its impact on the role of the teacher in relation to social justice,

	project) Enquiry poster/executive summary	inclusive pedagogy and the implementation of learning theory Demonstrate knowledge, understanding and application of data literacy skills and use this evidence to inform and improve their practice School reports of progress. Written and oral literacy skills

Appendix 4

List of pedagogy/andragogy strategies

ITE providers were asked to give an indication of the types of pedagogy/andragogy employed within their programmes. Table 18 shows the range of pedagogy/andragogy employed and modelled to allow student teachers an opportunity to add these to their practice.

Table 18 - Pedagogy/andragogy reported by ITE programmes

*N*ote – the activities highlighted in blue – were only mentioned by PGDE ITE providers

Pedagogy/ Andragogy	
Lectures	Flipped lectures Building on prior knowledge Policy analysis (e.g. Framework for Inclusion to ask questions to develop their thinking and practice)
Seminars/ workshops	Collaborative learning Scenario challenges Case study analysis Experiential learning Modelling of good practice Group presentations and discussion Interactive sessions which involve self and peer review as well as tutor feedback, feed forward Peer support in small group work Discussion of and use of planning and teaching
Partners	Face-to-face inputs facilitated by external agencies and school colleagues Subject focused lectures by university staff and invited speakers/practitioners Transferable skills development (e.g. international work placement)
Pedagogy	Active learning approaches Explorations - e.g. analyses of specific teaching strategies Connecting areas of the primary curriculum Learning in the outdoors
Assessment	Formative and summative assessment approaches to support learning and development
Professional dialogue	School mentor, tutor, peers Student voice
Virtual learning environment (VLE)	Further reading Investigative activities Discussion forum, range of communicative / collaborative platforms Modelling use of technology Online forums encouraging critique and sharing of resources, texts, etc. Use of Moodle to provide resources, links and opportunities for discussion and

	questions Electronic portfolio with blogging in digital space
Develop reflective practice through **Student-directed learning**	Setting targets Planning and implementing lessons Observing others Evaluating against professional literature, policy, research and SPR Practical tasks as part of placement
Research	Data collection, error analysis, reporting and analysis Preparing and presenting academic posters Action research/Professional Enquiry