Education, Children and Families Committee

10.00am, Tuesday, 22 May 2018

Trialling the use of technology to stream live data from the classroom to pupil unable to attend school

Item number	7.4
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Executive/routine	
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Executive Summary

The Council wishes to trial technical solutions which could be used within schools to assist children who are physically unable to attend school but could otherwise positively engage in learning. This paper sets out general conditions for a trial of such technology and then focusses on one specific trial.

1. The use of technology in the classroom, including the AV1 device linked to a compatible device in the child's home or another location raises a number of issues which this report seeks to clarify.
2. A Privacy Impact Assessment (PIA) has been undertaken to consider issues of impact on the privacy of third parties, which may arise from use of such devices.
3. Successful trials of such technology in different local authorities have also been considered. Experience of such trials indicates that while it is important to ensure security and mitigate against data breach, successful trials tend to be about people and relationships rather than technology. Principally, a successful trial tends to have buy in from the school community.
4. Legal advice to the council indicates that when considering making a "reasonable adjustment" for a child's disability it should also have regard to whether there is any "significant disadvantage" to third parties such as other pupils, parents or teachers. Therefore, when determining the appropriateness of a reasonable adjustment, all stakeholders' views require to be taken into consideration. These include the sick

child, his or her classmates, teaching staff, parents/carers of the child, and parents/carers of the other children.

5. Legal advice to the council indicates that when considering making a “reasonable adjustment” for a child’s disability it should also have regard to whether there is any “significant disadvantage” to third parties such as other pupils, parents or teachers. Therefore, when determining the appropriateness of a reasonable adjustment, all stakeholders’ views require to be taken into consideration. These include the sick child, his or her classmates, teaching staff, parents/carers of the child, and parents/carers of the other children.

Report

Trialling the use of technology to stream live data from the classroom to pupil unable to attend school

1. Recommendations

1.1 It is recommended that the committee:

1.1.1 Notes the proposal to trial use of AV1 technology in St John's, Duddingston School form October to December 2018.

1.1.2 Agrees that consultation with the school community (teachers, parents, children) should take place in advance of this trial.

1.1.3 Agrees that the views of the school community should be taken into account when deciding on whether use of the technology represents a reasonable adjustment for a child's disability.

1.1.4 Agree that the decision to proceed with any such trial should be taken by a senior manager within Communities and Families.

1.1.5 Agree that evaluation of a trial should consider whether the technology enhances the child's learning without impacting on attendance and that the impact on wellbeing of the child and on other children and wider stakeholder groups should also be evaluated.

2. Background

2.1 In October 2017 the Education, Children and Families Committee heard a deputation regarding potential use of AV1 technology to support participation in class of a disabled pupil during periods of medical absence from school.

2.2 It was agreed that council officers would a) seek legal advice b) engage with the school community regarding the proposal c) investigate the experience of use of such technology in other authorities and d) continue to develop a privacy impact assessment before proceeding with a trial of technology.

2.3 The outcomes of these actions are detailed in the main report.

3. Main report

3.1 Pupils with a disability and/or long-term illness can have reduced attendance at school. This can have an adverse effect on their learning and attainment. Traditionally local authorities would look to address this issue through the provision of extra school-work in class/at home and possibly input from Additional Support for Learning Teachers. Currently, various technological interventions are also being evaluated.

3.2 The straightforward way to use technology to maintain contact with a pupil is to use FaceTime or Skype. This uses an iPad or similar tablet on a stand in the classroom and sound and visuals is streamed from the classroom to the child not in school, who would have a compatible tablet device. This can involve a two-way transmission of all data. Objections to this have focussed on having images of the sick child (possibly hooked up to drips etc.) broadcast to the classroom. This arrangement has worked successfully in The Sick Children's Hospital in Edinburgh where a sick high school student participated in Science classes held at her school in The Scottish Borders, using FaceTime. However, this was short lived and not evaluated aside from the anecdotal suggestions that it was a positive way of keeping in touch and providing the pupil with access to subjects that teaching staff at the hospital were not able to deliver, to facilitate return to school when possible.

3.3 Several providers of live streaming devices also exist in Norway and Holland. These perform a similar function as Face-time/Skype. The devices are similar in that they all contain computer technology and a webcam, or similar ICT equipment. The Norwegian device is called AV1 and is felt to be the most user friendly of these devices. The device resembles a small white robot and it can be controlled remotely by a child using his or her tablet. The AV1 device can rotate around the class and it can indicate when the child wishes to contribute in class through a coloured light on the top of the device.

3.4 The authority is currently working on a Virtual Learning Project, through which pupils unable to access school will be supported to engage in learning. The project does not require permissions from other pupils in the class, as unlike the AV1, which is mobile and can be controlled remotely to move around the school, the streaming device is stationary and can be positioned so that pupils do not appear on the screen. Unlike the AV1, the teacher remains in control of the camera which addresses an area of concern raised by the trade union. As lessons are live-streamed, they would not be recorded.

3.5 In Norway it is apparently not unusual for the parents of a child going into hospital for a period of time to hire an AV1 device to keep the child in touch with his or her learning and with classmates. There is also testimony on the AV1 vendor's website from various children with disabilities who have been able to participate remotely in their class using the device. Most evaluation appears to reflect the benefits of the

device at facilitating such contact. Further, it is assumed this will help with learning but there have been no clinical trials to back up this reasonable assumption.

3.6 In the United Kingdom a high school pupil with long term illness/disability had a device crowdfunded by her local community in County Durham in 2017. The Principal Educational Psychologist from the City of Edinburgh Council contacted the school in County Durham on two occasions to discuss the use of the device. The community and the school were supportive of the pupil and her family. The pupil herself had little absence after the device was provided so the impact of using the device was therefore unclear in this case.

3.7 Subsequently in 2018, East Lothian Council have hired an AV1 device for a Primary 1 pupil who has never been to school as a result of open heart surgery. The community around this school (Campie Primary School) have been supportive of the little girl and her family. The device has allowed her to access the class in a virtual way. There is, as yet, no data on how this has impacted on her learning.

3.8 Following contact from a parent of a P6 boy at St John's RC Primary School Portobello a trial was proposed at this school of an AV1 device prior to the October break in 2017. The device was apparently on loan from Norway and due to be returned in the October holidays. Parents were notified of this trial by the school (although the parent of the pupil was also actively promoting the device in the media and with an elected members and MPs). There were numerous objections from other parents of pupils in the same class (and in other classes). The technology (basically a webcam and a raspberry Pi computer) did not work over school wi-fi though it did work over 4G. In November 2017 the acting Head of Children's Services convened a meeting with the relevant parents in the school including the father of the child with a disability in P6. Various concerns were discussed. City of Edinburgh ICT Security Team also raised various points with the Norwegian vendor. It took several months for the vendor to address these points but we now have the required information and a privacy impact assessment has been completed.

3.9 Legal advice was taken on two occasions while considering implementation of a trial of AV1 in a school. In summary, the effect of the legal advice given is that provision of the device in school may constitute a reasonable adjustment for a child's disability but, in determining whether the adjustment is reasonable, the council should also consider whether there would be significant disadvantage to other individuals in the school as an outcome of using the device. Examples of significant disadvantage would include parental concerns about images being transmitted to a private home which, irrespective of technical security, could potentially be recorded by a third party; or teachers' concern about potential loss of privacy if a third party could view images streamed by the device.

3.10 These issues have not arisen in other authorities principally as communities have all had buy in when the device has been used.

3.11 Before commencing any long-term trial, it is proposed to engage further with the school community to address the various technological issues, to discuss buy-in from the community and other stakeholders (teachers, trades unions etc) and to establish whether the use of the AV1 device can impact on learning. Following consultation, the view of the school community will be taken into account before proceeding.

3.12 The decision to proceed with any trial should be taken by a senior manager within Communities and Families rather than the individual head teacher of the school.

3.13 As part of the proposed trial a Privacy Impact Assessment has been submitted for approval to the Council's Privacy Impact Assessment board.

4. Measures of success

4.1 The initial aim is to evaluate whether the AV1 device is able to function in the school.

4.2 Community buy-in is also deemed to be an ingredient that is essential to the success of the trial.

4.3 The AV1 device will also enhance the learning of the individual pupil thus showing the success of the trial.

4.4 A blueprint should also be established from this trial of how to implement the use of the AV1 device in other school settings and to undertake cost-benefit assessment in comparison with alternative devices within the Virtual Learning Project.

5. Financial impact

5.1 Hiring the AV1 device for an academic year will cost approximately £2000. The cost of 4G is estimated at £90 a month via the Norwegian suppler. This latter cost may not be necessary if the device can be made to work on school wi-fi.

5.2 The cost of a tablet based approach is approximately £300 with an expected life cycle of 5 years. The cost of 4G for a tablet via a UK provider is estimated at £25 per month.

6. Risk, policy, compliance and governance impact

6.1 The Privacy Impact Assessment covers aspects of data security.

7. Equalities impact

7.1 The trial of the AV1 device is of benefit to a child with a disability and as such should have a positive Equalities Impact.

8. Sustainability impact

8.1 Financial costs need to be balanced against other methods of meeting needs/reasonable adjustments. Hiring numerous devices may be required should the trial be a success and other parents wish to access this technology. Parents in Norway self-fund.

8.2 A tablet based alternative would be sustainable within the existing ICT investment strategy for schools and Additional Support for Learning.

9. Consultation and engagement

9.1 Consultation has occurred already with the parent body at St John's RC Primary Portobello. This has generated a number of issues and requires further engagement e.g. with the Parent Council and teachers in school.

10. Background reading/external references

10.1 The East Lothian use of the AV1 device is documented in the Edinburgh Evening News 27.02.18.

Alistair Gaw

Executive Director for Communities and Families

Contact: Andy Jeffries, Acting Head of Children's Services

E-mail: Andrew.Jeffries@edinburgh.gov.uk | Tel: 0131 469 3857

11. Appendices

11.1 None.