Engagement with the Hwb virtual learning environment during Covid-19 school closures

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This Data Insight outlines preliminary findings on engagement with the Hwb virtual learning environment by pupils in primary, secondary and special school sectors during the academic year 2019/2020.

Background

The Covid-19 pandemic forced everyone to adapt and seek solutions to face-to-face contact, including the educational community. Indeed, as UNESCO highlights, the Covid-19 pandemic made us witness the most serious interruption of face-to-face teaching and learning, widening already existing inequalities around the world.

In an attempt to slow the spread of the virus, schools in Wales were required to close in March 2020 and transfer the majority of their delivery online. As a result, concerns were raised about access to learning materials, teaching staff and peers due to a lack of required devices, digital skills or internet connectivity—otherwise known as digital exclusion. Although complete exclusion affects a small minority of pupils , the quality of access to the internet—particularly for accessing 'live' lessons—is harder to estimate. Both are significant when considering the short- and long-term effects of learning and opportunity loss. In an effort to combat these issues, the Welsh Government made £3 million of funding available to local authorities to repurpose school devices for learners and to provide students with 4G mobile Wi-Fi access .

Since 2012, all maintained schools in Wales were provided free access to the Hwb virtual learning environment. The Hwb aims to support the delivery of the curriculum in Wales, for both staff and pupils, providing a nationally coordinated approach to supporting digital teaching and learning.

The Hwb virtual learning environment provided a unique opportunity for schools to transition smoothly to remote learning during the Covid-19 pandemic. Many schools in Wales were already using Hwb prior to the pandemic to access particular learning resources, such as Google Classrooms and Just2Easy. It also offered access to Microsoft Office365. Crucially, Hwb also collects monthly data on usage across the maintained

school system based on the number of logins of pupils and staff by school. The login data only provides a partial picture of Hwb usage because it is possible to access Hwb resources without logging on via Hwb. For example, in March 2021, the Hwb website accounted for around 5% of total logins to Hwb services by pupils. Nonetheless, the data provided a valuable resource to research the move to online digital teaching and learning and, importantly, identify any variations or inequalities in usage during the first Covid-19 lockdown.

What we did

Using pupil logins to the Hwb website for the academic year 2019/2020, we identified patterns and changes in Hwb logins, highlighting any emergent disparities. Not all schools use Hwb (at all or regularly), and within schools it is possible to login directly to particular learning resources, including those provided by Hwb, rather than logging in via Hwb. So, these data are not a complete measure of Hwb usage, nor online learning in general during the pandemic. But when compared over time, or compared between schools based on their characteristics, they can provide valuable indication of patterns and trends in digital learning during the pandemic.

Linking administrative datasets containing information about the schools and Hwb website logins, the logins of pupils from 1,434 schools, (1,212 primary, 182 secondary, 40 special) were analysed to investigate if patterns of access changed over three distinct periods of the 2019/20 academic year:

1. Fully open: [2 September 2019 - 20 March 2020]
2. First school closure: [20 March 2020 - 29 June 2020]
3. Partial reopening: [29 June 2020 - 17 July/ 24 July 2020, depending on Local Authorities]

Data from Hwb was aggregated by both school and month. Since the number of days that pupils were expected to be in school varied by month, the number of logins into the Hwb website was weighted by the number of school days for each month. Furthermore, to ensure an accurate comparison between schools, the weighted login variable was again weighted by the number of accounts and multiplied by 100 to get an assessment of the proportion of engagement via logins to the Hwb website . This can therefore only provide a measure of usage for comparative purposes and is not an indication of actual use.

What we found

The effect of school closures on engagement with the Hwb website is clear from the uptrend from March 2020 with a peak during April 2020, and then a downtrend until July 2020 (Figure 1). Variation in logins between primary, secondary and special schools can mainly be explained by the use of Hwb in accessing learning resources (e.g. many secondary schools encouraged pupils to log in to resources such as Google Classrooms directly, rather than via the Hwb virtual learning environment).
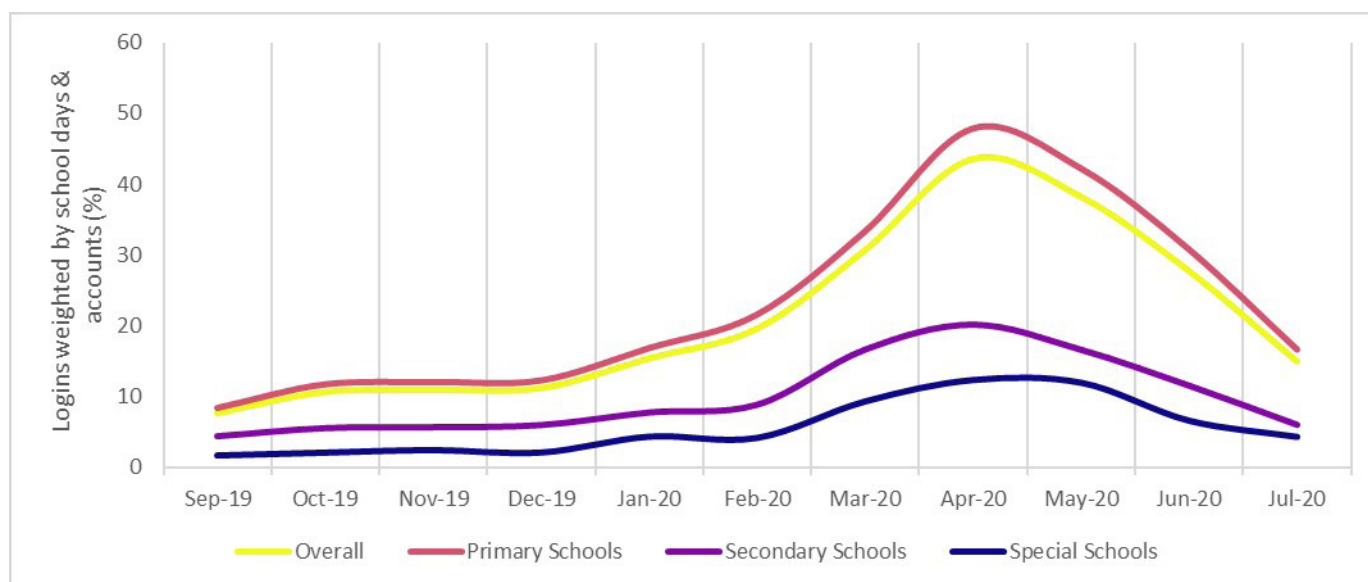

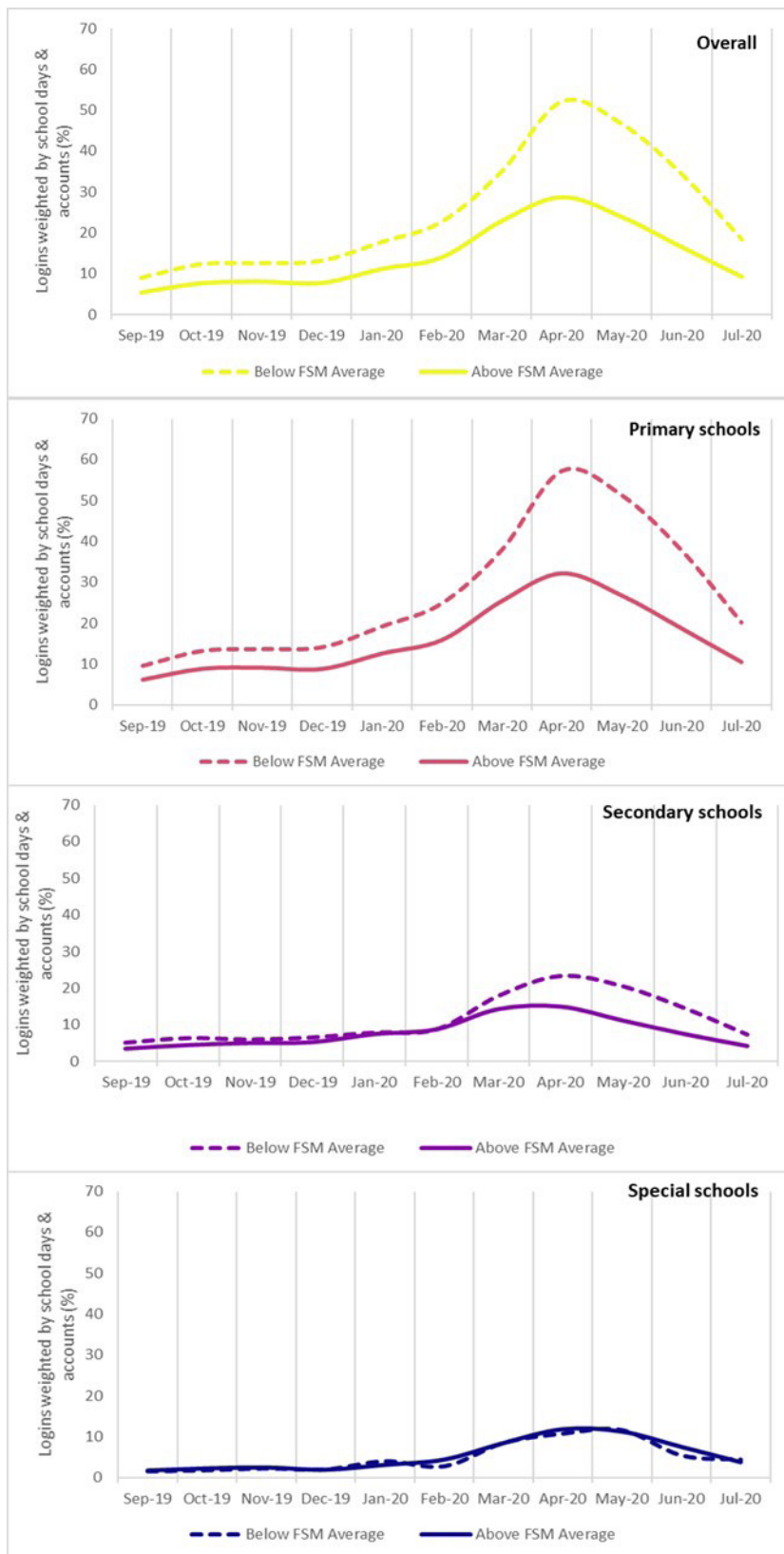*Figure 1 – HWB's Use Over Time By Pupils – Wales Level*

Figure 2 - Wales -Wide Pupils' Application Use Over Time By Percentage Of Pupils Eligible To Free School Meals (%FSM)

We identified a relationship between Hwb website logins and proportion of pupils eligibile for free school meals (eFSM) within each school (see Fig. 2), with higher engagement with the Hwb virtual learning environment for schools with a lower propoprtion of eFSM pupils. This was a recurring trend across the primary and secondary school sectors . It should, however, be emphasised that the differences in logins between secondary schools with above and below average eFSM pupils only became apparent after the first school closure. This was not the case for the primary schools, where differences existed before the first school closure, but reached a peak during April 2020 (24%), before declining again after the partial reopening, with variations of less than 10%.

Finally, the same disparity in logins is not evident in the data from the special schools, partly due to the small number of Hwb login data available for these schools.

Why it matters

Although initially perceived as a legitimate measure to mitigate the spread of Covid-19, national school closures have triggered concerns about digital exclusion and the exacerbation of existing educational inequalities, through the loss of learning opportunities. Administrative data on logins via the Hwb website allows for the analysis and identification of trends and patterns in this type of remote learning in Wales. Although only a partial indication of Hwb usage and overall online learning, these data can help understand the challenges some schools may have in encouraging their pupils to use these resources. In turn, this analysis may help prevent further escalation of existing educational disparities, with mitigation through targeted responses and actions at national, regional, and/or school level.

What next

By adding data for the academic year 2020/2021, we will explore whether the increase in logins observed during the first school closure (April-June 2020) is repeated or even exceeded during the second school closure (from December 2020 onwards), as well as any regional trends that might have emerged. Furthermore, we hope to outline the dynamics of change, specifically whether schools with higher logins before first school closure appear to have higher logins during further school closures. Finally, we intend to investigate the dynamics of staff logins in both the 2019/2020 and 2020/2021 academic years.

Acknowledgements

References

1 According to the National Survey for Wales (Welsh Government 2019), 98% of the households who have children have access to internet. https://web.archive.org/web/20200704140948/ https://gov.wales/how-schools-will-work-during-coronavirus-pandemic

[2] 100% engagement meaning that the number of logins per day equals the number of accounts

[3] It should be noted that for each school sector the specific average was calculated

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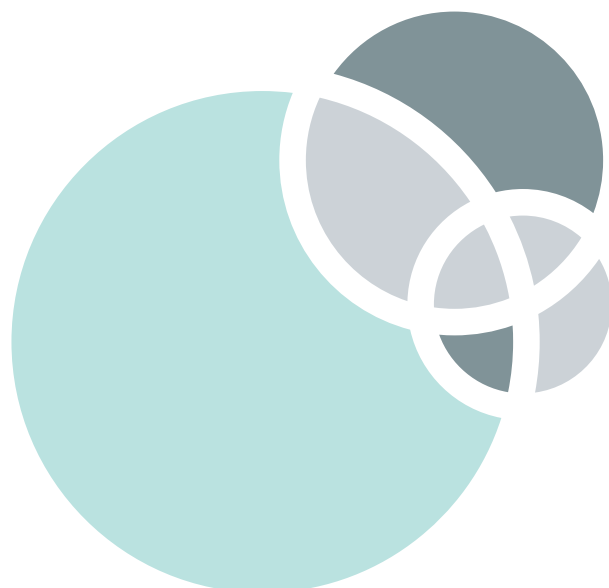
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