



Effective catch-up interventions

Executive summary

The Welsh Government plans to respond to the disruption to student learning caused by Coronavirus-related school closures by committing £150 million in 2021/22 via the Renew and Reform programme. This includes a £35.8 million commitment to recruiting, recovering and raising standards in Welsh schools (Welsh Government, 2021). The success of this approach will be affected by (among other things):

- The methods and models of ‘catch-up’ support provided;
- The way that experiences of distance and blended learning are built on and potentially developed going forward; and
- The design, delivery and uptake of teacher professional development.

This policy briefing reviews the best available evidence on catch-up interventions. It should be read in conjunction with the other two policy briefings in the series, on professional development and blended teaching and learning.

The key messages on catch-up interventions are:

Catch-up interventions: Only a small number of catch-up interventions have been robustly and independently evaluated. Schools should aim to use evidence-based interventions wherever possible, and at a minimum should aim to apply common characteristics that have been shown to increase effectiveness.

Catch-up strategies: Generally speaking, the smaller the group receiving catch-up tuition, the more effective the intervention. However, the evidence suggests that small group tuition, such as pairs or groups of three, can result in similar levels of impact as one-to-one tuition, particularly when high quality support and training is provided to the educator. This double or triples the number of children who can benefit.

Implementation: Effective implementation depends on teacher/educator capacity and training¹; effectively identifying and targeting pupils’ needs; streamlining any additional interventions with mainstream classroom teaching; and considering when the interventions take place (be it in addition to or instead of mainstream classroom teaching).

For catch-up interventions to be effective, it is important to draw on evidence relating to ‘what’ should be delivered and ‘how’ they should be delivered.

Context and need

Coronavirus-related school closures have resulted in significant disruption to children and young people’s learning in Wales, as elsewhere. The impact of the disruption has been particularly acute for disadvantaged and vulnerable learners (Major, Eyles and Machin,

¹ See the policy brief focusing on teacher professional development for further information and evidence on this topic.

2021). In the longer term, as well as widening inequalities, the Institute for Fiscal Studies warns that losing half a year of schooling (as will be the case for most children by February half term 2021), without remedial catch-up interventions, will result in schoolchildren missing out on an average of £40,000 in lifetime earnings (Sibieta, 2021).

The Welsh Government is responding with a ‘Renew and Reform’ recovery plan. This includes £35.8 million to continue the Recruit, Recover and Raise Standards programme which will retain the 1,800 full-time equivalent staff recruited in 2020/21 and maintain the focus on targeting support and mentoring at the most vulnerable and disadvantaged learners.

Catch-up interventions will form a crucial part of education recovery efforts. It is key that interventions and their implementation are grounded in the best available evidence to ensure they have as positive an impact as possible, in a way that is driven by student need.

Setting this evidence within the context of schools in Wales, as well as Welsh Government education priorities, in terms of ‘learners in greatest need’ (which include pupils preparing for examinations, vulnerable and disadvantaged children, and year 7 pupils) and curriculum areas (such as literacy, numeracy, independent learning skills, and social and emotional needs), will be essential to effective implementation.

Ultimately, for catch-up interventions to be effective, it will be important to draw on evidence relating to:

- Which catch-up interventions are most likely to be effective (i.e. ‘**what**’ should be delivered); and
- How these interventions can be put into practice in a way that ensures they are most effective (i.e. catch-up strategies, or ‘**how**’ they should be delivered).

Effective catch-up interventions

Catch-up interventions are often age- and outcome-specific. That is, they focus on particular subjects or skills relative to average attainment at particular ages. For example, the Nuffield Early Language Intervention is an oral language intervention for nursery and reception age children that has been shown to have positive effects on language skills, including at six months post-intervention (Education Endowment Foundation [EEF], 2016). Other types of intervention may focus on non-academic skill development, such as social and emotional needs. It is important to match the content of the intervention to the needs of the children.



Overall, only a small number of robust evaluations have been conducted on catch-up interventions in the UK. Interventions with a robust evidence base for effectiveness include [Catch Up Numeracy](#), [Catch Up Literacy](#) (both available in the medium of Welsh – *Rhifedd Dyfal Donc* and *Llythrennedd Dyfal Donc*), [Talk for Literacy](#), [Nuffield Early Language Intervention](#), [ABRA](#), [1stClass@Number](#) and [Switch-on Reading](#) (Welsh Government, 2012; EEF, 2018a).

Evaluations of different catch-up interventions can provide an indication of which common characteristics are associated with increased effectiveness. These include:

- Interventions that meet a specific need (e.g. oral language skills) are more likely to be effective;
- The aims of the catch-up intervention should align with those of whole-class teaching;
- Effective intervention sessions tend to be short (20-50 minutes), delivered regularly and consistently (3-5 times per week), and over a prolonged period (8-20 weeks);
- Assessments should be completed to identify pupils in need of intervention(s); target focus areas in line with pupils' needs; and monitor progress, both during and immediately after the intervention to ensure pupils can succeed afterwards (EEF, 2018a); and
- Assessments need to be accompanied by clear criteria for success and monitoring once the intervention ends, to inform decisions on when to stop delivering catch-up interventions.

Ideally, structured catch-up interventions that have a strong evidence base should be prioritised for use in schools. A 'structured' intervention means having supporting resources and lesson plans, with clear objectives, and delivering accordingly (EEF, 2018a). Where it is not possible to implement structured, evidence-based catch-up interventions, the common characteristics for effectiveness (as identified above) should be put in place as much as possible. Having to use 'unproven' catch-up interventions may be required in some instances, given the small number of interventions that have been formally evaluated in the UK; the small proportion of those which are available in the medium of Welsh; as well as the option to choose to deliver promising interventions which are being trialled or evaluated.

Group size is not necessarily more important than teaching quality.

Effective catch-up strategies

Whereas the body of evidence underlying specific catch-up interventions is sparse, much exists on catch-up strategies. For example, EEF's reviews of one-to-one and small group tuition have identified extensive evidence supporting their impact as catch-up strategies (EEF, 2018b). The evidence is generally strong and consistent – see box below for more information.

The evidence base for catch-up intervention approaches

One-to-one tuition refers to a teacher (or other educator) providing intensive, individual support to a pupil, either as a replacement or separate to classroom lessons. Evidence suggests it can deliver approximately five months' progress, on average. The available evidence is generally strong and consistent, with comparatively more focus on younger learners in primary school and reading and maths interventions. In general, one-to-one tuition has shown particularly positive results for pupils from disadvantaged backgrounds.

Small group tuition refers to one teacher/educator working with two to five pupils in a group, usually in a separate space to the main classroom. The evidence base mainly focuses on pupils with low attainment and is comparatively limited compared to the evidence on one-to-one tuition. The evidence base is particularly limited in terms of UK-based studies.

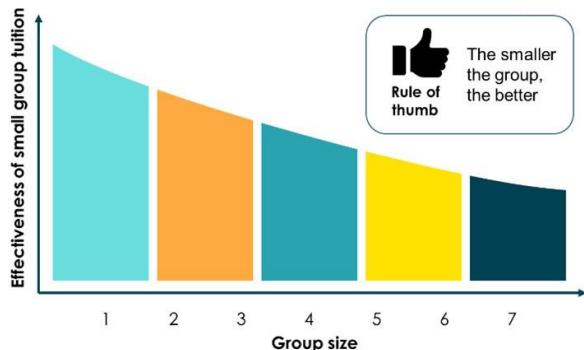
Adapted from EEF (2018b), p.26 and 42

The evidence suggests that catch-up interventions increase in effectiveness as group sizes decrease, with one-to-one delivery being most effective, and effectiveness reducing significantly once group sizes reach 6-7 pupils (EEF, 2018b). For example, the results of evaluations of four one-to-one UK tuition interventions demonstrated an average of three to six months' additional progress (Gorard et al., 2014; Roy et al., 2019; Rutt et al., 2014; Sibieta, 2016). It is suggested that the correlation between smaller group sizes and greater impact might be explained by smaller groups allowing for more feedback and sustained engagement, or a closer alignment with pupils' needs (EEF, 2018b).

However, this generally consistent trend does mask some variability within the evidence. For example, reading-focused catch-up interventions that rely on small group tuition sometimes show a greater impact than those using one-to-one or paired teaching. More generally, the evidence suggests that small group tuition, such as pairs or groups of three (Torgerson et al. 2003), can result in similar levels of impact as one-to-one tuition. The EEF outlines two main take-aways as a result of this variance:

1. Group size is not necessarily more important than teaching quality; and
2. Evaluating the effectiveness of any catch-up intervention should take into account the interaction between different group compositions and the subject being taught (EEF, 2018b).

Further research could be undertaken that systematically compares the impact of interventions when using different group sizes – the literature on small group tuition currently includes a greater number of studies on one-to-one or paired tuition than larger sizes.



Correlation between group size and effectiveness

Nevertheless, the evidence does demonstrate that both one-to-one and small group tuition can be used as effective catch-up strategies. Whilst one-to-one tuition demonstrates a greater degree of impact overall compared to small group tuition, there are obvious resource and cost implications to take into account, on top of the variability within the research base. One-to-one tuition costs an estimated £700 per pupil per term, which decreases to £350 for a two-pupil group, and £233 for a three-pupil group (EEF, 2018b).² As a result, small group tuition might present a preferable approach to catch-up interventions based on available resources.

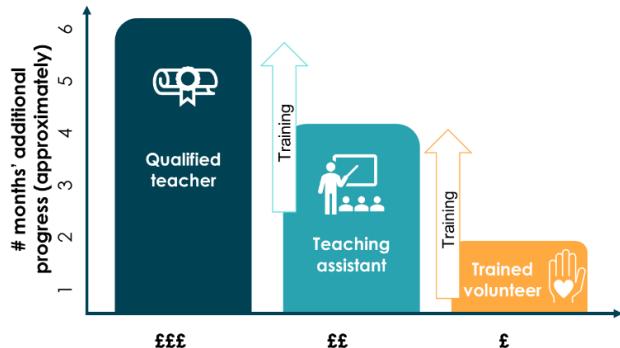
Research also exists on the gains achieved as a result of catch-up interventions relative to who delivers them, as well as on the importance of linking in and aligning catch-up interventions with general classroom teaching and activities (EEF, 2018a).

Catch-up interventions delivered by qualified teachers are likely to be most effective, followed by teaching assistants, with volunteer-delivered interventions being least effective. However, interventions by all three types of educators demonstrate positive results, and training can result in a significant increase in the effectiveness of interventions delivered by teaching assistants or trained volunteers (EEF, 2018a).

² Assuming 30 minutes of tuition, five times a week, for 12 weeks, requiring approximately four full days of a teacher's time.

This is an important consideration, given the comparatively higher monetary resource required to deliver teacher-led catch-up interventions, and is also aligned with guidance on how schools in Wales can use the Pupil Deprivation Grant to best effect (Welsh Government, 2014). Providing training and support for teachers and educators delivering catch-up interventions also builds sustainable capacity within schools, which would therefore provide longer-term benefits.

For one-to-one or small group tuition to be most effective as a catch-up strategy, positive relationships between the catch-up educator, the classroom teacher and pupil(s) are key, to ensure the specific needs of the pupil(s) receiving catch-up interventions and effective alignment between the school's curriculum/classroom teaching (EEF, 2018a). That is, it should be ensured that '*learning in interventions is consistent with, and extends, work inside the classroom and that pupils understand the links between them*' (EEF, 2018a, p.11).



Relative cost and impact of teacher vs teaching assistant vs trained volunteer delivered interventions

Terminology and language

This briefing has used the term 'catch-up interventions' as this is the term most commonly used within schools, government/policy documents and the relevant research base. However, feedback from educators suggests that **the term 'catch-up interventions' should be reviewed on the basis that it is overly deficit-based**. Similarly, language such as 'learning deficit', 'learning gap', 'being behind' or 'missing work' should be avoided, partly as the negative tone is not helpful in trying to motivate children but also because it risks placing the onus of reducing the attainment gap on the students themselves.

Instead, positive, strength-based terminology and language should be used e.g. 'recovery' or 'targeted support' / 'targeted interventions'. In addition to being overly deficit-based, some educators have suggested that 'catch-up interventions' lacks nuance as a term – for example, it implies a one-time intervention that aims to get a student back to a 'normal' level of attainment, which often is not the case in practice.

Effective implementation

Knowing which interventions and approaches are most likely to be successful will only lead to success if they are effectively implemented and taught well. As a result, planning for how catch-up interventions will be delivered in practice is as important as deciding which ones to implement.

Catch-up interventions inevitably require additional resource, meaning implementation planning should take into account existing staff resource, potential capacity, and training needs. Decisions on competing priorities should draw from the evidence base. For example, prioritising small group tuition to deliver interventions to more children (than if using one-

to-one tuition) could be defended if children who continue to fall behind are then offered more intensive support. Similarly, deciding to have teaching assistants deliver structured interventions, to reduce costs and capacity constraints, should be met with high quality support in the form of training (Welsh Government, 2014; EEF, 2018a).

As well as taking up the time of the educators delivering the interventions, catch-up interventions also take up the time of pupils. As a result, effective implementation depends on making careful decisions about when pupils participate in catch-up interventions, especially if this involves them missing existing activities – whether that is classroom-based learning or activities that are important for wellbeing. At a minimum, the catch-up intervention should result in a larger positive impact for the pupil than the lesson or activity from which they are being withdrawn.

A potential way of overcoming difficulties with prioritising pupils' time and conflicting learning objectives would be to deliver catch-up interventions outside of the normal school day, based on evidence demonstrating positive correlations between increased learning time and increased learning (e.g. Andersen et al., 2016; Yeşil Dağlı, 2019).

A key aspect of effective implementation is ensuring that catch-up interventions are targeted towards the children who need them most and providing those children with what they need, at the right time.

Increasing learning time could involve extending the school year or school day, or offering summer schools (Sibeta, 2021). Some of these ideas are potentially being considered by the Welsh Government (BBC News, 2021).

However, there are clear and significant implementation hurdles that would need to be overcome to put in place such radical changes to the way schools tend to operate, and the views of schools and teachers should be central to decisions on any changes, to ensure they are effective and supported.

The evidence on effective strategies shows that alignment between classroom and catch-up intervention teaching is an important factor for success (EEF, 2018a). Ensuring that sufficient time is provided for classroom teachers and the educators delivering catch-up interventions (if they are different people) to connect and liaise on what is being provided for pupils inside and outside of the classroom is key for effective implementation.

In line with the Welsh Government's education priorities, catch-up interventions will focus on vulnerable and disadvantaged children, learners in Welsh medium schools who live in non-Welsh speaking households and those in Year 7, as well as curriculum areas such as literacy, numeracy, independent learning skills and social and emotional needs (Welsh Government, 2020). There are indications that more professional development/training will be required for numeracy catch-up interventions compared to literacy, due to evidence indicating comparatively less mathematics expertise within the teaching workforce, although this clearly varies by school (Sibeta, 2018).

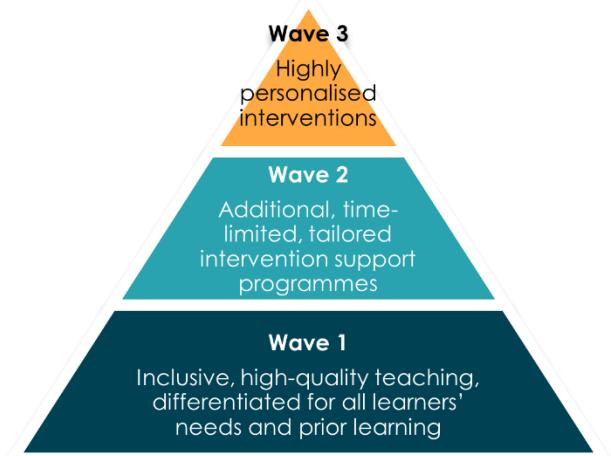
Another key aspect of effective implementation is ensuring that catch-up interventions are targeted towards the children who need them most and providing those children with what they need to recover relative to their needs. This relies on assessing children when they return to school and targeting interventions appropriately – in line with available capacity and resource.

In the context of recovering from the pandemic, it is necessary to consider how different kinds of educational needs may vary across different groups of children as a result of the pandemic, in addition to the interaction between different types of catch-up needs. For example, anecdotal feedback from educators engaged

with during this project suggested that the impact of the disruption to schooling on literacy and numeracy skills may be particularly acute between vulnerable and disadvantaged children and their less disadvantaged peers, while social and emotional catch-up needs may be more equally distributed. At the same time, ensuring that children's social and emotional needs are addressed is key to ensure they are motivated and engaged in their academic learning, meaning social and emotional support may need to be the priority in the first instance.

The National Strategy's three waves model of intervention provides a potential tool for the implementation of catch-up interventions, that allows for targeting diverse needs (see figure below). The first wave of the model involves looking at how the highest quality whole-class provision can be provided, in a way that stops children from falling behind in their learning. The second wave looks at what can be addressed as a group, using evidence-based interventions, to help children who have fallen behind catch up with their peers. The third wave refers to additional, more intensive and individualised support, based on independent 'what works' evidence, for children who have potentially longer term and more high-level needs.

Using the three waves model means only looking at what is absolutely necessary to deliver on a one-to-one basis, after having looked at a class and group level. This also means that the most resource- and cost-intensive interventions are prioritised for those pupils who require them.



The Three Waves Model of Intervention

As well as the initial assessment and allocation of children to interventions according to their needs, continued monitoring of progress will be needed to ensure implementation is effective in the long term. Monitoring of outcomes should be used to determine how long to continue with interventions before either lowering the level of intervention (if the necessary progress has been made), increasing the level of intervention (if more individualised support needs have been identified), or changing the type of intervention (if the pupil is still struggling but is not advancing with the current approach). The latter approach (i.e. of changing approaches for children who are still struggling) depends on schools having the flexibility to do so, as well as the opportunity to share resources.

Recommendations

Catch-up interventions put in place as part of the Welsh Government's plans to support the education system and learners to recover from the pandemic should:

- Be framed in strength- rather than deficit-based language, avoiding terminology such as 'learning loss' or 'falling behind'. The term 'catch-up intervention' could also be updated to reflect this (e.g. 'targeted support' or 'targeted intervention').
- Be supported by a robust evidence base for their effectiveness, or in the case of 'unproven' interventions being used, ensure they are delivered in line with common characteristics of effective interventions where possible.
- Be delivered in a way that maximises available resources, recognising that one-to-one and small group provision provided by teachers is likely to be most effective, and avoiding delivering at times which would take students away from equally important classroom-based learning or wellbeing-related activities.
- Connect with general classroom teaching, ensuring links between classroom-based

- learning and learning through catch-up interventions are made clear to pupils.
- Be accompanied by sufficient and high-quality support for those delivering interventions in the form of training as well as the space and resource to deliver structured, evidence-based interventions, as part of ongoing professional development and learning.
 - Embed assessments to ensure that the content and delivery method of catch-up interventions are targeted relative to pupils' needs:
 - At the outset of the intervention;
 - Throughout the intervention to ensure needs continue to be met (adjusting the intervention if required); and
 - Once the intervention ends, to monitor improvement and ensure it is sustained.

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