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- makes public good practice based on inspection evidence

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This document has been translated by Trosol (English to Welsh).

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Executive summary

In the spring term of 2022, we visited a sample of primary, secondary, all age and special schools across Wales to look at how they were using assessment to support and improve their teaching and pupils' learning. We had previously recognised these schools as having strong practice in teaching. They represented a wide range of geographical, language and socio-economic settings. We held interviews with senior leaders, class teachers and support staff to discuss their views and find out about their policy and practice. We met with groups of pupils across most age groups and considered examples of their work. We also observed a range of teaching sessions and looked at a selection of documents shared with us by these schools.

We found that leaders in most of the schools we visited have considered carefully how approaches to assessment can be developed to reflect the context of the Curriculum for Wales. They recognise that assessment is integral to good teaching and have used the opportunity afforded by curriculum reform to strengthen existing good practice. Where the use of assessment is particularly strong, they ensure that it has a formative role in improving teaching and helps pupils better understand their learning. In these schools, leaders and staff have often moved away from a focus on the use of summative data for external accountability. Instead, they have thought more carefully about how their assessment practices identify the progress pupils are making across the curriculum and how their teaching can be adjusted in response to this information.

These schools ensure that professional development is firmly focussed on supporting staff to understanding formative assessment practices and how different approaches can be applied flexibly, depending on the context of the school and the pupils. In the best cases, there is a strong culture of collaboration between staff and pupils, where each reflects openly and honestly on the impact of assessment on learning and plans for regular opportunities to discuss and refine practice.

Leaders within many of these schools develop useful systems that encourage staff to reflect regularly on their day-to-day teaching and make sure that it responds to the needs of pupils. Teachers plan carefully for opportunities that help them to identify how well pupils have understood or can apply learned knowledge and skills. In these classrooms, teachers use assessment practices to continually gather a range of information about pupils' learning and to make informed decisions about progress. They use questioning skilfully to probe understanding, work with smaller groups and individuals to discuss their work and identify misconceptions. In the best cases, they use this information to react to pupils 'in the moment' and to influence the next steps in teaching.

In many of the schools we visited, teachers have developed effective strategies to engage pupils in the learning and assessment process and develop their independence and motivation when improving their work. These teachers use their professional judgment to decide when best to share or co-construct learning intentions and success criteria with pupils. They provide good examples of learning,

which help pupils to understand what they are working towards and how to succeed. They use constructive, focused feedback, both during lessons and over time and ensuring that pupils have regular opportunities to respond to feedback to deepen their learning.

In the most effective schools, we saw teachers and leaders thinking carefully about the role of peer and self-assessment and how it can be used more beneficially to support learning. Where it is done well, teachers build in regular opportunities to support pupils in developing their skills in evaluating their own and other's learning progressively. Staff understand the potential social barriers involved when older pupils share their learning and work hard to overcome these by integrating it as a natural part of the learning process. They develop clear expectations for pupils when giving feedback to their classmates and, as a result in these schools, pupils often enjoy being challenged by their peers and see value in the process.

We have made the following recommendations for schools to help in progressing their work in relation to assessment:

- Prioritise approaches to assessment that deepen teachers' understanding of pupils' learning and their progress
- Develop teachers' and leaders' understanding of effective classroom formative assessment practice
- Ensure that teachers use assessment information to adjust their teaching to support and challenge all pupils appropriately
- Embed systematic opportunities for pupils to develop their skills in evaluating and improving their own and their peers' learning

We have also made the following recommendations for the Welsh Government, consortia and local authorities:

- Develop constructive professional learning opportunities for schools to improve their understanding and use of formative assessment practices
- Facilitate and support collaboration across schools to develop leaders' and teachers' understanding of progression and share effective practice in formative assessment

Introduction

This report is written in response to a request for advice from the Minister for Education and the Welsh Language in his remit letter to Estyn for 2021-2022. It focuses on how maintained primary, secondary, all-age and special schools are developing effective approaches to assessment that improve teaching and learning.

The report is intended for the Welsh Government, headteachers and staff in schools, local authorities and regional consortia. It is part of a series of reports providing guidance during this period of change in education. Previous reports include: Improving Teaching (Estyn, 2018b), Curriculum innovation in primary schools (Estyn, 2018a), Preparing for the Digital Competence Framework (Estyn, 2018c), Preparing for the Curriculum for Wales – case studies and cameos from secondary, all-age and special schools (Estyn 2020b), Leadership development – case studies of professional learning for school leadership (Estyn, 2020a).

This report draws on evidence from visits to a selection of primary, secondary, allage and special schools across Wales, including those delivering education primarily through the medium of Welsh. It includes evidence from schools who worked with the Welsh Government on developing the Curriculum for Wales as pioneer schools, quality improvement or innovation schools and evidence from partner (non-pioneer) schools. It also draws on information gained from our engagement visits and from inspections. Further details of the evidence base can be found in Appendix 1.

Background

In 2013, the Organisation for Economic Co-operation and Development (OECD) was invited by the Welsh Government to conduct a review of the quality of provision within its schools as part of its education reform agenda. The result was the report 'Improving Schools in Wales: an OECD Perspective 2014' (OECD, 2014). This report describes a movement in Wales away from formative assessment, as emphasised by the national curriculum in 2008, towards more summative approaches with a focus on accountability. It noted that this swinging of the pendulum towards higher stake summative approaches was a result of these earlier formative approaches not appearing 'to support the improvement of the school system sufficiently' (OECD, 2014, p.95). School inspections carried out also highlighted the relative weakness of effective practice across Wales, identifying that assessment for learning remained underdeveloped in many schools and was the most common recommendation for improvement in school inspection reports (Estyn, 2014).

The OECD report clearly identifies the adverse consequences of seeing assessment primarily as a means to securing accountability. It notes for example, a 'narrowing of the curriculum as they focus on skills that are tested' (OECD, 2014, p.95). Furthermore, the OECD refers to international literature linking the lack of impact of

formative assessment to its ineffective implementation. This includes research that identifies a number of barriers to progress in this area. It notes that professional development that instructs teachers rather than engaging them to reflect on their own practice is inconsistent with formative assessment principles. It also highlights research that suggests a need to improve teachers' understanding of what constitutes effective feedback and how to involve students in their own learning (Swaffield, 2008; William, 2010).

Following the publication of the OECD report, the Minister for Education and Skills asked Professor Graham Donaldson to conduct a review of curriculum and assessment arrangements in Wales from the foundation phase to key stage 4. The resulting report, 'Successful Futures – an Independent Review of Curriculum and Assessment Arrangements in Wales' (Donaldson, 2015) emphasised the need to 'align assessment with the purposes of learning' and 'assess what matters' (Donaldson, 2015, p.74). Fundamental to this approach was recommendation 37, that 'assessment arrangements should give priority to their formative role in teaching and learning' (Donaldson, 2015, p.77)

As schools began to engage with the task of developing a purpose driven curriculum, the development of practitioners' understanding of, and expertise in implementing, formative assessment practices was inconsistent. In 2020, our annual report identified that the use of assessment techniques to engage pupils in their learning remained limited and, in the secondary sector, approaches such as peer and self-assessment are often ineffective. Also, in a

'Formative assessment should be an essential and natural part of the teaching process and not an additional 'bolton'....Characteristics of effective formative assessment include: Planning effectively; having clear purposes; understanding the factors influencing learning; making flexible use of different techniques; seeing assessment as an ongoing and constructive part of classroom practice; sharing assessment criteria; early identification of difficulties in learning; giving effective and timely feedback and support to students that focuses on improving learning; and promoting self- and peer assessment.'

Successful Futures (Donaldson, 2015, p.76)

minority of schools, teachers apply assessment for learning techniques without 'reflecting on the quality of the approaches or the impact they have on pupils' progress' (Estyn, 2021b, p.29).

Schools across Wales continued to address these findings and began to improve their approaches. However, leaders were not always able to articulate clearly their vision for assessment or identify its impact on teaching and learning. In a minority of cases, school leaders felt that there had 'not been enough focus from local authorities and regional consortia around assessment processes and progression in learning' (Estyn, 2022a, p.72).

In 2022 the Welsh Government published guidance to support <u>assessment</u> <u>arrangements</u> and help schools in developing a clearer understanding of the purposes of assessment. This guidance states clearly that assessment should not be used for external accountability, but instead is proportionate and is used within the

school or setting to directly support learner progression and inform teaching.' (Welsh Government, 2022b, p.1)

These resources continue to evolve, including the recent publication of materials and workshops for schools to use which aim to 'develop the capacity and skills of practitioners related to assessment... [and] generate a deeper understanding of the assessment arrangements developed within the 'Curriculum for Wales guidance'' (Welsh Government, 2022a, p.5). These resources emphasise the role of assessment as 'forward-facing' to inform pupils' future progression rather than focusing overly on recording judgments about past learning against external standards.

To recognise the national move towards the development of more effective formative assessment in schools, we (Estyn) removed any separation between assessment and teaching in our most recent guidance, by merging them into one section within the inspection framework (Teaching and Assessment 3.2). Inspectors evaluate how well schools use assessment to plan for learning and to adapt teaching approaches. We consider how well schools provide purposeful and appropriate opportunities for pupils to be involved in assessing their own learning and that of their peers. We have published further supplementary guidance (Estyn, 2021a), which has a strong focus on effective classroom practice.

This thematic report looks at how schools are working to develop assessment that is an ongoing process indistinguishable from teaching and learning and an essential and natural part of the teaching process and not an additional 'bolt-on' (Donaldson, 2015, p.76). It identifies effective practice in assessment in schools across Wales. It gives examples of approaches that are having a positive impact on teaching and on pupils' learning and identifies some of the misconceptions and potential barriers that impede progress and still exist within schools. It provides recommendations for schools and external bodies to help address these areas for improvement.

This report is organised into three main areas, each examining a particular aspect of assessment and providing examples of good practice.

The first chapter 'Planning for assessment' focuses on some of the ways that schools are planning effective approaches and practices for formative assessment when designing their curriculum.

The second Chapter 'Assessment to support responsive teaching' considers some of the ways that schools are using assessment to refine and improve teaching.

The third chapter 'Developing collaborative approaches to assessment in the classroom' describes how effective schools successfully create a culture of learning between pupils and teachers. It identifies how good schools engage pupils fully in the assessment process and develop their effectiveness in evaluating and improving their own and others' learning.

Main findings

Schools that plan effective approaches to assessment:

- Develop policies and practices for assessment that prioritise its formative role in teaching and learning, align with the principles of assessment in the Curriculum for Wales and draw upon the context of the school and relevant educational research
- Ensure that staff have a clear understanding of formative assessment and can choose carefully from a range of strategies that best support the needs of the pupils in their class
- Have a clear understanding of progression through their school's curriculum, collaborate regularly with other schools and settings to deepen their understanding of progression across schools and phases and share effective approaches to teaching and assessment
- Develop and sustain coherent approaches to professional learning that focus on effective pedagogy in teaching and assessment and encourage a reflective culture across the school

In practice:

St Joseph's RC High School Building ongoing assessment into the

curriculum

Ysgol y Creuddyn An integrated approach to assessment and

pedagogy

Woodlands Primary School Planning for progression and assessment

Ysgol Pencoch ALN progression frameworks and holistic

assessment

Schools that use assessment effectively to refine and improve teaching:

- Build in regular opportunities to assess pupils' learning using a range of formative approaches and use this information to monitor and refine the next steps in teaching
- Ensure that teachers have a clear understanding of the intended learning for sessions and use questioning skillfully to assess pupils' understanding and adjust the direction of the lesson if required

- Use support staff effectively by ensuring that they are fully involved in the assessment of pupils' learning and have regular opportunities to discuss pupils' progress with class teachers
- Have well-established processes to ensure staff continually evaluate the success
 of assessment strategies by reflecting upon how well approaches impact on the
 quality of teaching and pupils' learning and how they can be further refined

In practice:

Ynysowen Primary Capturing the Learning

Carreghofa C P Pupil Focus Groups

Osbaston Primary Responsive planning

Penyrheol Comprehensive Whole class feedback

Ysgol Tregarth A culture of learning and self-

improvement

Schools that fully involve pupils in the assessment process:

- Ensure that pupils have a clear understanding of what success looks like and how it can be achieved
- Ensure that success criteria are specific to the intended learning and provide focus for formative assessment practices, such as peer and self-assessment
- Ensure that teachers use a range of feedback strategies effectively, to help pupils understand what they have done well, what they need to do next and how to do it
- Ensure that approaches to peer assessment are planned for and modelled carefully by teachers and involve pupils in understanding the impact of their feedback on their peers
- Develop a strong culture of collaboration within the classroom, where teachers engage with pupils in examining critically the effectiveness of success criteria in supporting their self and peer-assessment to ensure that they are sufficiently helpful
- Collaborate regularly with parents to share evidence of their children's progress and create engaging opportunities to further their learning at home

In practice:

Ysgol Twm o'r Nant Developing pupils' independence

Lamphey Primary A culture of collaborative reflection

Cwm Tawe Community Taking the hot seat

Pontarddulais Comprehensive Feedback strategies

Wauncerich Primary Supporting pupils' peer assessment

skills

Ysgol Dolbadarn Supporting collaboration at home

Recommendations

Schools should:

- R1 Prioritise approaches to assessment that deepen teachers' understanding of pupils' learning and their progress
- R2 Develop teachers' and leaders' understanding of effective classroom formative assessment practice
- R3 Ensure that teachers use assessment information to adjust their teaching to support and challenge all pupils appropriately
- R4 Embed systematic opportunities for pupils to develop their skills in evaluating and improving their own and their peers' learning

The Welsh Government, consortia and local authorities should:

- R5 Develop constructive professional learning opportunities for schools to improve their understanding and use of formative assessment practices
- R6 Facilitate and support collaboration across schools to develop leaders' and teachers' understanding of progression and share effective practice in formative assessment

Planning for assessment

While the COVID-19 pandemic has had an impact on momentum towards curriculum reform, most schools that we visited as part of this thematic review have used the principles of a purpose driven curriculum to develop a vision for their teaching and their curriculum. Often, this has involved leaders and staff working collaboratively with their school community to design a curriculum that reflects their local context and the needs of their pupils.

'When curriculum and assessment methods are aligned, the results of instruction are massively improved.'

Biggs, (1996), p.350

Schools with effective arrangements have considered carefully the role of assessment within their curriculum. They have developed clear and useful policies and practices that align with the principles and purpose of assessment as identified in the Curriculum for Wales guidance (Fig 1, Welsh Government, 2022b). These schools give priority to the formative role of assessment in the teaching and learning. In these schools, there is a clear understanding of the purposes of assessment, how it supports learning and its role in refining teaching.

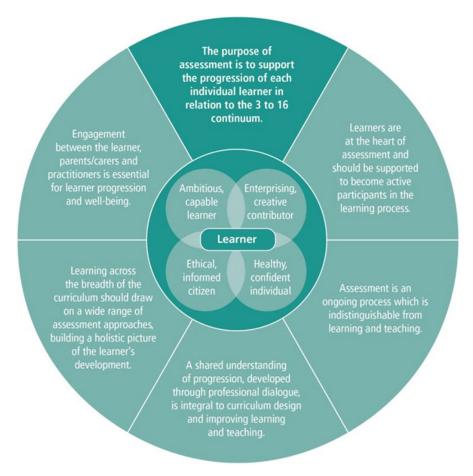


Figure 1. The Key principles and purpose of assessment. Retrieved 18 August 2022, from https://hwb.gov.wales/curriculum-for-wales/assessment-arrangements/supporting-learner-progression-assessment-guidance/ - key-principles-and-purpose-of-assessment. Copyright Welsh Government 2022

In many cases, effective schools develop policies and practices for assessment in collaboration with teachers, drawing upon their practical experience. They consider carefully the context of their school and identify useful educational research. In these schools, practitioners understand formative assessment approaches well and choose carefully from a range of strategies that best support the needs of the pupils in their class. Policy in these schools often supports staff by exemplifying a range of beneficial approaches rather than restricting teachers to a 'one size fits all' approach. In a few strong cases, schools use pupil feedback productively as part of their self-evaluation processes when evaluating the impact of assessment policy and practice on their learning.

Policies set the direction for how feedback is delivered in schools, and they require a careful balance. They should specify the need for evidence informed principles to be at the heart of practice, and exemplify this, but the methods and timing should be left to a teacher's professional judgement.'

Education Endowment Foundation (EEF; 2021, p.4)

Where schools have thought carefully about worthwhile approaches to assessment, they plan opportunities for pupils to develop their understanding of their role in the assessment process. In these schools, staff often plan thoughtfully to develop pupils' competence in monitoring and evaluating their own and others learning, for example when using and giving thoughtful feedback that moves learning forwards.

Where practice is most successful, leaders plan professional learning opportunities to improve the skills of teachers in understanding and using a range of assessment approaches formatively. Where this is done particularly well, there is a strong emphasis on strong pedagogy and a thorough and reflective approach to developing formative practice across the school. In these schools, leaders invest significant resources into developing teachers' understanding of effective practice in assessment and provide space and time for them to trial approaches and to reflect upon their experiences.

A minority of school leaders note that support and professional learning for assessment is often difficult to source. As a result, professional learning is not always developed carefully enough over time to help teachers build upon their existing skills and experience, leading a minority to routinely apply formative assessment techniques with insufficient understanding.

Many schools with a clear understanding of the priority for assessment to support learning and teaching have reduced their reliance on summative testing to make judgements about past learning. Leaders are supporting staff to move away from processes that have a limited impact on pupils' progress. They help staff to understand and plan for a range of assessment approaches, and to think carefully about how each approach supports teaching by providing a better understanding of pupils' learning.

Building ongoing assessment into the curriculum

Main findings

Staff at St Joseph's RC High School in Newport have developed approaches to assessment to ensure that it is an integral part of the teaching and learning process. When considering progression and assessment, subject leaders identify key or 'hinge' moments within the learning where teachers must check pupils' understanding and competence to progress further. Pupils' understanding is assessed in a variety of different ways appropriate to the learning. Staff use this information to determine further teaching that needs to take place to correct misconceptions or develop mastery.

The focus of this assessment approach is on the learning, rather than on a summative assessment at the end of a unit. Assessment is continuous and incremental, allowing teachers to provide focused feedback that enables pupils to improve. This formative feedback happens while the learning is taking place, rather than at the end of a unit of work so that it has a beneficial impact on pupils' progress.

More recent developments have included a coherent programme of professional learning relating to curriculum design, pedagogy, and assessment, supplemented by collaborative planning time for AoLE and subject teams to reflect upon effective approaches together.

To support this approach a new system is also being developed that allows leaders and teachers to track and monitor pupil progress. This removes 'assessment windows', when teachers have to submit data centrally, and instead gives flexibility to departments and to teachers to decide when the most appropriate times are to carry out assessments and record progress based on those 'hinge moments' in their learning plans.

The school has created regular opportunities to review the impact of this approach and to ensure that parents, pupils, and teachers understand the purpose and benefits of the more formative assessment system.

Effective schools use more formal approaches to assessment selectively and purposefully. In these schools, teachers understand the limitations of a tick-list approach to tracking that does not always provide information that helps them to understand the needs of pupils or inform teaching. They ensure that more formal assessments provide useful information for pupils or teachers which can then be acted upon. In schools with effective practice, leaders use the national personalised assessments thoughtfully, to understand pupils' progress in learning and adjust teaching to support their next steps.

In weaker schools, leaders continue to view assessment primarily as a system for providing external accountability. In a very few cases, schools still plan assessment tasks designed around a best-fit of level descriptors or progression steps, to track

pupils' progress. In these instances, assessment practices do not always help teachers to understand pupils' learning and to adjust their practice accordingly.

In a few cases, leaders continue to express concerns that there will be 'something coming around the corner' with regards to assessment and its role in accountability. In these cases, leaders are sometimes reluctant to reduce their collection of summative assessment data which has little impact on teaching and learning.

'They [descriptions of learning] are not a series of criteria to be directly assessed against, nor can they be assessed by discrete assessment tasks, independent of learning and teaching activities.'

Welsh Government (2022b), p.1

Furthermore, leaders in secondary schools sometimes note concerns around a lack of clarity regarding future examination specifications when developing their curricula and associated formative approaches to assessment. These concerns impede progress, and in a very few cases, leaders say that there is still an expectation from local authorities to provide assessment data, including formal testing data for the purpose of accountability.

Where practice is most effective, schools have based their approaches to assessment upon a clear understanding of progression in learning. They have carefully considered the progression steps and the principles of progression for each Area of Learning and Experience (AoLE) and where appropriate the individual disciplines within them. As a result, staff in these schools have a clear understanding of the journey they wish their learners to take.

In schools where staff are developing a clear understanding of progression, they plan for regular assessment opportunities that allow them to revisit learning or change their teaching if required. These opportunities are integrated into everyday teaching, as well as over time. Staff work together to plan and create assessment strategies that are appropriate to the stage of development of pupils and that help them to understand how well pupils are progressing. In these schools, assessment practices ensure that teachers can be responsive and flexible to pupils' needs and help them to adapt their curriculum and refine teaching.

An integrated approach to planning, assessment and pedagogy Main findings

Staff at Ysgol y Creuddyn in Conwy have based their mathematics and numeracy curriculum upon the school's interpretation of 'mastery', where learners develop an in-depth, long-term and secure understanding of concepts in mathematics and numeracy. They organise learning into multiple work packages each year and, within each of these, pupils study a series of topics in depth over several weeks. Staff have thought carefully about progression and have organised topics to ensure that mathematical skills are built progressively within and across topics. For example, they ensure that they teach pupils about square numbers, and that pupils can use them confidently before moving on to topics, such as Pythagoras's theorem.

Teachers use a range of continuous assessment tasks to monitor pupils' progress and adjust support and teaching as needed. For example, they use multiple choice quizzes, low stake topic tasks, diagnostic questioning, and pupil self-review.

Teachers plan topics carefully, to ensure mathematical skills are revisited over time to reinforce and embed pupils' understanding to reflect the theory of 'the forgetting curve'. The Ebbinghaus forgetting curve is a theory first developed by Hermann Ebbinghaus in 1885. It describes how learned information fades over time when no effort is made to retain it. His work, which is well supported by subsequent research, shows that appropriately spaced repetition of learning helps reduce the amount of information forgotten by the learner.

Ebbinghaus, H. (1964) Memory: A contribution to experimental psychology

Effective schools plan opportunities for staff to collaborate across year groups when looking at assessment and progression within the curriculum. Often, they work together to create blocks of learning that lead up to a rich task or 'main event'. Staff then work backwards from this purpose to carefully plan the discrete learning for each area of the curriculum to support pupils' progress towards the overall goal. They plan for regular assessment opportunities to identify how pupils are progressing towards learning intentions and can continually adjust the direction of travel. Often, these schools plan opportunities for pupils to be involved in the curriculum design process, which helps them understand the next steps required for their learning.

Planning for progression and assessment

Staff at Woodlands Primary School in Torfaen, set 'Enquiry Tasks' to be carried out at the end of a block of work. These tasks challenge pupils apply the learning that has been built up over the term in engaging and meaningful contexts which require them to combine skills from across AoLE.

Teachers plan together to design learning experiences that develop pupils' knowledge and skills over time. Alongside this curriculum planning, they incorporate regular

Main findings

"I can see how all my learning fits together in my enquiry project. This is my best work it is what I'm really capable of if I put in the effort. All the work in my other books is where my learning takes place and where I practice to get me to this point."

(Year 5 pupil)

opportunities for assessment to check on progress. This allows them to adjust curriculum content as they go to ensure pupils are developing their understanding of key concepts appropriately. As a result of this 'planning backwards' teachers in the school are developing a clear understanding of progression and use assessment formatively to monitor pupils progress and adjust their provision appropriately.

ALN progression frameworks and holistic assessment

Main findings

Staff at Ysgol Pencoch Special School in Flintshire have reframed assessment into the 'holistic narrative of the child.' They have combined a range of existing frameworks, such as 'routes for learning', and the national literacy and numeracy frameworks to support their planning for learning across the AoLE. They use these frameworks flexibly and chose the most effective approach to learning for individual pupils. Where individual pupils have profound multiple learning difficulties or sensory needs, staff have developed their own framework to further support them in meeting the needs of all pupils.

Staff use the progression set out in these frameworks to support their assessment and focus their observations of pupils, which they record digitally. These evaluations inform regular meetings between staff where next steps in learning and teaching are decided. The sharing of the planning of both teaching and assessment with teaching assistants allows for a wider field of assessments and a clearer focus on ensuring that individuals are progressing at an appropriate rate.

As a result, the school has streamlined previous approaches to assessment, linked it more closely to their curriculum planning and is using the information that is gathered formatively, rather than just as a tool to track pupils. This has improved all practitioners' understanding of the intended learning for each activity.

Effective schools plan thoughtfully to collaborate with other settings to develop a shared understanding of progression and productive approaches to assessment. In these schools, there are useful opportunities for staff to share good practice in assessment and strengthen teaching across the continuum of learning. Where this

has most impact, it is well supported by local authorities and regional consortia through useful cluster planning. However, these plans do not always ensure that schools build effectively upon pupils' prior learning at important transition points (Estyn, 2022b). Too often, transition arrangements are limited to sharing of pupils' levels of attainment. In these cases, professional learning opportunities for staff to develop a shared understanding of progression and effective approaches to assessment and teaching are missed.

Where schools work together in groups or regions, the quality and consistency of professional learning improve. For example, most schools in the GwE consortium have been involved within a regional initiative to improve the quality and consistency of formative assessment practice. Often, these schools feel that they have benefited from a research informed approach to professional learning, which encourages collaboration and sharing of ideas across schools (GwE, 2019).

Using assessment to support responsive teaching

Schools with the most effective practice, use a range of information that 'flows from assessing learner progress' (Welsh Government, 2022b, p.1) to inform their approaches to teaching and curriculum planning. In the best cases they combine ongoing, formative information gathered day-to-day in the classroom with additional evidence that is collected at set points throughout the academic year.

'My role, as teacher, is to evaluate the effect I have on my students.' It is to 'know thy impact', it is to understand this impact, and it is to act on this knowing and understanding. Is requires that teachers gather defensible and dependable evidence from many sources and hold collaborative discussions with colleagues and students about this evidence, this making the effect of their teaching visible to themselves and others.'

Hattie (2012, p.19)

The best schools think carefully about the information they wish to collect across the school year. Where this is gathered from more formal sources, including national personalised assessments, staff use the information purposefully to identify strengths and areas for development in their teaching. In the most effective cases, staff collaborate across departments or phases to analyse this

Teachers should not collect evidence of student achievement unless they know what they plan to do with it.... decision-driven data collection, not data-driven decision making'

William and Leahy (2015, p 83)

information and engage in honest and challenging discussions, identifying where their practice can be improved. In weaker schools, leaders and teachers still spend considerable time gathering and recording tracking data, and do not always think carefully enough about how this information can be used to improve teachers' practice.

In the most effective schools, staff consider evidence of pupils' academic progress alongside information on their well-being and their attitudes to learning. This provides a useful contextual background for teachers when considering alternative approaches to teaching that help overcome barriers to learning and target underachievement.

Where schools have well-established processes to ensure that staff regularly reflect upon the impact of their teaching on pupils' learning, teachers and support staff are able use the information they have gathered across a series of lessons to plan for next steps well. Often this information is gathered as part of the teaching process, for example observations of pupils applying their skills in carefully designed tasks, or notes taken in teachers 'daily diaries' that record individual pupils' misconceptions and strengths.

Capturing the learning

Main findings

As part of their ongoing assessment for learning processes, staff at Ynysowen Primary School in Merthyr Tydfil regularly reflect upon a range of evidence gathered throughout the week, for example from pupils' work, class discussions and pupils' peer and self-assessment. They work collaboratively in teams to identify pupils' understanding of key objectives, determine their future learning needs and adapt planning where necessary.

As part of this process, they evaluate the impact of teaching on pupils' learning during specific activities, which they identify on their short-term planning. These are marked with a 'camera icon' to denote 'capturing the learning'. The assessments include evaluating progress towards learning goals, common pupil misconceptions, skills that need to be revisited and other areas that staff feel are relevant. These reflections are the focus of discussion with all members of staff who have worked with the children throughout that week and with other teachers who work in parallel year group classes.

On subsequent planning, teachers use a smaller camera symbol to indicate the teaching approaches that they have planned to address any learning needs identified during the evaluative discussions.

When common concerns are identified across classes and phases, this often has a direct impact on the strategic direction of the school, feeding into the whole school development plan and subsequent professional learning. 'Capturing the learning' is very much part of the cycle of assessment, self-evaluation and the whole school approach to professional learning.

Where support staff are used well, they are fully involved in the learning process and have regular opportunities to discuss their assessment of pupils' progress with class teachers. Staff in special schools often take part in daily and weekly class meetings where all staff reflect together on the formative observations of pupil progress and then tailor their planning to individual pupil need.

Effective schools are developing the role of pupils in assessing and providing feedback to staff about the impact of teaching on their learning. In these schools, staff regularly work with groups of pupils to evaluate and discuss their learning.

Pupil focus groups

Main findings

Staff at Carreghofa C P School in Powys have moved away from regular half-termly summative tests to monitor progress as staff felt they were time consuming and had limited impact on their practice. Instead, staff hold 'pupil focus groups' within their classrooms, to allow them to assess and develop a deeper understanding of pupils' learning. These generally happen twice a week. Staff and pupils look together at the intended learning outcomes of sessions, discuss pupils' work and give them the opportunities to demonstrate their understanding and identify areas where they need further support.

These sessions give teachers a much clearer picture of pupils' understanding across the class and the impact of their teaching. They use this knowledge to adjust subsequent teaching, for example to support learners who are struggling, or extend those who require more challenge.

Where schools build in regular opportunities to assess pupils' learning, for example through low stakes quizzes, the strongest schools use this information constructively to support teaching and pupils' learning. In these schools, teachers recognise that these quizzes can have a positive impact on deepening pupils' learning (Roediger & Butler, 2011), and use the information to monitor progress and refine the next steps in teaching. In a very few cases, teachers design multiple choice questions skillfully to clearly identify how well pupils understood a unit of learning and to identify common misconceptions.

Responsive planning

Main findings

Staff at Osbaston Primary School in Monmouthshire have developed an alternative method of short-term planning, which is responsive to the needs of the pupils. Weekly plans provide a detailed outline of learning for the first two or three days a week, with a skeleton plan for subsequent other days. Staff evaluate pupil progress through a 'learning diary', which reflects the ongoing formative assessment information gathered throughout the week. This includes their notes from scrutinising work, observations from learning discussions with pupils, and observations from planned activities, such as daily 'retrieval practice' sessions where teachers regularly review and revise prior learning. This allows the teacher to adapt their teaching depending on what support is needed by individuals, groups or the whole class.

Other beneficial practices include teachers using carefully designed 'exit tickets' where pupils respond to a short task that evaluates their understanding of the learning goals for that session. Where these opportunities are designed well, teachers get a clear picture of strengths and misconceptions for individuals and the whole class. A minority of schools are also beginning to develop useful approaches to whole class feedback where teachers analyse pupils' work after the lesson to pick out common strengths and areas for improvement. Both approaches, when used well, allow teachers to make decisions about learning that can apply to the whole class and address any concerns before moving on. The most effective teachers recognise that these whole class approaches need to be used alongside high-quality, specific feedback for individual pupils, and that they should not restrict opportunities for teachers to support the needs of individuals.

Whole class feedback

Main findings

At Penyrheol Comprehensive School in Swansea, the use of whole class feedback "WCF" has been evolving since its first trial in 2018.

After reading all pupils' work, highlighting common errors and keeping notes, the teacher produces a 'Whole Class Feedback' (WCF) sheet with targets for subsequent learning. These targets relate to the content/skills that were being assessed and teachers then use a variety of methods to ensure that follow up teaching is focused and directed.

For example, in English lessons, common areas for development can be retaught using a visualiser to show good examples of completed work from pupils that illustrate the success criteria. Pupils then carry out "Do it Now" tasks where they use the WCF sheet to identify positive elements in their own work as well as correct highlighted errors. Finally, pupils are challenged to complete a new task or partial redraft corresponding to their selected target to practise the skill or consolidate the knowledge. Alternatively, in maths, quizzes are designed to identify strengths and common misconceptions. Teachers then develop 'close the gap questions' for pupils to work through in the following lesson to address misconceptions.

Departments work together to share common errors across pupils' learning and use this to inform future curriculum planning. The school has found that this approach has the potential to reduce teacher workload enabling them to provide formative feedback more regularly. It also increases teachers' awareness of their impact on pupils' learning and enables them to focus more clearly on the necessary next steps for teaching and adapt the curriculum accordingly.

Effective teachers plan approaches to questioning carefully when designing lessons. They have a clear understanding of the intended learning and design questions that can assess pupils' understanding and misconceptions. They use these skillfully throughout the lesson to assess progress and adjust the direction of the lesson if required.

Often, teachers integrate short 'pit stops' into lessons where they address common mistakes that they have identified when monitoring the work of pupils in the classroom. Pupils' work is often used thoughtfully to give examples of good practice to encourage pupils to reflect with their peers on how well they are progressing. Where this approach is most beneficial, teachers and support staff ensure that they use it judiciously and do not interrupt the flow of learning within the classroom unnecessarily.

'The teachers stops when lots of us are making the same mistake, she stops and re-explains things or helps us understand how this mistake is happening.'

(Year 6 pupil)

Schools with constructive approaches to professional learning and development build in opportunities for teachers to evaluate the success of assessment strategies. In these schools, staff think carefully about what information they want assessments to capture, and how successful they are in providing useful information. They reflect upon how the information they gather can impact positively on the quality of teaching and how approaches to assessment can be further refined. Where this is particularly useful, leaders encourage staff to carry out their own research, trial and evaluate assessment approaches in the classroom and share good practice with colleagues.

Establishing a culture of learning and self-improvement

Main findings

Staff at Ysgol Tregarth in Gwynedd have worked to develop a culture of continual learning and self-improvement as part of their vision for the school and their daily practice. As a result, the elements of trust, honesty, respect and support are firmly embedded in the school. This is reflected in the school's professional learning strategy, which prioritises personal and collaborative reflection and the sharing of good practice.

Teachers have worked together to reflect upon formative assessment practices and their impact on pupils' learning. They have jointly identified areas for improvement and then planned strategically to further develop those elements that have the most impact on learning. This is followed by a period of trailing by teachers, who create videos of themselves using chosen techniques in their lessons and sharing these clips with their peers. This allows all teachers to reflect first on their own practice, then offer constructive feedback to each other and take the opportunity to observe good practice in each other's classes. Using this approach, staff have carried out their own action research into effective questioning to promote pupils' thinking and design plenaries that help provide information for the teacher to adapt follow-up lessons. As a result, teachers are developing expertise in using formative assessment, which is successful in supporting learners to make strong progress.

Developing collaborative approaches to assessment in the classroom

In many of the schools we identify with strong practice, staff use a wide range of useful formative assessment approaches in the classroom to support pupils learning. They recognise that 'increasing effectiveness as a learner' is integral to the Curriculum for Wales as set out in the mandatory principles of progression for each AOLE. In these schools, teachers ensure that pupils have a clear understanding of the intended learning in sessions, and provide constructive feedback that challenges pupils to become increasingly effective and independent in moving their own learning forwards.

Almost all schools create learning intentions for planned activities and provide pupils with success criteria to help them get there. In the most successful classrooms, these learning intentions are specific and relate clearly to the intended learning, rather than completion of a task. They help to focus formative assessment practices, such as pupils' self-assessment.

In the best cases, staff think carefully about how learning intentions can be applied to a wider range of contexts or disciplines and revisited over time. This supports pupils to deepen their learning and helps them to transfer and apply skills to unfamiliar situations.

'It is in general, a good idea that students know where they are going – we are both embarrassed about how long we spent teaching without telling our students where we are going. After all, it is really rather obvious that if our students know where we are headed, we are more likely to arrive at our destination.'

William and Leahy (2015, p.28)

Good teachers share learning intentions with pupils when they fit most naturally in the learning process. In these schools, leaders ensure that policy and practice give teachers the flexibility to use their professional judgement when deciding upon how best to share learning intentions and success criteria with pupils. For example, teachers do not always share them at the start of lessons to help engage pupils' curiosity in the learning journey. In a few cases, teachers use strategies such as beginning lessons with 'big questions' to encourage pupils to think carefully about the intended learning without telling them exactly what the learning entails.

Where practice is less effective, teachers plan activities without having a clear understanding of the intended learning or how they will assess pupils' progress. At times, these learning intentions do not add value to the learning experience and often become titles for pieces of work that pupils are required to copy into books. In these cases, learning intentions do not always motivate pupils or help them understand the purpose of their learning.

Where practice in using success criteria is strong, teachers make sure that they are appropriate for the stage of pupils' development and only use them where they add value to the learning process. They ensure that pupils have a clear understanding of

what success looks like and how it can be achieved. They prioritise the main features of the intended learning and do not overload pupils' by including too many areas to focus on. As a result, pupils in these schools use these criteria purposefully to reflect on and improve their own learning and support the learning of their peers.

The most effective teachers model good approaches to learning with pupils or share good pieces of work to exemplify what success looks like. These teachers often create opportunities for pupils to develop success criteria with each other or alongside adults. Where this is particularly successful, teachers ensure that the process is well modelled and given sufficient time. As a result, pupils in these classrooms develop a deeper understanding of how to go about their work and often demonstrate a growing independence in planning their own learning.

In a few instances, where appropriate, teachers differentiate success criteria to support all pupils to reach a shared learning intention. This helps provide appropriate support for pupils and to challenge the more able. In a few cases, pupils develop strong independent learning skills and can choose from a differentiated range of success criteria at an appropriately challenging level.

Developing pupils' independence

Main findings

Staff at Ysgol Twm o'r Nant primary school in Denbighshire plan carefully to provide opportunities that encourage all pupils from the youngest up to Year 6 to make choices about their learning. Approaches are carefully considered across

age groups, to develop pupils' understanding of their own learning and improve their confidence in challenging themselves. Staff design learning activities that are well supported by success criteria appropriate to pupils' stage of development. Staff support pupils to make decisions about their learning, choosing their own 'star level' of success criteria. These provide support or increasing challenge while directing pupils towards the overall learning intention. Pupils are able to use these to assess their own and their peers' learning and progress. By the time pupils reach Year 6, many understand and select the level of challenge that is most useful in moving their own learning forwards.

'I read the three Success Criteria that have been set first before deciding which task to do. I enjoy challenging myself anyway, because if the work is too easy I don't get as much out of it... If I have chosen a '2 stars wonderful task' and the work is too easy I can change to do a more challenging task, the same if the work is too challenging, I can go for a one-star task.'

(Year 6 pupil)

Teachers who develop a strong culture of collaboration within the classroom often engage pupils in reflecting on the effectiveness of learning intentions and success criteria. For example, they encourage pupils to work together to critically examine how useful they are in supporting self and peer-assessment. This approach helps teachers and pupils identify areas for improvement, for example ensuring that success criteria are sufficiently precise and helpful.

Developing a culture of collaborative reflection

Main findings

Staff at Lamphey Primary School in Pembrokeshire ensure that pupils are fully involved in the process of developing success criteria and reflecting upon their impact in supporting learning. Teachers work with pupils to build success criteria after ensuring pupils understand what good learning looks like. For example, pupils produce and act out their own drama sketches using a short extract from Macbeth. They use peer feedback to help improve each other's performances and then work together to develop success criteria for their own writing based upon this work. As a result, pupils are purposefully engaged in their learning, guided skilfully by the teacher and 'discover' for themselves clear success criteria for a piece of work.

Teachers also create valuable opportunities for pupils to reflect upon how useful the success criteria were in improving peer and teacher feedback. For example, after redrafting their written work, pupils make short notes of the feedback that was effective or not effective in supporting them to improve their work. They place these notes into two cups at the front of the class labelled 'useful' and 'not useful'. The teacher then uses these to engage pupils in discussing which success criteria and feedback responses were most useful in moving their learning forwards. As a result of this regular collaboration, pupils often have a clear understanding of what a quality piece of work looks like and are developing useful skills that allow them to self-assess their own work using well-constructed success criteria more accurately.

In effective classrooms, teachers provide feedback that helps pupils understand what they have done well and clearly identify what they need to do next and how to do it. Where it is most useful, teachers ensure that it is focused, linked directly to learning intentions, and enables pupils to understand their next steps rather than overusing strategies which have little impact on pupils' learning, for example feedback stamps or praise marking.

Where practice is strong, teachers understand how feedback impacts on individual pupils' motivation and are aware of the negative impact on learning in overusing positive praise (Hattie & Timperley, 2007). They ensure that pupils understand how to receive and use feedback appropriately and appreciate their own active role in the feedback process. As a result, in these schools, pupils have strong attitudes to learning and approach challenges confidently.

In the best practice teachers use a range of feedback to support their pupils at different points in the learning process. For example, they provide 'in the moment' feedback where it is most appropriate and does not distract pupils or disrupt their thinking. They also 'delay' approaches to feedback when appropriate to help improve pupils' independence and deepen thinking over time. For example, they use class feedback in follow-up lessons, or more detailed individual written feedback for pupils. Effective teachers always ensure that pupils have meaningful opportunities to respond to any feedback given to improve the quality of their work.

"I can use the 'Even Better If' to improve my work as it helps takes it to the next level rather than just verbal comments which only help you half-way through"

(Year 5 pupil)

Taking the hot seat

Main findings

Teachers in the English department Cwm Tawe Community School in Swansea use a feedback method called 'Taking the hotseat.' Once the class teacher has marked pupils' work, pupils in the class are given a reinforcing task that they can undertake independently to allow the teacher to call students up to the 'Hotseat' one at a time. A timer is set for 60 seconds, and the teacher goes through the pupil's work, discussing the written feedback with them. The teacher splits the time equally between 'What Went Well' and 'Even Better If...'. The teacher then gives pupils time to act upon this feedback immediately. For example, the pupil may annotate some of their work in green ink, write a 'Self-Improvement Plan' at the end

of the essay or produce brief notes in the margin that describe what worked well or where improvements are needed. Teachers do not mention marks or grades but focus more beneficially on the positive aspects of the work and the areas for development and improvement. As a result, pupils are far more focused on the feedback and the annotation of their work rather, than any summative mark or grade. This practice ensures that assessment is a supportive, collaborative two-way process.

Research indicates that comment only marking is more effective in improving pupils learning than grades. Comment only marking is also more effective than using both grades and comments as pupils often disregard comments and focus on the grades, which do not give actionable steps for improvement.

Butler (1988)

Feedback strategies

Main findings

At Pontarddulais Comprehensive School in Swansea, staff use a range of well-understood assessment for learning strategies to create an engaging and purposeful classroom culture. Staff share and model success criteria to guide pupils, and their feedback is diagnostic and clear, which ensures that pupils make strong progress within and across a series of lessons.

Through skilful questioning and modelling, teachers support pupils to go beyond superficial responses to provide thoughtful and in-depth answers, using higher level subject-specific vocabulary confidently.

Teachers' written feedback has recently been refined using 'Stop Act Think Reflect' (STAR) tasks. These allow pupils to respond to feedback by completing bespoke tasks designed by the teacher to match specific individual next steps in learning. STAR tasks evolved to solve the problem of brief and repetitive pupil responses to teachers' written feedback.

As a result, feedback has evolved into worthwhile assessment practice where teachers not only assess progress but prescribe relevant and meaningful learning activities to deepen and support learning. This adds value to pupils learning and ensures that pupils are a beneficial part of the learning cycle.

Many schools have reflected upon the approaches to feedback developed during the pandemic and in a few cases have continued to refine useful approaches to support pupils' learning where appropriate. For example, teachers record verbal feedback to individuals or classes whilst looking at pupils' work. Feedback is then sent digitally to individual students or to the whole class, allowing them to replay the feedback as often as needed for them to improve their work.

'Affording learners responsibility for their own learning (and, crucially, affording them support to do so) through the assessment process builds their capacity to act as agents who take ownership of their own learning, share responsibility for the learning of all and contribute to planning further progression in their learning.'

Welsh Government (2020, p.8)

Where peer assessment is used well in schools, it is planned thoughtfully and supported well by teachers in order to develop pupils' skills. Good teachers model approaches to peer feedback, set up clear roles and expectations and involve pupils in understanding the impact of their feedback on their peers. In these cases, teachers support pupils to give 'specific, helpful, and kind' (Berger, 2003, p. 93) feedback that encourages a culture of support in the classroom. Teachers monitor the quality of pupils'

feedback to each other and work with them to identify how it can be improved. In the best cases, leaders and teachers have worked together to develop progressive models for peer assessment that build systematically across age groups and support teaching and pupils' learning effectively.

Where teachers have developed worthwhile approaches to self-assessment, they ensure that pupils have a clear understanding of what a successful piece of work looks like. They model examples of learning supported by clear success criteria which pupils can then use to reflect thoughtfully on their own work and make improvements.

Where self-assessment is less effective, pupils are often required to complete tick lists of success criteria without having meaningful opportunities to improve their work. In these cases, it is not a useful experience and pupils are not motivated to become more independent in their learning.

'Sometimes we spend more time ticking off success criteria than we do actually doing our work. It would be better to put our thinking into our work rather than worrying about the success criteria.'

(Year 5 pupil)

Supporting pupils' peer assessment skills

Staff at Wauncerich Primary School in Neath Port Talbot support pupils' skills in peer assessment using 'Learning Conferences'. This approach has evolved following feedback from learners during the school's self-evaluation cycle. Pupils identified that they learn best when supported by a friend who sits alongside them and acts as a learning coach. As a result, teachers set up 'conference' zones within classrooms and shared areas. These conferences are designed to include opportunities for pupils to engage in regular learning conversations with their teachers

Main findings

'There is substantial evidence that peer assessment can result in improvements in the effectiveness and quality of learning, which is at least as good as gains from teacher assessment.'

Topping (2009, p.22)

and peers, and develop their own skills in feeding back to each other.

There are typically three types of conferences.

- 'One to one' conferences take place between the teacher and the pupil. These are used to share and discuss work, address misconceptions, and provide support to individual pupils in deciding upon their next steps.
- Teacher led group conferences engage several pupils in discussing a task and modelling effective feedback and questioning that supports pupils in moving their learning forwards.
- Learner led conferences that allow pupils to take the role of the class teacher in applying the skills they have learned to support each other's learning.

As a result of this systematic and thoughtful approach, pupils across the school are developing well as reflective learners who are able to support each other with growing confidence and skill.

Where teaching is most effective, pupils view peer assessment as a useful part of their learning. Primary school pupils told us that this approach helps them to get useful 'low stakes' feedback "without worrying about what the teacher thinks" and also allows them to further improve their work by "magpie-ing each other's ideas". Where peer assessment is not established well enough, older pupils sometimes raise concerns about its social impact, for example being 'afraid' to share their work or open themselves to scrutiny from their classmates. As a result, these pupils often provide low-quality feedback to their peers which does not support learning well enough.

Where schools collaborate regularly with parents to share assessment evidence of their children's progress, pupils often have useful opportunities to further their learning. These schools develop strong relationships with parents and see them as integral to the learning process. They share learning experiences from the classroom with parents and provide support for parents to further develop specific aspects of their child's learning at home.

Supporting collaboration at home

Main findings

Staff at Ysgol Dolbadarn in Gwynedd have worked to develop successful relationships with parents to support their child's learning at home. The school has developed a clear vision for a learning community that has an effective sharing of responsibility between the home and school. They use digital platforms to share information about pupils' progress regularly as well as using feedback from parents to create further opportunities for pupils to develop their individual skills in school.

Staff have embedded a range of formative strategies to gather information about pupils' learning. These strategies include observations in lessons, scrutiny of work and discussions with learners. This information is used to identify pupils' individual next steps and where appropriate these are shared with parents so they are able to support their child's learning at home.

To further improve the effectiveness of home learning, staff model approaches to teaching for parents based on the skills that pupils need to strengthen. For example, staff have created short videos of teachers supporting the development of pupils' reading skills.

"This year I have felt part of my child's success and progress. Feedback and targets I receive ensure that I know full well how to help them as well as understand the experiences they've had in class. It has been a pleasure to be so involved in improving my child's development."

Parent Feedback to the school

As a result of this regular communication with parents, learners in the school are well supported to develop the key attitudes and behaviours that will help them learn throughout their lives.

Methods and evidence base

List of visited providers

Ysgol Penrhyn Dewi	All-age	Pembrokeshire
Ysgol Caer Elen	All-age	Pembrokeshire
Ysgol Tregarth	Primary	Gwynedd
Abercarn Primary	Primary	Caerphilly
Glasllwch	Primary	Newport
Knighton C.I.W. School	Primary	Powys
Lamphey C.P. School	Primary	Pembrokeshire
Woodlands Community Primary School	Primary	Torfaen
Twm O'r Nant	Primary	Denbighshire
Ysgol Dolbadarn	Primary	Gwynedd
Osbaston CIW Primary School	Primary	Monmouthshire
Waunceirch Primary School	Primary	Neath Port Talbot
Ynysowen Community Primary School	Primary	Merthyr Tydfil
BrynBach Primary	Primary	Blaenau Gwent
Ewloe Green C.P. School	Primary	Flintshire
Carreghofa C.P. School	Primary	Powys
Birchgrove Primary	Primary	Swansea
Ysgol Plascrug	Primary	Ceredigion
Ysgol Y Creuddyn	Secondary	Conwy
Cardiff High School	Secondary	Cardiff
St Joseph's RC High School	Secondary	Newport
Treorchy	Secondary	Rhondda Cynon Taf
Cwmtawe Community School	Secondary	Swansea
Ysgol Gyfun Y Strade	Secondary	Carmarthenshire
Bishopston Comprehensive school	Secondary	Swansea
Crickhowell High School	Secondary	Powys
Pontardulais	Secondary	Swansea
Castell Alun High School	Secondary	Flintshire
Penyrheol Secondary	Secondary	Swansea
Y Pant Comprehensive	Secondary	Rhondda Cynon Taf
Ysgol Pencoch	Special	Flintshire
Trinity Fields School & Resource Centre	Special	Caerphilly

Glossary

Numbers – quantities and proportions

nearly all =	with very few exceptions
most =	90% or more
many =	70% or more
a majority =	over 60%
half =	50%
around half =	close to 50%
a minority =	below 40%
few =	below 20%
very few =	less than 10%

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