DigiLit Leicester: 2013 Survey Results

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October 2013
Executive Summary

The *DigiLit Leicester* project is a two year collaboration between Leicester City Council, De Montfort University and 23 secondary schools. Digital literacy is increasingly recognised as critical for learners to thrive within digital society (Beetham et al 2009). The project focuses on supporting secondary school teaching and teaching support staff in developing their digital literacy knowledge, skills and practice, and their effective use of digital tools, environments and approaches in their work with learners.

In order to understand what current practice looks like, a digital literacy framework was developed in consultation with schools and staff, mapped to classroom practice. This framework defines six key strands of digital literacy for secondary school staff: *Finding, Evaluating and Organising; Creating and Sharing; Assessment and Feedback; Communication, Collaboration and Participation; E-Safety and Online Identity; Technology supported Professional Development* (Fraser et al, 2013). Practices within these six strands were assigned to four level descriptors: Entry, Core, Developer or Pioneer.

The *DigiLit Leicester* framework was used to create an online survey, which was open from April to July 2013. All staff who support learning in the 23 Leicester schools - senior leadership with a teaching role, teachers, classroom assistants, specialist provision and library staff - were invited to complete the survey. Of the 1,912 eligible members of staff, a total of 450 people completed the survey, that is, 24 per cent.

This report provides a high-level summary of the city-wide findings of the *DigiLit Leicester* survey, contributing to a clearer understanding of the current digital literacy confidence levels of secondary school staff, and recommendations that the project team will be taking forward within Leicester schools.

Headline Findings

Pioneers

**Fifty-two per cent of the staff across the city who participated in the survey classified their skills and confidence at the highest level – Pioneer - in one or more of the six key digital literacy areas.**

Staff who score at Pioneer level are typically confident with a wide range of different technologies and approaches to using these to support learners. They may be helping colleagues develop skills, and producing resources for others to use.
Entry-level practitioners

Twenty-six per cent of all those who participated in the survey placed themselves at Entry-level in one or more of the six key areas.

Entry-level competencies are typified by personal, rather than professional use of technologies. Practitioners with a strand score at this level will currently not be taking advantage of the ways in which technology can enhance school based practice. Currently, all schools in this group have as a minimum internet access, fixed computer provision and classroom presentation technology.

The Core levels in the framework relate to the project's baseline of knowledge, skills and practice in the context of secondary education.

Collaborative technologies and E-Safety guidance

Staff rate their skills and confidence highest in the area of E-Safety and Online Identity, with 43 per cent of all respondents scoring at Pioneer-level.

Staff feel least confident in the area of Communication, Collaboration and Participation, with 12 per cent of staff rating themselves as Entry-level and 47 per cent falling within the lowest levels of the framework (Entry or Core).

Although the city as a whole scored strongly on the E-Safety and Online Identity strand, the corresponding scores for Communication, Collaboration and Participation were not in alignment as might be expected given the close relationship between competencies and practices within these areas. This suggests that e-safety education is being managed within a context of restriction and limits on access to certain technologies and digital environments. This approach can be characterised as protected by restrictions and, whilst effective, has been identified as potentially limiting to online opportunities, including the development of digital literacy (Helsper et al, 2013).

This indicates that schools would benefit from support in understanding ways in which social and collaborative technologies can be used to effectively support learners and school communities, in e-safety resources specifically linked to social and collaborative tools and environments, and in expanding existing practice in this area.

Open education

Forty-three per cent of staff rated their skills and confidence in the lower levels of the framework (Entry and Core) in Creating and Sharing.

While creating and customising resources for classroom use is a common practice amongst school staff, Creating and Sharing was the second lowest scoring strand.
At Developer and Pioneer levels, the strand covers collaborative creation of resources, supporting learners in creating resources, and the creation and development of Open Education Resources (OERs). These findings are in line with European Commission concerns that education and training providers are currently not taking advantage of the use and creation of OERs, running the risk of “losing the opportunity to innovate the teaching and learning practices, to increase the efficiency and equity of the education and training provision and to raise the digital skills of learners necessary for a more competitive and knowledge-based economy” (European Commission 2013).

Next Steps

During the next phase of the project, the team will be working with and supporting staff in developing school based approaches across the framework strands. In line with the survey findings, the team will focus on surfacing and sharing the work of Pioneer level staff and increasing the confidence of staff working at Entry level. Key focus areas will be the use of social technologies to support collaborative practice and participation, and information and resources for staff relating to open licencing models and the production, use and remixing of Open Educational Resources.

Additionally, the team will be focusing on promoting the approaches included in the Technology supported Professional Development strand, as a way of supporting staff in developing and participating in professional networks that closely match individual interests relating to both the framework strands and to broader practice.
Introduction

The DigiLit Leicester project is a two year collaboration between Leicester City Council, De Montfort University and 23 of the city’s secondary schools. Digital literacy is increasingly recognised as critical for learners to thrive within digital society (Beetham et al., 2009). The project focuses on supporting secondary school teaching and teaching support staff in developing their digital literacy knowledge, skills and practice, and their effective use of digital tools, environments and approaches in their work with learners.

The project has three key objectives:

- To investigate and define digital literacy, in the context of secondary school based practice;
- To identify current school staff confidence levels, and what the strengths and gaps across city schools are, in relation to this definition;
- To support staff in developing their digital literacy skills and knowledge - raising baseline skills and confidence levels across the city, and promoting existing effective and innovative practice.

The project focuses on those members of staff who work with learners; senior leadership with a teaching role, teachers, classroom assistants, specialist provision and library staff. The aim is to support secondary school staff in developing their digital literacy knowledge, skills and confidence so that they may support learners in the responsible and positive use of technology.

The project is run in the context of Leicester City Council's Building Schools for the Future Programme (BSF), in which 23 of the city's secondary schools will be rebuilt or refurbished by 2015. The framework has been designed to support staff both in new and existing buildings. While the project as a whole has been designed to ensure staff have the skills and confidence to take advantage of the new infrastructure, systems and equipment the programme will provide them with, it is also designed to support staff development within existing schools, with significantly less flexibility in the use of and access to technology to support learners.

The DigiLit Leicester project team worked closely with the 23 BSF schools to develop the self-evaluation framework. More information about the initial phase of the project, including the content of the DigiLit Leicester framework and survey, can be found in the initial project report (Fraser et al., 2013).

The content of the DigiLit Leicester survey has been released under an open license (Creative Commons Attribution-Non Commercial) so that others can use and build on it. The survey content is explicitly linked to secondary school practice (for schools and staff working with learners between the ages of 11-18 years old). The framework and approach could be adapted for staff working with other age groups, with particular groups of learners, or for learners themselves of any age group.
The survey data has been collected from and relates to BSF schools in Leicester. The project team believe that the key areas highlighted through the survey analysis will be of value to educators and educational organisations interested in developing digital literacy. The project will also create and openly release a range of resources in relation to these findings, which schools beyond Leicester's BSF cohort can use and develop for their own purposes.

**DigiLit Leicester Framework**

Following a review of existing digital literacy frameworks, the *DigiLit Leicester* framework was developed in consultation with participating schools, national experts and organisations, and piloted with school staff to further validate its content. This process identified six key areas of digital literacy for secondary school staff, and resulted in an online survey which mapped teaching practice within each area.

**Framework Themes**

**Finding, Evaluating and Organising**

The internet is home to a huge range of information, resources and research that can be used to support and develop learning and teaching. The *Finding, Evaluating and Organising* strand includes the skills required to successfully search for information and resources online, the knowhow needed to identify reliable sources of information and to be able to apply a range of approaches for organising online content.

**Creating and Sharing**

Educators need to be able to manage a wide range of digital information and resources, including those that they create. The *Creating and Sharing* strand covers using online tools to create original materials, and building on or repurposing existing resources, for the classroom. Staff should know how to identify resources that they have permission to use and remix, and also how to openly share their own materials. They should be able to support learners in creating their own resources and portfolios of work. Educators should also be aware of the legal requirements relating to the use of online and digital resources, for example copyright law, and the range of open licenses available, for example Creative Commons licensing.

**Assessment and Feedback**

Web-based and mobile technologies provide a range of opportunities for educators and learners to assess attainment and track progress, to identify where students are having difficulties and to provide feedback, including peer assessment. The *Assessment and Feedback* strand also includes how staff make use of technologies to support learners in monitoring and managing their own learning and to ensure teaching approaches are effective, and adjusting these to suit learners’ pace and needs.
Communication, Collaboration and Participation

Digital tools and environments offer staff and learners a range of collaborative opportunities, supporting the co-design and co-production of resources, providing new approaches to participation and supporting learner voice. Staff and students can use technologies to connect and learn both with and from other learners and experts from around the world. The Communication, Collaboration and Participation strand involves the use of communication technologies, for example types of social media including, wikis, blogs and social networking sites, to support learning activities and enhance school communications, planning and management.

E-Safety and Online Identity

The use of technology is increasingly integrated into everyday life, and the value of using both private and public digital environments to support learning, teaching and communications is well recognised by educators. Schools and school staff support learners in understanding the negative effects of inappropriate online behaviour, and in ensuring learners understand what responsibilities they have as members and representatives of a school community. The E-Safety and Online Identity strand underpins educators’ and learners’ use of digital environments for formal and informal learning, including – staff understanding how to keep both themselves and their learners safe online, and how appropriate and positive online behaviours can be modelled in classroom practice.

Technology supported Professional Development

All school staff benefit from engagement with Continuous Professional Development (CPD) – keeping up to date in their subject and curriculum area, and in teaching approaches and methods. Web and mobile based technologies have changed the landscape for school staff in terms of how they can connect to other educators both locally and across the globe. Personal Learning Networks (PLN), developed and managed by educators, allow school staff to discover, discuss and share relevant ideas, resources and approaches. The Technology supported Professional Development strand focuses on how educators can and are making use of technology to take their practice forward.

Framework Levels

In order to support differentiation and to structure survey feedback to practitioners and schools, four levels were devised within the framework - Entry, Core, Developer and Pioneer. The levels build upon one another in the same way as an educator’s skills, practices and knowledge would be constructed through their pedagogic practice.
Entry

Staff who fall within this level are unlikely to have had many opportunities to experiment or engage with technology in the school context. They can carry out a range of basic activities (sending email, entering data into the schools MIS, setting up web-based accounts, creating and sharing simple documents, for example) across the framework strands, although there may be gaps in these skills.

Core

At the Core level, a member of staff can make use of commonly available school technologies and resources and understands a range of ways that these can be used to support learning and teaching. The ‘Core’ levels in the context of the framework relate to the project’s baseline of knowledge, skills and practice in the context of schools, i.e. the represent a reasonable expectation of the skills and confidence level of staff supporting young people in a typical secondary school setting.

Developer

Staff working at the Developer level of the framework will have an active interest in the development of their digital literacy. Their professional development will be characteristically self-directed and they will be capable of thinking critically about the technology that they use (or choose not to use). They will have the ability to make use of and develop their use of a wide range of tools, including the advanced features of commonly available technologies and programmes. They understand how their learners use technology and can identify opportunities and risks.

Pioneer

The Pioneer has fully integrated technology into their teaching practice and shares their experiences with colleagues and others. They are confident in their skills and know how to apply them in the classroom to create beneficial learning experiences, as well as how to appropriately monitor effectiveness and measure success. They routinely seek out opportunities to develop their professional understanding, skills and practice, and make use of technology to engage with and develop local, national and global communities and networks. They are reflective about their use of technology and use their knowledge to bring about innovation both within the classroom and for whole school community development.
Methodology

Data Collection

From April 15th to July 12th 2013, eligible staff from the 23 schools in the BSF Programme were invited to complete the DigiLit Leicester survey. The survey was aimed at members of staff who work with learners; senior leadership with a teaching role, teachers, classroom assistants, specialist provision and library staff. The BSF cohort of schools is diverse. The group includes 15 mainstream schools supporting between 900 and 1570 pupils, 8 SEN schools serving a range of learners, from pupils with moderate learning difficulties to learners with severe and multiple disabilities. These schools support between 80 and 160 pupils, and include the Children’s Hospital School. The group also includes schools supporting learners with social, emotional and behavioural difficulties. In total, the schools collectively support approximately 20,270 learners every year.

An online survey was chosen as the most effective data collection method, given the number of staff and schools in the DigiLit Leicester project, the geographic spread of schools, project team capacity and calls on school staff time.

The survey opened by asking staff ‘How confident do you feel about using technology to support teaching and learning practices?’ and to rate their confidence on a seven point Likert scale (where 1 = Not at all confident and 7 = Extremely confident).

For each of the six key areas, staff were then asked to consider four statements relating to the use of technology in the classroom and to indicate where their current practice was in relation to those statements along a scale (none, some, all). These statements can be found in the first project report (Fraser et al 2013). Additionally, free text fields accompanied each set of statements, providing staff with the option of commenting on each section of the survey.

Upon completion, aggregate scores provided staff with feedback on their current practice in each area, defined as Entry, Core, Developer or Pioneer. These levels sit on top of a more granular seven scale score (0-7) linked to the statement options within each survey strand, as shown in the table below. The scoring is defined as follows: 0-1 = Entry, 2-3 = Core, 4-5 = Developer and 6-7 = Pioneer.

<table>
<thead>
<tr>
<th>First Statement</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Some = 0</td>
<td>All = 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second, third and forth Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>None = 0</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Data Analysis

450 staff out of the total cohort of 1,912 completed the survey, that is, 24 per cent of all eligible staff. Nineteen of the 23 BSF schools participated in the survey; with school participation rates varying between one per cent and 81 per cent.

The survey data were anonymised, using unique identification numbers for all participants. Initially, descriptive statistics were used to provide a city-wide picture; describing the range, spread and average of scores achieved across the whole sample. The data were then organised into a range of demographic sub-groups and inferential statistics were used to investigate potential relationships between participant demographics, their confidence ratings and the theme levels they attained within the framework.

The analysis focused on two main areas: the effect on confidence in the use of technology to support teaching and learning by demographic factors (identified by the initial, general confidence rating question in the survey) and the effect on individual theme levels by demographic factors (Entry, Core, Developer or Pioneer). In order to investigate any variance between the data subsets, Mann Whitney U and Kruskal Wallis tests were utilised (the former for subgroups with two samples, the
latter for those with three or more samples). These tests were deemed as the best fit for the data collected, due to the subjective and therefore more qualitative, nature of the ranking process. Where appropriate, box plots have been used to visually represent the variance between subgroups.

For the categories of age and years in service, Kendall's Tau rank correlation coefficient was used to measure the association between the demographic factor and confidence or individual strand levels achieved across the framework. In this way the analysis searched for a positive or negative correlation. This test was used as a wide range of answers were received for these categories, sometimes with only one or two participants in each subgroup, making other testing inappropriate.

Free text comments were coded using Alan Bryman's (2012) four stage approach, in order to draw out the key themes. Initially, the comments were read and summarised and the summaries from the two researchers working independently were compared to determine the major themes within the transcripts. In the second stage, the comments were read again and the major themes used to derive codes. The codes were then reviewed to ensure their suitability and where appropriate to condense codes. The final stage of the process was to link the codes to the context of the study, to interpret the findings and identify significant themes.

Survey Limitations

It should be noted that the data collected is from a self-selecting sample of secondary school staff. In schools where a smaller percentage of staff took the survey, schools achieved higher average scores than in schools where a higher percentage of staff completed. This suggests that results may be weighted to over-represent more confident staff members.

The survey methodology does not support submission or review of evidence relating to staff self-evaluation of skills. Therefore, the survey measures digital literacy confidence levels. The survey explicitly asks teachers to reflect on their use of technology in the context of their current teaching practice (rather than, for example, their use of technology in a personal capacity). Recent research shows a clear link between the frequency of learners’ use of ICT and staff confidence levels (European Commission and Directorate General for Communications Networks, Content and Technology 2013). This suggests that confidence, while being an important measure in its own right, also relates to the frequency and effectiveness of use of technology.

The schools participating in the DigiLit Leicester project are extremely diverse. Whilst the project team have endeavoured to work with all schools across the city in developing the framework and survey, it is understood that not every area will map precisely at every level to the needs of every school. For example, for staff who work with learners with profound and multiple learning disabilities, some aspects of the survey content may not map usefully to their roles. However, we are confident that
each area has something to offer every school context, with several of the strands being clearly relevant to all school staff.

With a participation rate of 24 per cent, it is possible for the DigiLit Leicester Project team to reflect on the strengths and weaknesses of digital literacy skills and practices across the secondary schools in the city. The project contributes to a clearer understanding of the current digital literacy confidence levels of secondary school staff and has enabled the team to develop recommendations for taking professional development in this area forward with Leicester schools.
Key Findings

This section of the report draws out the headlines from the survey data. Starting with the headline trends from the whole sample, focus is then turned to the findings of the demographic analyses and finally, the main themes arising from participants’ comments are presented.

Headlines

- The survey opened by asking staff “How confident do you feel about using technology to support teaching and learning practices?” On a scale where 1=Not at all confident and 7=Extremely confident, the majority of staff marked their overall confidence in using technology to support teaching and learning as 6, suggesting that the majority of staff feel very confident.

- Fifty-two per cent of the staff across the city who participated in the survey classified their skills and confidence at the highest level – Pioneer - in one or more of the six key digital literacy areas. The Pioneer level is described as a member of staff who has fully integrated technology into their teaching practice and shares their experiences with colleagues and others. They may seek out opportunities to develop their professional understanding, skills and practice, and may be reflective about their use of technology.

- Twenty-six per cent of all those who participated in the survey placed themselves at Entry level in one or more of the six key areas, highlighting a significant minority of staff who identify themselves as not being confident in using technology to support these aspects of their practice.

- Staff across the city rate their skills and confidence highest in the area of E-Safety and Online Identity, with 43 per cent of all respondents scoring at Pioneer level. The Pioneer level of this theme describes staff who have a positive, active online identity, take a whole school community approach to e-safety and cyberbullying activities and education, and are able to advise learners and colleagues.

- City-wide, staff feel least confident in the area of Communication, Collaboration and Participation, with 12 per cent of staff rating themselves as Entry level. This suggests that they may require further support in the use of social and collaborative technologies, for example wikis, blogs, social bookmarking tools and networking sites. Used effectively, collaborative technologies can increase learning opportunities, enhance learner engagement and help to connect communities across schools.
City Data Overview

The following table presents the spread of staff rating their skills and confidence in each level across all six key theme areas. The blue box highlights the highest number of entry level staff (where participants feel least confident/skilled) and the purple box highlights the highest number of pioneer level staff (where participants feel the most confident/skilled).

<table>
<thead>
<tr>
<th>Theme Area</th>
<th>Entry</th>
<th>Core</th>
<th>Developer</th>
<th>Pioneer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finding, Evaluating and Organising</td>
<td>34</td>
<td>142</td>
<td>209</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>(8%)</td>
<td>(32%)</td>
<td>(46%)</td>
<td>(14%)</td>
</tr>
<tr>
<td>Creating and Sharing</td>
<td>36</td>
<td>157</td>
<td>192</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>(8%)</td>
<td>(35%)</td>
<td>(43%)</td>
<td>(14%)</td>
</tr>
<tr>
<td>Assessment and Feedback</td>
<td>33</td>
<td>118</td>
<td>209</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>(7%)</td>
<td>(27%)</td>
<td>(46%)</td>
<td>(20%)</td>
</tr>
<tr>
<td>Communication, Collaboration and Participation</td>
<td>52</td>
<td>156</td>
<td>177</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>(12%)</td>
<td>(35%)</td>
<td>(39%)</td>
<td>(14%)</td>
</tr>
<tr>
<td>E-Safety and Online Identity</td>
<td>14</td>
<td>78</td>
<td>165</td>
<td>193</td>
</tr>
<tr>
<td></td>
<td>(3%)</td>
<td>(17%)</td>
<td>(37%)</td>
<td>(43%)</td>
</tr>
<tr>
<td>Technology supported Professional Development</td>
<td>43</td>
<td>126</td>
<td>195</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>(10%)</td>
<td>(28%)</td>
<td>(43%)</td>
<td>(19%)</td>
</tr>
<tr>
<td>Uniques¹</td>
<td>116</td>
<td>297</td>
<td>383</td>
<td>233</td>
</tr>
<tr>
<td></td>
<td>(26%)</td>
<td></td>
<td>(52%)</td>
<td></td>
</tr>
</tbody>
</table>

¹ Staff may have achieved the same level across a number of themes, for example scoring ‘core’ at more than one level. The ‘uniques’ row identifies the number of individual members of staff falling at each level within the framework.
Demographic Analysis

Below are high-level summaries of the data analysis findings, related to the demographic data collected from the survey. This information was used to investigate potential relationships between certain demographic factors and their effect on confidence in the use of technology to support teaching and learning (linked to scores in the initial, general confidence rating question in the survey) and their effect on individual theme levels (Entry, Core, Developer or Pioneer) scored throughout the survey.

School

The analysis showed no significant difference between schools in terms of confidence or individual theme levels. The median confidence rating for all schools fell between 5 and 6, although the range of scores does vary slightly, but not significantly, between schools. This tells us that all schools have a similar spread of skills and confidence amongst their staff.

School Type

Schools data were grouped into two categories, mainstream and SEN/specialist provision, in order to examine any variance between the two school types. In terms of confidence, no significant difference was found between the two subsets. However, when investigating variance in individual theme levels, it was found that in Assessment and Feedback, staff from SEN/specialist provision schools marked themselves mostly at the Core level, compared to staff from mainstream schools who mostly marked themselves at Developer. This may be due to the differing needs of SEN/specialist provision learners in terms of measuring their progress in the classroom.

Role

Staff data were split into two groups, teaching staff and learning support. A breakdown of these groups can be found in the appendix. The analysis found no difference between teaching and learning support roles in terms of confidence, however, some variance occurs in the individual theme levels. In the area of Creating and Sharing, teaching support staff tend to rate their skills (Developer) higher than teaching staff (Core) and in Assessment and Feedback teaching staff perceived their skills (Developer) to be higher than teaching support staff (Core). These differences may occur due to responsibilities associated with different roles, for example, teaching staff tend to lead on the assessment process.

Subject Group

The survey collected information from staff regarding their primary subject area or role. In order to protect the anonymity of individual participants, and to ensure groupings were large enough to meet statistical test criteria, subject areas were
organised into groups. A breakdown of these groupings can be found in the appendix. Analysis has shown that both in terms of confidence and individual strand levels, highly significant variance exists.

As Figure 2 demonstrates, in terms of confidence, ICT teachers ranked their confidence the highest with an average ranking of 7. Social science teachers ranked their confidence the lowest of the groups, with an average of 4.5. ICT teachers also had the shortest range of rankings, between 5 and 7, showing that all staff teaching this subject rate their confidence highly. Staff teaching English, expressive arts and physical education, languages and humanities and learning support staff had the widest range of rankings, suggesting a variety of confidence levels in these groups.

![Figure 2 Box plots comparison of confidence ratings for subject group subsets](image)

In relation to the individual theme levels, ICT teachers consistently scored themselves above average across all six areas, with design and technology teachers also scoring themselves above average in four out of the six areas (excluding Communication, Collaboration and Participation and Technology support Professional Development). In most areas ICT teachers were not the only subject group that scored themselves above average, except for Communication, Collaboration and Participation. Senior leadership had the highest average (Pioneer) of the groups in E-Safety and Online Identity. This suggests that ICT teachers may be well placed to support their colleagues in other subject areas in developing their practice around digital literacy.
Learning support staff had the widest range of levels across the framework; staff within this group covered every level for each individual theme area. In *E-Safety and Online Identity*, only teachers of the social sciences marked themselves below the average and in *Assessment and Feedback* only learning support staff came below the average level scored.

**Gender**

The survey collected data on participants’ gender, and offered them the opportunity to register as ‘male’, ‘female’, or ‘prefer not to say’. The findings show that whilst there is no difference in confidence between males and those who prefer not to say or females and those who prefer not say, there is a significant difference between males and females. This is also the case for individual theme levels - except in *Technology supported Professional Development*.

Figure 3 shows that on average male participants scored their confidence (6) higher than that of females (5). Females also report a wider range of confidence scores (min=1, max=7) than that of males or those who preferred not to say (min=3, max=7). However, it should be noted that research into perceived online skills has highlighted that females tend to assess themselves significantly lower than their actual capability, and that in tests of actual online skills men and women are, in general, fairly equal (Hargittai and Shafer 2006).

**Age**
In relation to both confidence and individual theme levels, a significant negative correlation was found. This would suggest that the older a member of staff is, the less confident they feel about using technology to support teaching and learning practices. However, small effect sizes make the correlations weak. So whilst a negative correlation exists in all areas, suggesting that a pattern may be emerging, the weakness of the correlation implies that age may not be a strong predictor of confidence in digital literacy and that other factors may be involved.

Years in Service

Similar to age, a significant but weak negative correlation was found between years in service and confidence. It is likely that years in service is also not a strong predictor of confidence in digital literacy.

In relation to the individual theme levels, significant but weak negative correlations exist for \textit{Creating and Sharing}, \textit{Assessment and Feedback} and \textit{Communication, Collaboration and Participation}. Of particular interest, is the correlation between years in service and \textit{Communication, Collaboration and Participation} where, whilst still weak, the correlation is the strongest and the significance the greatest. This suggests that if a negative correlation does exist, it is the most prevalent in this area of practice.

More interesting still are the non-significant negative correlations found for \textit{Finding, Evaluating and Organising, E-Safety and Online Identity} and \textit{Technology Supported Professional Development}. Whilst not significant, this would suggest that how long a member of staff has worked within education has little impact on digital skills in these particular areas of practice.

General Confidence

A positive correlation was found between confidence and the individual theme levels. This indicates that participants scoring themselves highly in the initial confidence rating scale tended to also perceive themselves as working among the higher levels of the framework for the individual theme areas.
Comment Themes

Following each theme section, staff were given the opportunity to leave comments. Of the 450 members of staff who took the survey, 33 individuals left a comment in one or more areas. These comments were analysed using Bryman's four stage coding process and the subsequent key themes emerged:

Relevance

Where staff commented on the relevance of the skills and practices listed among the statements, it was usually in relation to their role. In some cases staff felt that in their current role they did not need to develop skills in certain areas, and this was often linked to how they supported learners. Some teaching support staff felt that certain practices were not applicable to their responsibilities and some staff from SEN schools noted that their learners were not able to engage in some learning activities, meaning that their own experience in these areas was lower. One noted:

"I don't set any work for the classes so I have not had reason to use some of the above links etc" (Participant 489)

Confidence

Generally staff mentioned confidence in a positive way, using the free-text field to inform the researcher that they felt confident about particular aspects of their practice. Staff commented on their confidence most often in relation to Finding, Evaluating and Organising and E-Safety and Online Identity. Interestingly, Assessment and Feedback is the only area where staff did not comment on their confidence. Only on two occasions was confidence referred to in terms of a lack of self-assurance in skills.

Understanding

In the majority of cases, staff commented on understanding in relation to a lack of knowledge around a certain topic. Most commonly this was in reference to Open Educational Resources (OERs) and sharing of teaching materials. The OER movement is currently most prevalent within Higher Education so this may explain why staff felt particularly lacking in understanding around this topic. For instance, one teacher stated:

"I have never used the Open Educational Resources - I do not know what this is." (Participant 92)

Constraints

Staff often discussed the constraints they face against integrating digital literacy into their practice. Four main issues were highlighted:
• time - to learn new skills and how to apply them effectively to practice;
• learners - their access to devices and resources outside of the school, and the skills needed to engage with those resources;
• lack of support - knowing how and where to find help;
• access - to resources and devices.

The mostly commonly noted constraints related to time and learners. Staff were particularly concerned about ensuring that learners had access to devices or resources outside of the classroom before attempting to use them, so as not to further marginalise those young people who do not have access outside of school.

Experience

Staff often used free text fields to reference the tools and techniques that they are making use of. Particular tools were commonly referred to, such as online games based homework systems or resource sharing platforms. They also commented on the types of practices in which they engage. A number of staff mentioned social learning experiences; working with colleagues to solve a problem or share a skill. For instance, one teacher stated:

"[I am an] active member of several design related forums that create and share teaching resources." (Participant 158)

Experience was also mentioned in relation to areas of practice where staff felt they were lacking in experience; this mainly involved social media, collaboration and Open Educational Resources.
Next Steps

During the second year of the DigiLit Leicester project, the team will work with schools to develop approaches and projects which support staff across the city to take their digital literacy confidence and practice forward. Schools have been provided with city wide and school specific survey results.

In response to this year’s survey findings, The DigiLit Leicester team have identified a number of areas they will be focusing on during the next year, and encouraging BSF schools to engage with.

- The project has highlighted a wealth of confidence across the city, that is 52 per cent of all staff who completed the survey, classifying their skills and confidence at the highest level – Pioneer - in one or more of the six key digital literacy areas. The project team will be exploring ways in which Pioneer level staff can be supported in sharing and promoting their practice.

- The project has also drawn attention to a significant minority (26 per cent) of practitioners who have scored themselves at the Entry level across one or more of the six strands. The Core levels in the framework relate to the project's baseline of knowledge, skills and practice in the context of secondary education. The project team will be investigating ways in which Entry level staff can be supported in developing their skills and confidence, both centrally and within the school community.

- Although the city as a whole scored strongly on the E-Safety and Online Identity strand, the corresponding scores for Communication, Collaboration and Participation were not in alignment as might be expected given the close relationship between competencies and practices within these areas. This suggests that e-safety education is being managed within a context of restriction and limits on access to certain technologies and digital environments. This approach can be characterised as protected by restrictions and, whilst effective, has been identified as potentially limiting to online opportunities, including the development of digital literacy (Helsper et al. 2013).

This indicates that schools would benefit from support in understanding ways in which social and collaborative technologies can be used to effectively support learners and school communities, in e-safety resources specifically linked to social and collaborative tools and environments, and in expanding existing practice in this area.

- Forty-three per cent of staff rated their skills and confidence in the lower levels of the framework (Entry and Core) in Creating and Sharing. Also, when given
the opportunity to leave comments, staff informed us that they were particularly unfamiliar with Open Educational Resources (OERs). These findings are in line with European Commission concerns that education and training providers are currently not taking advantage of the use and creation of Open Educational Resources. This runs the risk of ‘losing the opportunity to innovate the teaching and learning practices, to increase the efficiency and equity of the education and training provision and to raise the digital skills of learners necessary for a more competitive and knowledge-based economy’ (European Commission 2013). The project team will be looking at how we can support staff across the city in understanding and making use of Open Licensing, and creating and sharing their own Open Educational Resources.

- The sixth framework strand – Technology supported Professional Development – will enable staff and schools to effectively take staff digital literacy forward – particularly in relation to raising the profile of and sharing the outstanding practice going on across the city, to support less confident staff members, and to develop staff skills in collaborative technologies and the creation and sharing of resources. The project team will be looking at how it can take forward work in this area, particularly relating to staff use of online Personal Learning Networks.

The next phase of the DigiLit Leicester project will focus on the support of school based activities, based upon the school-level or city-wide survey findings. The project will be fostering the development of professional networks; bringing staff together to share best practice. The team are also keen to help teaching and teaching support staff in driving forward their own development through staff-led projects, as research has shown that professional development programmes that support staff in focusing on developing their own knowledge ‘are most likely to lead to transformative change’ (Fraser et al. 2007, p.167).
Bibliography


Fraser, J., Atkins, L. and Hall, R. (2013) *DigiLit Leicester: Initial Project Report*. Leicester: Leicester City Council (CC BY-NC 3.0)


Appendix

Role Categories


Learning Support: EAL Support, Cover Supervisor, Teaching Assistant, Higher Level Teaching Assistant, Librarians, SEN Specialist Provision and Senior Leadership.

Subject Categories

Maths

English

Science

ICT

Expressive Arts and Physical Education: Art, Dance, Drama, Music and P.E.

Languages and Humanities: History, Geography, Modern Foreign Languages and R.E.

Design and Technology: Design & Technology and Food & Nutrition

Social Sciences: Citizenship, Life Skills and Sociology

Professional and Vocational: Business, Health and Social Care, Media and Vocational Education

Learning Support: EAL Support, Cover Supervisor, Teaching Assistant, Higher Level Teaching Assistant, Librarians and SEN Specialist Provision

Senior Leadership
Leicester BSF Schools

Ash Field Academy
Babington Community College
Beaumont Leys School
Children’s Hospital Schools
The City of Leicester College
Crown Hills Community College
Ellesmere College
English Martyrs’ Catholic School
Fullhurst Community College
Hamilton Community College
Judgemeadow Community College
Keyham Lodge School
The Lancaster School
Millgate School
Moat Community College
Nether Hall School
New College Leicester
Rushey Mead School
Secondary Behaviour Support Service
Sir Jonathan North Community College
Soar Valley College
St Paul’s Catholic School
West Gate School
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