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***inspire* – Wolverhampton's Local Education
Partnership**

**Evaluating the development and practices of
digital leaders in Wolverhampton schools**

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1. EXECUTIVE SUMMARY

1.1 Background to the study

inspire, Wolverhampton's Local Education Partnership (LEP), set up a student digital leader project late in 2011. *inspire* managed this digital leader project, which aimed to develop a range of skills and outcomes for both the digital leaders themselves and for a potentially wide variety of personnel within the schools. By the 2012 to 2013 school year, five schools were involved in the project.

In this initiative, it was intended that the student digital leaders would share their digital technology expertise with others with less developed skills in that area, including teachers and managers in schools. Research literature indicates that learning through such intergenerational practices (where young people are more expert than older adults) is happening already in some contexts, and that practices such as this digital leader initiative could not be implemented but could also lead to benefits for student, teacher and other personnel involved. However, it is clear also from the research literature that background strategy, planning and support are all necessary if educational benefits are to be fully realised.

This study explored ways that the digital leader initiative was implemented, and attempted to identify outcomes arising. Evidence gathered is reported here as case studies and vignettes of practice.

1.2 Findings and conclusions

In all schools studied, evidence from all informants and from the analysis of benefits arising indicates that the student digital leader initiative was well worth undertaking. A key finding and conclusion is that this form of initiative has involved students who tend not to be involved in other leadership or school-wide activities. The initiative enables these students to contribute to the community, rather than just receiving from it; students become active contributors as well as receivers (and in ways that might be regarded as often being passive).

The initiative in the schools was advertised to students through a range of routes, using posters, announcements in form tutor sessions and in school assemblies. Students who were interested in the role completed an application and were then involved in an interview (sometimes in a group with other students who had common digital technology interests).

Students who were appointed already had levels of experience with some specific digital technology types, but importantly, an interest in developing these and possibly others in an educational context. Students who were appointed came from across the year 7 to year 13 age range.

Lead teachers provided spaces in which digital leaders could work (perhaps a media room). They encouraged digital leaders to contribute to the school community, as digital journalists, broadcasters, project team members, classroom supporters, home and classroom technology-use evaluators, advisors and consultants. Some digital leaders were assigned to work with specific teachers, or departments, or faculties. Lead teachers looked at ways in which digital leaders could be integrated into school management practices and processes, in order that their experiences might better inform longer-term policies.

Digital leaders acquired greater skills in uses of either specific learning software and hardware or applications to educational practices (often receiving training through sessions with professional providers or users of educational technologies). They gained enhanced evaluation skills (when reviewing potential uses of digital technologies for learning both within classroom and home situations), and gained liaison and discussion skills (when working with both students and staff). They developed group and team working skills (when working in groups to capture news items and produce them for broadcast across school media systems, for example). They similarly gained enhanced presentation skills (of how to put ideas and content together, when running a continuous professional

development session for teachers, for example). Teachers reported digital leaders gaining in terms of self-esteem as well as communication and technical skills.

Teachers in some schools recognised and reported their own enhanced skills and practices after working with digital leaders. A lead teacher in one school reported time savings (as digital leaders supported ICT support staff), and cost and time benefits associated with training were identified by some schools (as digital leaders led workshops and drop-in activities).

1.3 Recommendations

This report offers a series of recommendations in the final section, not only about ways to maximise the value of the initiative, but also providing points that schools should consider when undertaking this form of initiative. It is clear that in the schools studied, all parties benefited; there have not been any reports of major issues or concerns in terms of outcome value.

It is clear that the lead teacher in a school in this initiative is a key role. Of particular importance is how the lead teacher involves digital leaders in being involved in a balance of formal, informal and non-formal activities. Involvement in one-to-one, drop-in, workshop, broadcast development, project challenge, equipment evaluation, advice and consultancy opportunities, for example, have all been considered and explored in practices described here with different digital leader teams.

2. BACKGROUND TO THE PROJECT

2.1 Setting up the project

inspire, Wolverhampton's Local Education Partnership (LEP), set up this project late in 2011, involving at that time two of its Building Schools for the Future (BSF) schools. Working with an initial concept described by *The Specialist Schools and Academies Trust (SSAT)*, *inspire* supported these BSF schools in the selection and training of digital leaders and supported their integration into the needs and practices of the two schools. The two schools developed appropriate management and communication practices to gain from the wide technological knowledge and understanding of the selected digital leaders (students in the schools).

2.2 Managing and developing the project

inspire managed this digital leader project, aiming to develop a range of skills and outcomes for both the digital leaders themselves and for a potentially wide variety of personnel within the schools. The project aimed to develop interest and aspirations for the students involved, and to provide a wider understanding of career pathways and development opportunities for the students.

At the outset of the initiative in September 2011, *inspire* involved two schools in the project. In the 2012 to 2013 school year, three more schools were involved in the project.

3. A SHORT LITERATURE REVIEW

A traditional approach to learning has used an ‘apprentice’ model (Brown, Collins and Duguid, 1989); young people are supported in their acquisition of knowledge, skills and attitudes, to a wide range of social, emotional and behavioural concerns, by older people. However, in the field of digital technology skills, the widening access and use of emerging technologies has enabled an increasingly rapid development of associated skills and knowledge by young people. Often having time, opportunity and interest in developing digital technology skills, young people involved in this phenomenon have sometimes been referred to as ‘digital natives’ (Prensky, 2001); they devote time and efforts to acquisition and application of certain ranges of technological skills that advance selected interests (Bennett, Maton and Kervin, 2008). It is often said that young people (particularly those in schools) acquire skills and knowledge about technologies that go well beyond those of their teachers (Crook and Harrison, 2008). Consequently, whilst some might argue that this situation creates issues and challenges (Kennedy, Judd, Churchward, Gray and Krause, 2008), others (Druin, 1999) argue that this creates opportunities – that the young people can share their expertise with older people in order to support a learning arena that is no longer unidirectional.

However, research clearly shows not all young people have the same range of digital technology skills and capabilities, and not all young people have skills that relate to particular aspects of learning. Sánchez, Salinas, Contreras and Meyer (2011), through their in-depth interviews with students and teachers in Chile, found “evidence of a generation of learners without shared traits, with segments of learners presenting practices that do not characterise the entire generation” (p.543). As they went on to say, “the skills and abilities described in the literature do not represent a precise description of those that the students exploit when using technology” (p.543). Indeed, they highlighted the fact that some students have “a taste for reading actual printed books” (p.543). This research showed that although students had “wide-ranging access to ICTs [Information and Communication Technologies] ...there are differences in the intensity of this use” (p.553). They found further that “in no cases of the subjects interviewed was it shown that ICTs replaced those activities that are the most significant and valuable for the students, such as those related to their sociability”, concluding that “electronic communication is performed in the service of sociability, by expanding the possibilities for contact and coordination with friends” (p.553).

This research suggests that an integration of student digital leaders into schools will indeed need to be managed, in order to develop and match digital skills and capabilities with learning needs and intentions within a school context. As Searson, Jones and Wold (2011) said, in considering the opportunities that future virtual schools might hold, “the opportunities to use these emerging environments as a space to foster change, embrace new technologies, implement innovative pedagogies and better connect with digital learners is unprecedented” (p.367). But they went on to say that “we must continue to explore emerging ideas such as incorporation of mobile devices, integration of informal learning models such as gaming, and incorporation of hybrid learning environments” (p.367).

So, whilst the concept of intergenerational learning has potential virtue, it is not always clear that, if ‘left to its own devices’, learning will accrue and be of benefit to stakeholders involved (the young, and the older, people). Sharing is a useful intentional concept, but does it need to be planned, structured or supported in certain ways, for outcomes to be of mutual benefit?

A recent report about a European Commission-funded project “The Knowledge Volunteers” (2012) describes the roles of young people in supporting digital skills and practices of older people, in school settings. The evaluation report indicated success of the project, but management of the support provided by teachers was clearly an important factor in this success.

A community project supporting long-term development of a locality of high socio-economic deprivation in a major city in the United Kingdom (UK) was initiated in 2004. The project

implemented home and community-based technologies to enhance educational, leisure and work-based outcomes for individuals within the community. The project was evaluated over its 7-year period, looking at aspects of strategy, management and outcomes associated with each of the major stakeholder groups (project managers, young people in schools, teachers, support workers, family and community members). The study explored ways that the project introduced practices that might lead to identifiable educational outcomes, enabling younger members and older members of the community to be involved in a shared initiative, leading to learning appropriate to the individual. The study took a case-study approach, gathering data from the full range of stakeholders, and using mixed methods to identify outcomes of a qualitative and quantitative nature. Data were gathered from representative groups throughout. Evidence from different stakeholder groups was complementary and indicated agreement that intergenerational learning was a result of the initiative. However, it was clear that certain practices were used to support this form of learning (reported in Passey, 2011). There was a need for clear project intentions and aims, a monitoring and feedback process, and accepted intentions and aims managed through project leaders, as well as senior leaders within each school involved.

Study results indicated that intergenerational learning can be practically and potentially implemented through appropriate applications of digital technologies, and that newly-emerging technologies could continue to drive practices in this respect. However, it is clear that strategy, planning and support are all necessary if educational outcomes are to be fully realised. The evidence to date indicates the clear need for managing two complementary aspects: intergenerational sharing of identified digital skills and capabilities; and management of leadership skills within the school and within the digital leader group. As McAllister (2013) says, there is an argument for considering the role and development of leadership skills by students within schools. He states that “One person advocating greater emphasis on teaching these skills in schools is leadership development expert and author Jim Kouzes. ...He argues that this is essential if we’re to create visionary leaders who can hit the ground running” (p.29).

Within the context of the study reported here, therefore, key questions are:

- Has this project supported and developed intergenerational sharing of identified digital skills and capabilities through student digital leaders in these schools?
- How has the management of leadership skills within the school and within the digital leader group supported or integrated with the sharing of digital skills and capabilities?

4. THE STUDY AND APPROACHES TAKEN

4.1 Research approaches

The overall approach adopted for this research has been to develop case studies, to include elements that are largely qualitative (indicating types of outcomes, and their characteristics and potential importance). Case studies have been developed and reported using elements suggested by Yin (1994): an overview of the case study project (its objectives, issues, and topics being investigated); field procedures (including role of the researcher, access to evidence, and sources of information including documents, interviews, and direct observation); case study questions (specific questions that the investigator explored during data collection); and an analysis of the results (in terms of relevance and relationship to the proposed framework).

The research has sought to answer a number of specific pertinent questions:

- How are students identified as digital leaders?
- What specific knowledge and skills do they have at the outset, and what knowledge and skills do they acquire across the period of the project?
- How do schools develop management and integration practices that allow a sharing of the knowledge and skills of the digital leaders?
- How do students work alongside staff to up-skill and support them?
- Are any potential cost savings to a school identified, such as elements of technician time being saved, or using better communication methods leading to saving of paper costs?
- Do support and involvement practices allow a mutual sharing for digital leaders, and what do they gain in the short term?
- Do the aspirations and career ideas of digital leaders change and shape in any particular ways across the period of the project?
- What examples of practice and outcomes indicate that key skills and outcomes have been gained and achieved?
- What lessons does this project offer to the wider educational community?

4.2 Study structure

The study was structured to enable a gathering of appropriate evidence to address the research questions listed above. To explore the development of skills and outcomes by digital leaders and schools, evidence was gathered across the period of the project (from November 2011 to May 2013). Evidence was gathered through discussions with key project personnel, school personnel and digital leaders, as well as from documentation provided by the Wolverhampton LEP, and email survey questions from key teachers.

4.3 Ethical considerations

None of the data gathered for this study were considered to be 'sensitive'. However, to ensure security, anonymity and confidentiality needs for those involved, the following approaches were adopted:

- Discussions with project personnel, school personnel and digital leaders were done in open meetings.
- Subsequent discussions, with project personnel, school personnel or digital leaders, were via email, and handled in the same way. Confidentiality and anonymity relating to individuals and to individual schools were guaranteed.

5. CASE STUDY 1

5.1 Why undertake the initiative

The lead teacher in this school (an assistant head teacher) said that the reason for undertaking this project was to “explore how realistic the idea of students supporting other students and staff was”. He recognised that while the idea of students supporting teachers was a worthy idea, it might be “difficult to implement”. He felt that issues might arise in terms of student confidence in handling this form of interaction, with some teachers possibly “feeling threatened by the role reversal”.

Prior to the project, the school had supported students in undertaking digital media projects that involved group work in digital development activities. Late in 2011, 12 year 7 students worked on projects for the Wolverhampton OSCAR awards (WOSCARS), and for the BBC News School Report. Drop-in workshops had been set up on Wednesday evenings that staff and students could pre-book, to focus on a specific software/resource.

The school had a media room, already established at that time, and it was envisaged that digital leaders would use this existing room. The lead teacher anticipated that the digital leaders appointed might work on news stories as digital journalists, but that they would need to broadcast their stories via a web-site rather than via their virtual learning environment (VLE) as it was difficult to use the latter for video broadcast. The lead teacher felt that digital leaders could take a role in getting media-created work displayed around the school, as well as supporting specific digital technology training. Roles of digital leaders being considered at that point ranged from broadcast communication, through classroom uses of digital technologies (by staff and students), to supporting home use (by staff, parents and students).

At that point the school thought it likely they would invest in Apple iPads, and that digital leaders might have some responsibility for these devices. To assist the digital leaders, it was felt that they could maintain a useful portfolio record, perhaps using iPlan.

5.2 When and how the initiative was set up

Initially, the project was advertised around the school. The advertising was “done through on line information to form tutors, posters around school and presentations in assemblies”. The leader of a local Media Club was asked to produce posters advertising the digital leader posts, and these were displayed around the school to promote the idea of student digital mentors. Students interested in the project were asked to email the lead teacher with “reasons why they should be considered for the position of a Digital Leader”.

Those students who were interested then applied; they were asked to e-mail their name, year group, what roles they thought the school would need a digital leader to undertake, why these might be needed, and why they personally should be considered as a digital leader. By the end of 2011, the school had worked out the interview process, students were interviewed, and this was felt to be a “good experience for students”.

By the time interviews were undertaken, digital technology facilities in the school were being enhanced and widened. An updated network had been installed across the school, so connectivity was no longer an issue. Slates, with built-in audio capabilities, were up and running, and had been split into two sets. Teachers were reported to be happy with them, having received only 20 minutes training on using them. Although it was reported that they were not as responsive as the iPads, it was found that the MS environment was easier to use for some teachers. Teachers liked the tablets as they had fast boot-up facility, which they found was important for gaining rapid attention from students; a slow boot-up was found to interfere with the flow of a lesson. Devices to be used around school still needed to be pre-loaded with software. Additionally, a range of digital media projects with external groups were being considered – for example, a Wolverhampton City National Health Trust, Health Action Plan, on which sixth form students might work.

In late 2012, 30 applications for digital leader positions had been received from students across the school, mostly from year 7 to year 9 students. They all wrote 100 words on 'why' they wanted to be involved, and in January 2013, interviews took place.

The students were interviewed by a project manager from the Wolverhampton LEP and by the lead teacher in the school. Students interviewed ranged across years 7 to 11 (aged 11 to 16 years). Each student was asked to "come up with a list of equipment that could support their work" (£5,000 was provided for the digital leader team by the Wolverhampton LEP), to "identify the specific areas of technology and job roles" that they would support, and to organise themselves into teams that would "support different technology areas, organise their meetings, projects etc."

Initially some 15 digital leaders were identified and offered places on the project. While some dropped out, others subsequently joined the project. Being a BSF school, and being involved in a new build programme, the project did need to consider and accommodate the disruption caused by moving into a new school building. The lead teacher did feel that this "hindered the Digital Leaders programme a little". As he said, it was difficult to gain "any continuity ... due to room moves, equipment being moved, changed etc."

5.3 Management tasks as a lead teacher

As the lead teachers said, "It has been a challenge but a pattern of how we use the Leaders has emerged". It is clear that there has been a need for management of this project within the school, in order to ensure that it could both function and work as effectively as possible. The lead teacher developed ways of working with a "nucleus" of some 8 to 10 digital leaders. The pattern emerging he described as "they are used as and when we need them. This flexible approach has worked well".

5.4 Major roles of the digital leaders

The lead teacher identified five major roles for the digital leaders:

- Reviewing and testing new equipment and software in school (advising on aspects of the BSF development and implementation).
- Helping to deliver workshops in school to staff (with sessions such as showcasing iPad Apps being led by digital leaders).
- Recording school events on video or through still imagery.
- In-class support to staff when requesting this.
- Representing the school at multimedia events (and, indeed, in one of these events, the school won a regional final concerned with developing Apps).

5.5 Who has benefited

The lead teacher indicated that the digital leaders themselves "have enjoyed what they do". He also said that "staff have also been very supportive and appreciative". As he stated, "Staff and student response is very positive".

By the end of 2012, digital leaders had been involved in a range of activities. They had been involved in and won two out of the three places on an 'Oxygen Accelerator programme', which was featured on local television. The two winning teams presented their ideas for developing new Apps for Apple and Android markets. The digital leaders presented to a board of leading IT (information technology) specialists. Their Apps were subsequently developed and went through an approval process for release through the Apple Apps store and the Android Marketplace.

Digital leaders worked also as the school media team, producing multimedia presentations for use at school presentation evening events. New members developed media programmes to run on the school's e-stream display panels that were dotted around the new school buildings. Additionally, they were involved in:

- Multimedia workshops run in conjunction with specialists from iWisdom Ltd., Julian Fellows Games Design, Bullet Studios Music Production, and Film Maker Mike Ford.

- Initial workshops run with school departments - English, psychology, mathematics, and IT.
- Offering consultancy to the learning platform developer.
- Supporting staff workshops – on topics including sport and technology.
- Completing work with the photographer/designer Ming De Nasty as part of a BSF design project.

By early 2013, the digital leader group had expanded, including by that time “a wider cross section of our student community”. This included students from year 7 to year 13, all involved in on-going activities, including:

- A workshop by a year 9 digital leader, to show staff the advantages of using the Snapguide App on the iPad. The digital leader demonstrated learning guides that he had produced and published to the web. Following the workshop, a number of other students and staff published teaching and learning guides for wider access and use.
- A media team covered a wide range of events. Their event photography work was assessed to be of a very high standard, and used at all school events including the annual ‘prom’.
- Learning platform consultancy occurred regularly, leading to “real progress ... being made in this area ... over design and content issues”.
- Safer Internet Day involved digital leaders actively in promoting ‘Safer Internet’. Posters designed to promote Internet safety were displayed in school and on the new learning platform.
- A Computing Club for Girls was established as girls were under-represented as digital leaders. This was set up in conjunction with the University of Wolverhampton to explore the ‘World of Computing’ and to give girls a “chance to learn with leading experts about the latest developments”.
- Multimedia Course Development involved a number of digital leaders, “invited to help shape our new course that will run from September 2013 - the course will be available as part of our new Curriculum offering”. Students were consulted about the areas they would most like to study and this helped “determine the structure and content of the new course”.

5.6 Issues encountered

The issues stated by the lead teacher were concerned with time needs. As he said, “Many of the Digital Leaders have other commitments and it has been in some cases about making sure that they get the balance right”.

5.7 The future

The lead teacher said that the school will continue to run the initiative in the future. He felt this “will be easier to do as we settle into our excellent new facilities. I have also recognised the need to give Leaders responsibility and the freedom to work on the areas that they are most interested in. Their roles as consultants will continue though”. He is considering how to run the initiative on a “more stable footing”, for, as he said, “Where it has worked, it has worked very well indeed”. There is also an intention to bring in outside support to work with the digital leaders (members of a local multimedia company).

6. CASE STUDY 2

6.1 Why undertake the initiative

The lead teacher stated very clearly the reasons for undertaking this initiative.

“In September 2012 we moved to a brand new build as part of the BSF programme. Within the new build we have invested heavily in digital technology to support learning. As part of our vision we wanted to empower our students with the use of technology and give them a voice on how technology may be used within our Academy.”

6.2 When and how the initiative was set up

The school started this initiative in September 2012. Sessions with student form groups were used initially, so that form tutors could show a MS PowerPoint presentation giving details about the initiative to all students. Students were given an application form during the session, and were “offered extra support to complete the form”. The lead teacher also led support sessions on completing application forms. All applications were completed before the summer break in 2012, with over 50 applications received.

The application forms were used to shortlist 21 students who were interviewed over a period of two days. Students interviewed were asked “a series of questions about their experience and vision for the role”. Following completion of the interviews, 14 digital leaders were appointed, they were notified by letter, and a copy of the letter was sent home to parents.

In September 2012, a first meeting was held, to discuss and agree expectations. How the group would communicate was agreed, with digital leaders indicating their preference for use of e-mail. In this meeting they also “designed a job description which included roles and responsibilities”.

As the school had invested in new software, it was agreed that the digital leaders would “receive training on its use within lessons”. Training sessions were run on using Clipbank (run by Clipbank), and on GCSEPod training (run by the lead teacher). Both training sessions were reported to be successful; students reported they had “found the information interesting and helpful”. Following the sessions, an e-learning consultant from the e-learning technologies team asked whether it would be possible for him to produce a “short video of the Digital Leaders, exploring why they feel it is worth getting involved with and the benefit this resource” to the school. A trainer from Channel 4 Learning also asked about producing a case study on the digital leaders “to see if the approach of the students pushing technology encourages more teachers to engage with new technologies sooner”.

In October 2012, a meeting was held to discuss how to use the initial training to support teachers and other students across the school. The digital leaders developed a 3-stage framework:

- Stage 1 – continuous professional development would be delivered to teachers through department meetings led by the digital leaders. A meeting in November 2012 finalised the planning for this stage, to be implemented throughout the remainder of that autumn term.
- Stage 2 – Drop-in sessions would be set up at lunch times, to look at new technologies or provide training on uses of the interactive whiteboard, led by digital leaders.
- Stage 3 – Support would be provided in lessons, but this would be mapped against the digital leader’s ICT lessons so they could “put what they have learnt into a practical setting”.

Across the school, each faculty had two digital leaders who could support “research in digital practice”. Students had been appointed from across the entire age range, from year 7 to the sixth form. This was done to enable different types of expertise and experiences to be covered. In July 2012, 14 digital leaders were appointed, and by May 2013, the “majority of them have maintained their commitment”. It was found that commitment waned for year 11 digital leaders, during examination periods, although this had been expected. As a consequence of this experience, the lead teacher felt that the school would “probably not focus the support on year 11 students” in the future.

6.3 Management tasks as a lead teacher

The lead teacher identified specific management tasks across the period of the initiative:

- Arranging the application process.
- Interviewing students.
- Booking and arranging meetings.
- Preparing agendas.
- Preparing minutes of meetings.
- Organising bookings of ICT facilities to support work the digital leaders were undertaking.

It is clear from this list of tasks that the digital leaders were enabled to focus on research, support and advice areas, rather than them having to focus on organisation, administrative and management tasks.

6.4 Major roles of the digital leaders

In the school, each student has an iPod. As the lead teacher said, “The digital leaders have supported individuals, including other students in using their iPods to support learning”, they have “supported teachers to use packages such as GCSE pod and clip bank”, and “have suggested how to develop practice in a way which is student friendly”.

Digital leaders have supported the delivery of continuous professional development (CPD) activities for a wider teacher group. “They have provided drop-in sessions for students and have supported during tutor periods” and each digital leader supports a specific department “to help research for new methods of using technology to support learning”. As part of the initiative, the school “purchased iPads to loan to the digital leaders to support their research on how iPads/ iPods can be used to support learning”.

The more specific activities that digital leaders have undertaken is shown by this list from early 2013:

- Researching revision Apps and resources for students to use on the iPads and iPods.
- Leading a Clipbank CPD session for all staff.
- Looking at what user guides need to be produced for students when they receive their iPod.
- Assisting in the roll-out of the iPod with any questions students may have during tutorial times.
- Working with the lead teacher to update student acceptable use policies.
- Continuing working with staff members who are reluctant to use technology.
- Being attached to work directly with a faculty on teaching and learning through iPods and iPads.

6.5 Who has benefited

The digital leaders have been involved in a wide range of activities, which have supported them as well as others across the school. Digital leaders have, for example, shared Apps such as the GCSEPod App with fellow students, and have worked with the school literacy co-ordinator to look at ways in which literacy can be improved across the school by using technology.

Specifically, digital leaders have benefited in terms of:

- Receiving training on resources such as GCSEPod and Clipbank.
- Using iPads funded through the digital leaders’ programme; these are a bookable resource for digital leaders to use.
- Impact on the self-esteem of members of the digital leaders group, reported by staff.
- Showing commitment, by using their own time to attend training sessions and meetings, including a number of Friday meetings after the school day.
- Receiving positive feedback from outside contacts who had heard what they were doing at the school.

Teachers have benefited in terms of:

- Raised awareness through workshops and CPD.

- Drop-in sessions to assist and support staff with new technologies or software.
- Support for those reluctant to use technology.
- Being helped to develop use of translation/dictionary Apps for iPods/iPads to support the English as an Additional Language (EAL) students and literacy work generally.

The school has benefited in terms of:

- Expertise focused on specific areas of development relevant to the school.
- Assisting the lead teacher in developing the virtual learning environment (VLE).
- Working on digital signage around the school.

The lead teacher has identified four different groups benefiting from this initiative:

- The ICT support staff “have benefited as the digital leaders have taken away a lot of the time the ICT Support Team was spending dealing with the same questions about student iPods”.
- “Students have benefited by having someone their own age explain in their own terms how to overcome some of the issues they are facing in using technology to support learning” and “by having a voice on what software would best support them to learn”.
- “Staff have benefited by having a range of support during lessons if they find a piece of software or hardware difficult to use.”
- The school “has benefited by having a joint approach between students and staff.”

6.6 Issues encountered

As the lead teacher said, “As with all new bits of work the main issue has been ensuring that there is enough time committed to fully establish the programme across the school”.

6.7 The future

The lead teacher says that the initiative will be continued beyond this school year. “We will have a new ICT Faculty in September and will also be looking at new accreditation options. The Digital Leaders will support this work.”

7. APPROACHES AND FINDINGS IN OTHER SCHOOLS

7.1 Vignette 1

This school has put in place a range of past measures to raise its academic results, from 28-29% 5 A*-C GCSE results in the past, to 85% 5 A*-C (49% with English and mathematics) GCSE results more recently. A part of that range of measures has been concerned with elements of the school having Sports College status, which have focused on developing more positive self-esteem. The school reports these measures have been successful over the years, that students are now felt to be more socially adept, and that a lot of this has been due to a focus on leadership. Students are reported now wanting to do as well as they can. For this school, therefore, the introduction of the digital leaders' initiative linked well within its overall concerns and ethos focusing on supporting and developing leadership qualities and attributes.

The school introduced the initiative through an application and interview process. The initiative was announced in a school-wide assembly, and an application was completed online. In total, 50 students applied and 49 were interviewed. The interviews were conducted in groups, each group associating itself with interests with certain digital technologies. Those appointed had not done any leadership work in any other subject area, so the cohort had a different set of interests from those in other leadership groups. In itself, this opportunity was important for those students. Indeed, the lead teacher reported that the initiative helped to "turn one pupil around".

The lead teacher set the agenda for the first meeting, but subsequently the group met after school on a Friday and set their own agendas. There were 18 digital leaders in total appointed, each with a specific role, with a chair of the group. The chair had been working with hardware since he was 12 years old, had worked with ICT outside school a great deal, and repaired computers in his spare time. The group had a specific website that they used and developed for digital leader purposes.

In terms of developing practices across the school, the group needed to justify their bidding for funding for equipment and to justify the equipment for learning. They trialled equipment in lessons, teachers made notes about uses of the equipment, and students completed questionnaires about their uses. The digital leaders suggested equipment, trialled them, reported back on their advantages and disadvantages, and indicated how they might be used.

Each digital leader was assigned to an 'attached teacher' – they planned joint lessons. The digital leaders were 'bookable facilities', for training sessions or for a lesson. They covered all year groups and sets across the school. The appointments were recognised as being important, and were celebrated by the head teacher in an assembly.

At the start of the initiative, a range of digital technologies were already being used across the school in a variety of ways. There were interactive whiteboards installed in most classrooms, and these were felt to be used 'fairly well' – a lot by teachers in modern foreign languages, and used for quizzes in mathematics lessons quite a lot. Coursework was completed by students using laptops, and there were 8 iPads used in science, for example. The lead teacher felt that introducing digital technologies would support a greater independence of learning, which she believed was needed at that time.

Activities that digital leaders were subsequently involved in included:

- Meeting with staff to organise future events and how they could assist with their digital needs.
- Meeting with the school website creators.
- Training - digital leaders were involved with specialist training in photography and videography.
- Being involved as needed as IT support in lessons – the digital leaders were used during their own ICT lessons as a first level of support for students who needed assistance when the teacher or technician was unavailable.
- Maintaining the school television (TV) and radio channels. They maintained and updated the television material throughout the school and renovated the TV room to create an effective space

in which to complete their digital work. The main screen in reception was used to show images, video and audio of the schools' recent events.

- Filming and photographing school sport fixtures for the school newsletter.
- Creating a sports bulletin on a termly basis.
- Organising equipment, allocating job roles and uploading all footage onto a presentation for the end of an event.
- Interviewing key staff at events and taking photographs and capturing video footage to create broadcast material.
- Interviewing, photographing and filming key staff and young ambassadors from schools across the Black Country at the Black Country Young Ambassador Conference 2012, held at Aldersley Leisure Village. The students edited footage and used new digital single lens reflex cameras to capture still images, upload these onto a presentation for the end of the conference, for all participants to see.
- Building an Educational Legacy – Adam Whitehead, a former Olympic swimmer visited the school and the digital leaders filmed the sessions and photographed other students for the school newsletter.
- Empowerment Day – digital leaders filmed empowerment days across the school, taking pictures and creating videos for the end of day closing ceremony.
- Presentation Evening – digital leaders filmed the annual Christmas event and helped take photographs of those receiving awards.

7.2 Vignette 2

Digital leaders in this school were engaged in two main groups of activities:

- Developing sharing practices via blogs.
- Trialling and evaluating uses and applications of new digital technologies.

Sharing practices via blogs was a development inspired by the digital leaders. As a result, the school gained four blogs that were up and running, and used by both staff and students. These blogs focused on:

- Teaching and learning.
- Performing arts.
- ICT advice.
- A Flanders battlefield trip.

The blogs were authored using Word Press to accommodate a range of web browser software, including those using iPad devices with a combination of the App and Safari. The blogs were used as follows:

- Teaching and learning: this was a staff-focused blog for sharing good practise, containing wide and varied information on useful iPad Apps, tips for lesson planning, and advice for using new planners.
- Performing arts: this was used as a tool for recording student assessment and progress. It was used across Key Stages 4 and 5 for all performing arts courses in the school. The record of progress formed a diary of events and tasks completed by students to replace paper versions used previously.
- ICT advice: this offered ICT tips to staff. It contained information regarding more technical aspects of using and supporting the device. It also provided tips regarding online privacy and the use of Word Press for administering blogs.
- A Flanders battlefield trip: the digital leaders who took part in a trip to Flanders used the iPads to document and share their experiences with other students back in school. They used a combination of images and textual information.

In terms of trialling and evaluating uses and applications of new digital technologies, the school reported that the experiences and opinions of digital leaders had “been quite instrumental in our

approach to buying new equipment. Through their experiences with the use of iPads the school has decided to buy 60 more of these devices”. Of these, 30 were used by performing arts and 30 could be booked by staff. The Apps installed were selected on the advice of both digital leaders and staff.

The school purchased a range of new technology including Smart Board Active Expression handsets (choice selection tools), some global positioning system (GPS) watches for use by the physical education department, geographic information system (GIS) mapping software for use in geography, a set of iPod touch devices for use in mathematics and English, and several visualisers for use in art and design.

More recently, the school extended the range of digital leaders so that they included those in the sixth form. This group of digital leaders evaluated uses of iPads from a post-16 perspective. The digital leaders concluded that a laptop or MS Windows-based tablet would be more beneficial as these would enable a higher standard of work required with few useful Apps on the iPad for A-level. The school concluded that “to make the most of the stone tablet we would need to invest in some extra software that isn’t installed as standard”.

Since 2012, the school has focused on younger students evaluating uses of stone tablets (in Key Stage 3), recruiting more digital leaders from the new year 7 cohort, performing evaluations of new technology such as the Active Expression handsets and GPS watches, and investigating the uses of the iPad in speaking and listening-based subjects.

7.3 Vignette 3

In this school, digital leaders created a “workflow model” of how Apps could be “integrated into lessons”. This included detailing the steps needed to “approach teaching staff” and ensure Apps were installed onto the iPads. The digital leaders shared amongst themselves the Apps they were then using, highlighting advantages and disadvantages. Apps for mathematics were popular choices, as were time management and timetable Apps.

In the school, the use of iPads in lessons was reported to have increased significantly since September 2012, with very many bookings for class sets being made. It was found that “staff who have struggled with traditional technologies” were finding using iPads “more convenient than previous technologies”. Digital leaders helped more reluctant staff to engage with these technologies.

Digital leaders took a lead in developing a school digital reward system (called ‘My Stickers’). They also requested a visit to the new school site to film and record progress.

More recently, the school looked to recruit new digital leaders from its new intake - a year 7 cohort. It was recognised by the school that digital leaders were continuing to influence strategic decisions about ICT investment under BSF. More specifically, digital leaders had been keen to trial Nexus tablets to compare an iPhone operating system (iOS) with an Android operating system. At the same time, the mathematics department indicated interest in the trial.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

From across the evidence presented in the case studies and vignettes above, the ways that this relates to the key research questions asked at the outset is considered here. Each research question is taken in turn.

How are students identified as digital leaders?

- The initiative is advertised to students in a range of possible ways, using posters, announcements in form tutor sessions and in school assemblies.
- Students complete an application and are then involved in an interview (usually in a group who have some common digital technology interests).
- Breadth of experience with digital technologies, interests in working with them with other students and teachers, coverage of different digital technologies and age groups, and identifying and discussing possible roles to support students and teachers, have been used as indicators during interview and application selection processes.
- Individuals identified have often given support, with long periods of commitment in the schools studied.

What specific knowledge and skills do they have at the outset, and what knowledge and skills do they acquire across the period of the project?

- Digital leaders already possess levels of experience and expertise with specific digital technology types and an interest in developing these in an educational context. These are skill levels considered and identified at the outset.
- Digital leaders acquire greater skills in uses of either specific learning software and hardware or applications to educational practices (often gained after being involved in training sessions with professional providers or users of educational technologies).
- Evaluation skills are enhanced (when reviewing potential uses for learning), as are liaison and discussion skills (when they interact with both students and teachers).
- Group and team working skills are focused and developed (when digital leaders work in groups to capture news items and produce them for broadcast across school media systems, for example).
- Presentation skills are acquired (of how to put ideas and content together, when running a continuous professional development session for staff, for example).

How do schools develop management and integration practices that allow a sharing of the knowledge and skills of the digital leaders?

- Lead teachers provide spaces in which digital leaders can work (perhaps a media room).
- They encourage digital leaders to develop and be involved in creating resources that can be shared and broadcast.
- They encourage digital leaders to offer drop-in sessions for students and teachers.
- They support opportunities for work in classrooms alongside teachers.
- They ask digital leaders to explore learning uses of digital technologies at home as well as at school.
- They look at possible opportunities for digital leaders to be involved in projects with external groups.
- They encourage digital leaders to offer consultancy and advice to school management and to school providers (such as learning platforms providers).
- Lead teachers have in some schools assigned digital leaders to specific teachers, departments or faculties.

How do students work alongside staff to up-skill and support them?

- Digital leaders have worked with individual teachers in drop-in and one-to-one sessions.
- Digital leaders have run CPD activities with groups of teachers.

Are any potential cost savings to a school identified, such as elements of technician time being saved, or using better communication methods leading to saving of paper costs?

- A cost saving in terms of time of ICT support staff time has been identified, when ICT support staff have limited time or where the same questions are being asked of them.
- There are potential savings in terms of training, but these have not been specifically identified by lead teachers.

Do support and involvement practices allow a mutual sharing for digital leaders, and what do they gain in the short term?

- Mutual sharing has been seen to result in a range of benefits, including enhanced self-esteem.
- Digital leaders in their various roles are essentially contributing to the community, so they are involved in contributing positively to it to a much greater extent.
- In this way they are likely to be involved and contributing, rather than being more passive recipients of the system.

Do the aspirations and career ideas of digital leaders change and shape in any particular ways across the period of the project?

- It is not clear from the evidence gathered that aspirations have shifted.
- One school established a club for girls to be involved, in order to ensure their interests were met.

What examples of practice and outcomes indicate that key skills and outcomes have been gained and achieved?

- Evaluation and feedback skills have been demonstrated following trials on digital technologies.
- Creation and presentation broadcast skills have been demonstrated when producing and presenting news and events through different forms of digital media.
- Digital leaders have demonstrated their skills in working with individual students and teachers to support their specific interests and needs.
- Digital leaders have demonstrated collaboration with external personnel.

What lessons does this project offer to the wider educational community?

- Contributions are reported by school leaders and teachers as being valuable and worthwhile.
- The gains and benefits for digital leaders that are seen and reported by lead teachers and other teachers might not have arisen otherwise, especially as these students tended not to be involved in other school activities.
- Case studies have shown that dedicated management time and support is needed if this initiative is to run effectively.

8.2 Recommendations

The conclusions above and evidence from the case studies and vignettes allows a range of recommendations to be drawn out. These recommendations are offered for those schools or policy makers or advisors who are thinking of embarking on this form of student digital leader initiative.

What lessons does this project offer to the wider educational community?

- A student digital leader initiative is well worth considering and undertaking.
- This form of initiative, as shown in the schools studied here, enables students who are not involved in other leadership or school-wide activities to have opportunities to be involved in this form of initiative.
- The initiative enables students to contribute positively to the community, rather than just receiving from it; students become contributors as well as receivers.

How are students identified as digital leaders?

- The initiative needs to be announced across the school, so that all ages of students might be represented.
- An application and interview process has been shown to be an appropriate way to identify and select digital leaders. Criteria used should be considered, but examples are offered in the case studies and vignettes in previous chapters.

What specific knowledge and skills do they have at the outset, and what knowledge and skills do they acquire across the period of the project?

- Digital leaders should demonstrate initial interests in specific and different digital technologies, particularly those that are or might be considered for use within the school over the next two years or more.
- Digital leaders should be selected across the widest age range of the school, to represent a width of digital technology interests and to be concerned with long-term involvement and commitment.
- There should be opportunities provided for digital leaders to develop soft skills alongside technical skills.
- Digital leaders are likely to benefit from receiving training from external providers, such as those providing resources that are used on interactive whiteboards or iPads or tablets.

How do schools develop management and integration practices that allow a sharing of the knowledge and skills of the digital leaders?

- Management time from a lead teacher is needed.
- The lead teacher should consider spaces where digital leaders can work (such as a media room).
- Opportunities for digital leaders to engage in formal, informal and non-formal learning settings should be offered as these arise.
- Lead teachers should consider how digital leaders can contribute to the school community, through being digital journalists, broadcasters, project team members, classroom supporters, home and classroom technology-use evaluators, advisors and consultants.
- Lead teachers should consider whether to assign digital leaders to specific teachers, or departments, or faculties.
- Lead teachers should consider how digital leader expertise can be integrated into management practices and processes to inform longer-term policies.

How do students work alongside staff to up-skill and support them?

- Digital leaders have been shown to work with individuals to look at options and opportunities.
- They have offered CPD sessions.
- They have provided drop-in sessions for students and staff.
- They have offered lesson support as teachers have requested this.
- They have met with school managers to advise on specific aspects of potential development.
- They have offered consultancy to external providers, such as learning platform providers.

Are any potential cost savings to a school identified, such as elements of technician time being saved, or using better communication methods leading to saving of paper costs?

- Lead teachers should consider how digital leaders are used to maximise ICT support time from school technical and support staff.
- Similarly, lead teachers should consider how to maximise support that involves training time.

Do support and involvement practices allow a mutual sharing for digital leaders, and what do they gain in the short term?

- Digital leaders have been involved in individual sharing with other students and teachers.
- They have been involved in team work and group sharing events, such as workshops.
- They have been involved in creating and producing broadcast material of news and other events.

- They have been involved in project work, working with others external to the school, and on wider national or regional challenges.
- They have represented schools at external media events.

Do the aspirations and career ideas of digital leaders change and shape in any particular ways across the period of the project?

- Lead teachers should consider how aspirations might be affected, and how involvement with external groups and experts might support and enhance those aspirations.
- The effect of leadership opportunities on specific groups within the school should be considered (for example, the need to encourage girls to actively participate in this initiative).

What examples of practice and outcomes indicate that key skills and outcomes have been gained and achieved?

- Lead teachers should consider the involvement of digital leaders in a balance of formal, informal and non-formal activities.
- Involving digital leaders in one-to-one, drop-in, workshop, broadcast development, project challenges, equipment evaluation, advice and consultancy opportunities, for example, are all worth considering.

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Appendix A: Key teacher informant schedule

Digital Leaders in Schools

A Lancaster University research study for the Wolverhampton Local Education Partnership

Key teacher evidence

Please put your responses in the boxes provided below.

School:

1. Why did you undertake this initiative on digital leaders?

2. When and how did you set up the initiative?

3. How did you recruit the digital leaders, and what year groups did they come from?

4. How many digital leaders have been involved, and have those who started early maintained their interest and commitment?

5. What management tasks have been involved from your perspective as a key teacher?

6. What have been the digital leaders' major roles?

7. How have digital leaders worked in and across the school?

8. Who has benefited (teachers, managers, digital leaders, IT staff), and in what ways?

9. Have you encountered any issues?

10. Will you continue to run the initiative in the future, and if so, will you run it in the same way?

11. Please add anything else that you think is important or useful to understand your involvement in this initiative.

Thank you for taking part. Your contribution is greatly valued and appreciated.

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The author of this report

Don Passey is a Professor of Technology Enhanced Learning and Co-Director of the Centre for Technology Enhanced Learning in the Department of Educational Research at Lancaster University. He has wide experience with developing and using evaluation and research methods to look at technological innovation, and has studied and reported on outcomes of uses of leading edge technologies and their impacts on teaching and learning over the last 20 years.

He completed in 2011 a related study for Birmingham City Council and the Aston Pride New Deals for Communities, which looked at the ways that 8 primary schools in a deprived socio-economic area established computer and internet access in homes, and used the development of homework practices to develop technological interest and skills of parents. He has recently completed studies for Wolverhampton LA on the implementation of a parental reporting pilot in 5 schools, and on the implementation of the LP+ learning platform, and for Espresso on the uses of their online multimedia resources across their very wide user base.

He is undertaking a range of studies on home access and uses of technologies to support young people's learning, has previously undertaken an evaluation study for the BBC looking at outcomes of the BBC News School Report project, and a number of studies for Becta looking at potential uses of technologies with young people who are not in employment, education or training (NEET). He has over the past few years undertaken a series of evaluation studies on how schools in Aston Pride have supported the development of community and home access to ICT, as well as a review of the ICT development practices and outcomes arising in Wolverhampton LA. He was commissioned by the BBC to look at learning uses and outcomes of the BBC jam resources at an early stage of their development. He previously completed studies on the role and learning benefits of IT Academies for the DfES, the use of broadcast video clips in schools and uses of multimedia support for at risk young people for the BBC, the uses of specific online learning resources for regional broadband consortia (RBCs), the ways in which ICT is linked to pupil motivation for the DfES, the role of ICT in supporting learning practices for disadvantaged communities for a NDfC project, the outcomes of uses of interactive whiteboards, and the development of e-learning practices across RBCs and local authorities (LAs). He has undertaken studies and reported previously on the outcomes and implementation of Pathfinder LEAs for the DfES, the development of Year 7 online course materials for mathematics for RM, and the use of a number of integrated learning systems in schools. He previously led a team that investigated the outcomes of laptop use in schools and homes as part of the Microsoft UK Supported Anytime, Anywhere Learning Project, and led a study for the Qualifications and Curriculum Authority (QCA) looking at the implications of uses of ICT for coursework in examination assessment.

He has worked with government agencies, commercial and non-commercial groups, educational institutions and schools, in undertaking research to inform both policy and practice. He has been a consultant to the DCSF (then DfES) on a number of projects, and has worked on the development of innovative approaches to data management systems in schools and LAs. He has worked with commercial companies in the UK, Switzerland and Germany, with state pedagogical research institutions in France and Germany, with educational groups in Hong Kong, Bermuda, and Peru, with LAs across England and Scotland, with RBCs, and with individual schools. He established, in collaboration with the Specialist Schools and Academies Trust (SSAT), a Masters in Research course in Innovation in School Practice for teacher practitioners, focusing on researching the uses of data and technologies within schools and in homes.

He is a member and vice-chair of the International Federation for Information Processing (IFIP) Working Group on Information Technology in Educational Management and a member of an international Working Group on Elementary Education and ICT. He is a member of the BCS Schools Expert Panel. He has written widely on aspects of leading edge ICT uses in primary and secondary education, and is on the editorial board of the IFIP journal.

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