British Educational Suppliers Association

BESA

Market Research

Digital divide in schools
A location analysis

Preliminary investigation

ICT Series

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i Acknowledgements

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The National Education Research Panel (NERP), managed by C3 Education, provides the education community with a gateway to the data and commentary required to develop resource use in schools and colleges. Accurate, timely information and analysis allows providers of products and services, to best meet the challenges of resourcing education.

Our highly profiled network of respondents and innovative surveying solutions and techniques, provide a unique insight into the resourcing of schools and colleges across the UK.

Report written by
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15.09.2014

ii Introduction

The aim of this publication is to review data gathered in recent BESA research activities and assess evidence of any digital divide in ICT use in schools that may be occurring due to limited broadband access for schools and the knock-on effects this may have on investments in wireless networking and new tablet adoption.

The emphasis of the analysis is to initially define any correlation between schools that are in an urban environment and those that are rural. This distinction is most prevalent across the primary sector as many secondary schools are located in towns, which generally have higher levels of broadband and leased line availability.

Four areas are investigated in the analysis and correlations sought for each:

1. Broadband availability (based on percentage of ideal level of provision as an indication of current speed)
2. Wireless (Wi-Fi) availability (based on percentage of ideal level of provision as an indication of infrastructure investment)
3. Current tablet computer adoption (devices per pupil) and being 'well-resourced' with the technology
4. Availability of access to the internet for teachers and pupils

For the purposes of this analysis research from the recently published 'ICT in Schools' survey is analysed along with findings from BESA's 'Tablets and Connectivity' report published in July. The report reviewed broadband and wireless use and identified issues over the link between school wireless investments and the availability of adequate broadband.

It should be noted that discovering urban/rural digital divide correlations was not the original function of the research and that the analysis is spread across two sets of data. Care in interpretation needs to be taken in correlations between the four steps described above. Our findings are that a correlation does appear to exist; however, further research needs to take place focussed specifically on the digital divide using compatible methodology to identify the condition more comprehensively.

Key facts

Research conducted

Jun/Jul '14

Survey type

Pre-profiled online panel

Directed to

ICT leaders*

*Primary ICT co-ordinators and secondary network managers

Survey 1:
ICT in UK Schools
(sample = 1,225)

Survey 2:
Tablets and Connectivity - English Schools
(sample = 645)

1.0 Impact of poor broadband access

The findings of a preliminary investigation into each of the research datasets identifies a correlation between the level of broadband bandwidth a school currently has and the likelihood of that school making good use of Wi-Fi connectivity and tablet use across the school. In addition, the analysis provides an indication that many of these schools are in rural locations.

A further review of data also identifies that schools with poor broadband bandwidth (relative to their needs and expectations) correlates to Ofcom's assessment of the locations with the lowest superfast broadband availability and the percentage of the population in each area that have access speeds below 2Mbps.

The findings detect a relationship in the responses that suggests that low broadband bandwidth availability is negatively correlated to high levels of tablet adoption. While there needs to be further investigation and consistent methodology in tracking each attribute over time and in the context of rural/urban locales, the results do support the following hypothesis:

A	Rural location is likely to bring comparatively slow broadband speeds *(Ofcom analysis and mapping 2013)*
B	Slow broadband speeds correlates to lower investment in school Wi-Fi connectivity
C	Poor Wi-Fi connectivity correlates with poor tablet adoption
D	Poor tablet adoption correlates with poor teacher and pupil access to the internet

Additional research needs to be completed to identify any casual relationships to the correlations and better track changes in Wi-Fi connectivity, tablet adoption and use of ICT for teaching and learning when schools are upgraded from a slow broadband connection to a faster one, which is closer to the ideal required for improving teaching and learning using ICT.

Key facts

The majority of rural schools are only a fifth of the way to their ideal level of broadband bandwidth

Rural schools more likely to identify lack of broadband and Wi-Fi connectivity as a very significant reason for not adopting tablets in the classroom

Poor availability of internet access for UK teachers and pupils shows a correlation to areas with known poor fixed line broadband access

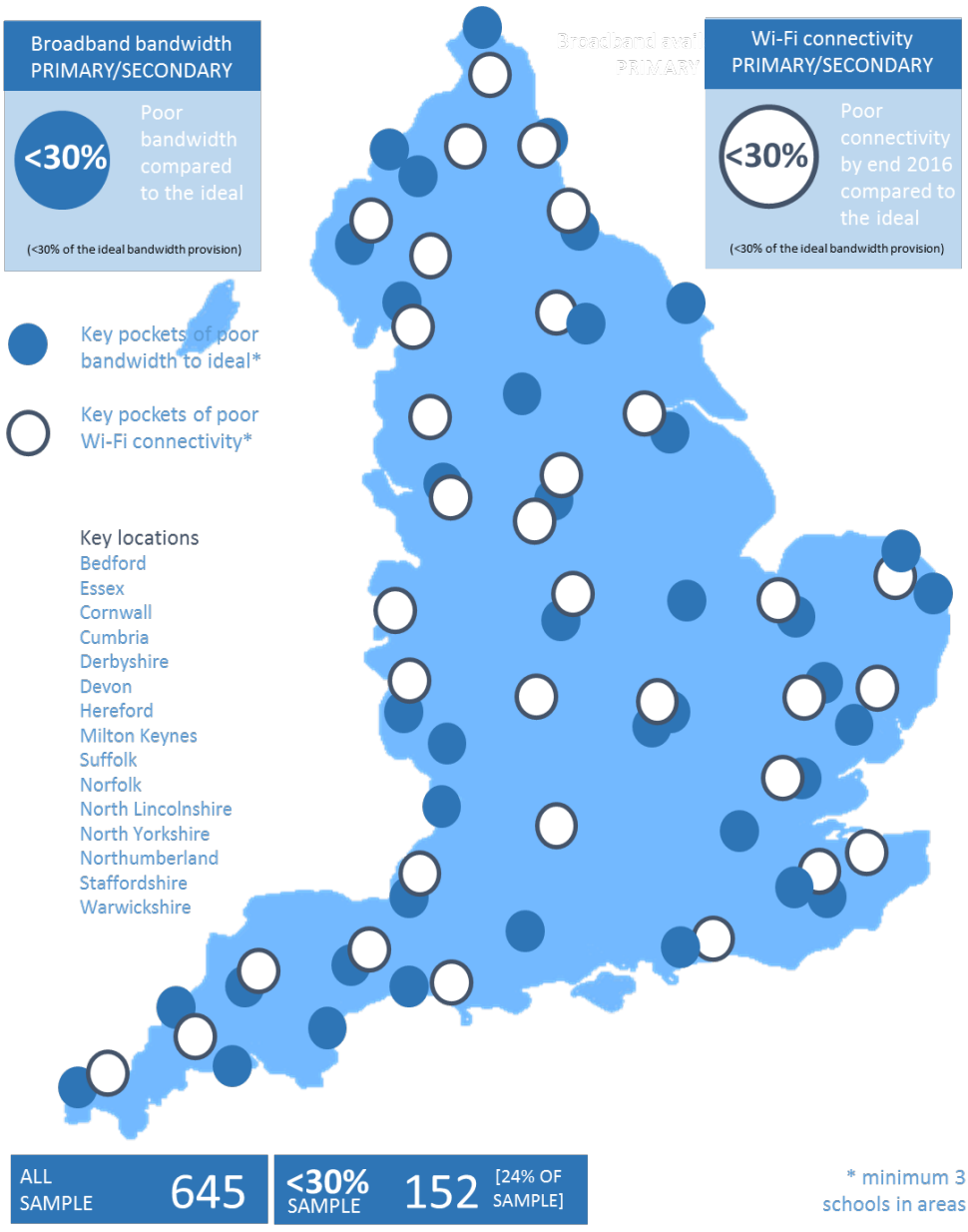
Evidence of a correlation between low future adoption of tablet computers and poor broadband bandwidth

As an extension to the above, rural schools may be restricted in their access to the latest online digital content from leading publishers

1.1 Wireless (Wi-Fi) connectivity and location

Schools were asked to record broadband bandwidth currently available and how close this is to the ideal level of bandwidth required to meet their needs and expectations in supporting teaching and learning. In addition a similar question was asked about the availability Wi-Fi access across their school and how this meets their ideal level of provision.

Chart 1.1



Key facts

"Chart 1.1 identifies those schools where actual levels are less than a third of the ideal. There is a close correlation in those schools indicating low levels of both types of provision. In addition, when compared to Chart 1.2, which tracks poor availability of broadband, the correlation is positive."

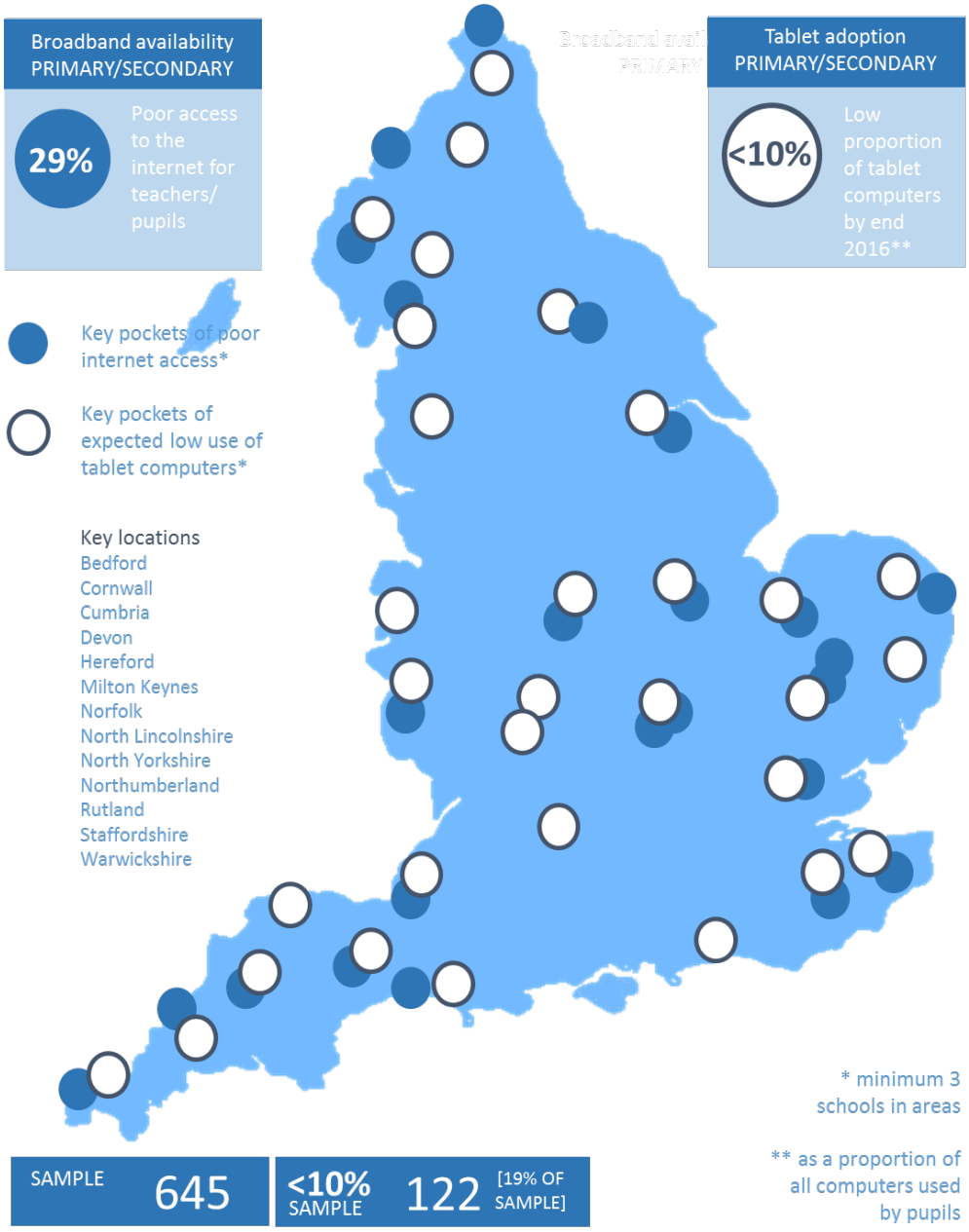
"The key locations identified in Chart 1.1 reveal the rural positioning of respondents and the correlation to the other indicators identified in Chart 1.2 and 1.3, which includes future tablet adoption."

"Limited access to broadband bandwidth and Wi-Fi connectivity in schools can lead to limited use of online digital content and thereby limiting rural schools ability to use the latest cloud-based apps."

1.2 Low tablet availability and location

If schools are identifying that teachers and pupils have poor access to the internet (which is universally due to the availability of inadequate bandwidth, rather than having a connection at all), then they are also likely to indicate (by location) a low uptake of tablet computers by the end of 2016.

Chart 1.2



Key facts

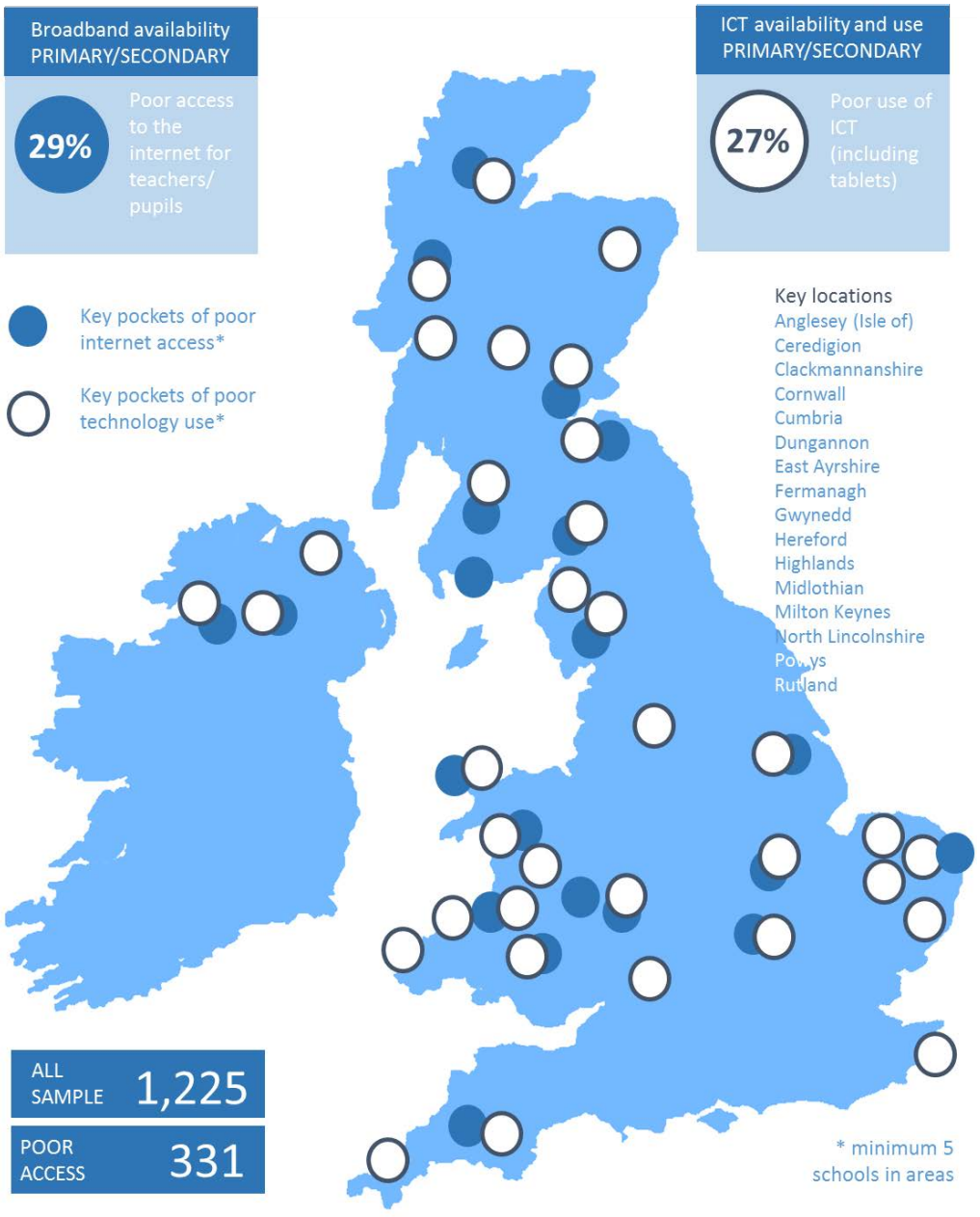
"Chart 1.2 reveals that there is a correlation between poor internet access for teachers and pupils and the expected low adoption of tablet computers in the near future."

"On average over a third of all computers in English schools are expected to be tablets by the end of 2016; however, low levels are expected in rural schools in areas such as Cornwall, Norfolk, Staffordshire and Hereford."

1.3 Poor availability of ICT and location

The evidence represented in Chart 1.3 identifies a correlation between schools in areas where broadband access for teachers and pupils is considered poor and where there is poor use of ICT in the classroom. There are large areas of Wales, North West England and Scotland where the correlation is most identifiable.

Chart 1.3



Key facts

"In UK locations where there is a high percentage of poor connectivity (as determined by Ofcom in 2013) schools are more likely to have poor access to the internet."

"The key locations where there is concern from schools that there is poor use of ICT (including tablet use) are identified in Chart 1.3 and include Cumbria in England, East Ayrshire in Scotland and Gwynedd in Wales."

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