

Ribblesdale High School

Introduction

With four months to the end of the year nearly 90 per cent of a Year 8 Maths group at Ribblesdale High School are already several months ahead of their year-end target, largely thanks to Learning by Questions (LbQ).

Their performance has particularly impressed tech-savvy maths teacher Emma Tranter, whose professional knowledge of IT means she is well placed to evaluate the effectiveness of teaching technology.

One of the most impressive features of the LbQ system is the automatic feedback that pupils receive each time they answer a question. This means that even without further teacher intervention, pupils learn from feedback that is automatically delivered by the technology.

Head teacher Stephen Cox, says: “Emma has zero tolerance for gimmicky IT gadgets so the fact that LbQ has passed the ‘Emma test’ gives it great credibility among our teaching staff.”

Emma, second lead teacher in Ribblesdale’s maths department, says: “I’m seeing pupils transformed. Since we started trialing LbQ in September 2017 many pupils – but boys in particular – have gone from under-achieving and hard to motivate, to being really ‘up for’ maths. Now you say, ‘Get your device ready’ and they’re straight there. They’re on it. They’re the first to log in, and they’re making great progress straightaway.”

Emma adds: “Equally, my high flyers are whizzing through, completing question sets; they’ve enjoyed not being held back and waiting for other people.”

Ribblesdale High School, in Clitheroe, Lancashire, has around about 1,200 pupils, aged 11 to 16 and is situated in Lancashire’s picturesque Ribble Valley.

Stephen, who has been head teacher at Ribblesdale since 2012, says: “We are part of a very, very competitive educational environment. Our closest secondary is a selective grammar school and there are two other outstanding schools very close by.

“We have a huge catchment area, with youngsters from over 30 primary schools who come from as far away as Blackburn, Burnley and Nelson, as well as more rural locations in the Ribble Valley. We have a diverse group of youngsters and we thrive on that diversity.”

Founded in 1932, the school has grown significantly over the years and celebrated its 85th birthday in 2017.

“We have an expansion plan in place to increase our rolls even more,” says Stephen. “The school has always had a technological link and was one of the first technology colleges back in the 1990s, when lots of secondary schools started getting specialisms. We worked closely with various organisations, including software and hardware developers working with CAD/CAM – computer aided design, computer aided manufacturing and so forth.

“Also, we were one of the first schools to go fully interactive with our white boards. That was 15 years or so ago. So we’ve got a history of working with technology and this latest area shows how we can utilise one-to-one devices to improve our teaching and learning.”

LbQ progress report

LbQ was introduced to Ribblesdale maths students in September 2017, and after only six months it is already regarded as a permanent teaching resource.

Emma comments: “The pupils see it as a long-term thing, and I certainly do. Data for my year eight class, who have used LbQ the most, shows 86 per cent have already met or exceeded their end-of-year target. And that was a February assessment.”

Stephen adds: “From a leadership point of view, there are three key areas that LbQ addresses very effectively. One is engagement, one is the performance of boys in particular, and the third is teacher workload.”

Initially, Ribblesdale started with two teachers using LbQ with year eight and year seven, totalling four classes with roughly 25 pupils in each. This has since grown and been extended to other year groups, with additional teaching staff trialing the system.

“There’s been a gradual rollout and we’ve probably got around a hundred children currently using it on a regular basis and others ad hoc,” Emma explains. “This is partly because our year eight and year seven have one-to-one devices, so it’s very easy to use them whenever you want to. With other year groups, we need to book a set of think pads, which limits how often they can do it.

The pupils have Microsoft devices and the maths department has a set of Lenovo Think Pads as well.

The initial trial period covered maths only, but the English department is also looking at using the system.

Benefits for students

The LbQ system involves students using tablets in the classroom that operate in real-time, sending instant feedback to the teacher as the children answer each question. This immediately tells the teacher which students are struggling and which are performing strongly. As a result, everyone can work through the questions at their own pace. More able children can be pushed, while less able ones are

prompted by the intuitive software. If the teacher's intervention is necessary, he or she can act on the spot. Crucially, the system drastically reduces the time-consuming task of marking, as well as time spent preparing resources such as worksheets.

LbQ's ability to overcome issues of shyness, lack of self-confidence and anxiety about getting a question wrong has deeply impressed Emma.

She comments: "Engagement is the biggest thing for me. Boys – especially mid and low-achievers – are much happier interacting with a device than with people. You can see this in the classroom, and round about school as well. Low and mid-achieving boys don't like being singled out. They often don't like being asked questions in front of other people.

"Girls are far more comfortable about putting their hand up and giving answers, whereas boys hate the thought of being wrong. For me, the instant feedback that they get and the prompts about how to improve their answer is helping them not to be frightened of making mistakes. Just as importantly, because it's just between them and the screen, there's no embarrassment."

Emma adds: "So, particularly for those mid and low ability boys – which is our problem area – there's no embarrassment if you get it wrong because only the computer and the teacher know. It doesn't matter if you've had three attempts at a question before you get it right, because it's private."

At the other end of the spectrum, high achievers are also able to benefit from LbQ technology because they are not left waiting for less capable classmates to catch up.

Emma says: "I've got a top set in year seven and I've also used it with the top set in a year ten group and they find it incredible because they can work at their own pace. If they've got five or six questions in the first section correct, it moves them on and they're not held back."

Benefits for teachers

Teachers using LbQ see immediate advantages of working with the system.

Emma says: "Producing perhaps three different worksheets so that I can differentiate the work for the class is no longer necessary for me, because the question set will move pupils on when they're ready. If they need help, it's giving them help. If I can see those who are still struggling, even when they're having feedback, I can go straight to the children who need me. And at the end of a lesson, I've got a full data set that I can look at and use to inform my planning for the next lesson."

This is a real boon for Emma, because it avoids having to mark a set of books and *then* think about planning for the next lesson.

“If I go away and mark a set of books, if everybody’s got a particular question wrong, then yes, of course you notice it,” she explains. “But you don’t always notice it in quite the same way as you would with the feedback from LbQ. The technology means I can see that maybe four different questions have caused a problem and I can quickly look at those four questions and often spot a common thread. This enables me to realise that it’s the common thread that’s the issue, not the particular question. So, it drills deeper, quicker.”

Stephen believes LbQ facilitates a blended use of teaching techniques, bringing together technology and traditional teaching practice.

“The teacher can say: ‘Let’s just stop here and return to a concept. Let’s go through it together,’ because clearly there’s something the children are not getting,” says Stephen. “This ability to move between the technology is important. The teacher can step in and deliver the learning more traditionally, which is consistent with our school’s philosophy. We really push technology – but only when it’s appropriate. LbQ allows the teacher the opportunity to switch between the methods, right there, in real time.”

Emma agrees: “My teaching still looks very much the same. I still do a starter activity; I still introduce new concepts; and we still practice those concepts. But then we go away and work on an LbQ set, rather than doing a worksheet in our books.

“In the past, I would have had a beautifully quiet class all working and assumed that everybody was absolutely fine. Two or three children might have asked me questions and that would have been it, whereas now I can see instantly if a particular question or concept is causing a problem and can stop everybody. If I can see it’s just a particular group, I can pull that group together and discuss it with them. I can work with a particular child if it’s just that child who is struggling.

“Equally, because they rarely get to the final end of the question set, there’s always still something to work at. I can use something from further on as a plenary activity and really challenge them. I can fit that to how far we’ve got through a question set, so I’m adjusting to what’s in front of me from the pupils all the time.”

Stephen sets great store by Emma’s positive assessment of LbQ. He says: “Because Emma’s has taught IT and is highly tech savvy, I know she wouldn’t give the time of day to anything that was just a bit of a flashy, techy solution. She would only give her approval if it improved her teaching and the classroom learning. So, I feel really reassured, because Emma wouldn’t put technology in front of a class unless it clearly and substantially added value.”

Stephen adds: “If we want credibility with the rest of our staff, it’s really important that it is a lot, lot more than just something that sits on a digital device. It’s what’s underneath that’s important. LbQ has passed the ‘Emma test’ and that means other teachers will take it seriously from the start.”

How the LbQ team works with teachers to develop the system

Stephen and Emma agree that the collaborative mindset of the LbQ team and other teachers continues to be vital to the successful development of the system.

Emma says: “We came out of the last cluster session with LbQ and other schools and were absolutely buzzing because all the things we’d said at the previous session in December had been actioned. It’s so lovely to work with people who are listening to what the teachers on the ground are saying, and responding by saying: ‘OK, let’s work that in. Let’s make that happen.’”

Emma adds: “One of the things we’d asked for was the pause function, so that when you want to stop the class you can pause the question set and the children have to stop immediately, rather than sneakily carrying on. In fact, the pause function is going to be so sophisticated that you can pause it for certain pupils and not others. This will mean you can make the ones that need to listen, listen. That’s going to be fantastic. Just as importantly, it demonstrates how we are really made to feel part of the development. From a teaching point of view, that’s really exciting.”

Children’s perspective

Among Ribblesdale pupils who enjoy working with the LbQ system are year 7 pupils Jack Woodward and Emily Ryan, both aged 12.

Jack comments: “I found it really good because I can learn at my own speed and I don’t have to wait for others and others don’t have to wait for me, so I feel OK going at my own pace. If you get a question wrong, LbQ gives you a hint; it doesn’t just give you the answers. I also like the idea that you do your own work in your own little space, without other kids knowing what’s happening with your questions.”

Emily says: “I like it because it helps you if you get a question wrong, but it doesn’t just tell you. Then, if you keep getting it wrong, it will give you more chances. It doesn’t just say you’ve got it wrong and can’t do it again.”

The pair also like the teamwork that LbQ promotes. Emily says: “It doesn’t just help with maths. If you’re working with someone else, then it helps you with teamwork and cooperation with other people. It means you’re not doing all the work and they’re not doing all the work. You’re working together.”

Year 8 pupil Zak Burgess sees himself as average at maths and likes the idea that it’s just him and the tablet, without the need to put his hand up or answer questions in front of the whole class.

Zak comments: "I think it's really good. It motivates everyone because it's much, much easier than working with books. I think it encourages people my age because they're always playing on stuff like this and it's much easier for the teachers as well. The questions are always on the screens and everyone can work at their own speed inside the class, as well as working together."

Zak adds: "I always try to get it right but if you get it wrong it doesn't matter. You can keep working. It doesn't stop you – it gives you a hint and that helps a lot. In your book, you only get it marked once and you can't do it again. But LbQ helps you to have another go until you get it right. And you don't have to wait four days for your marks."

Gracie Hargreaves, also in year 8, likes the freedom LbQ gives pupils to move forward through a question set in their own time.

Gracie says: "If we're in class and doing our books, sometimes you'd have to wait to move on to the next question. You don't normally have to do this with LbQ. You get to move on at your own pace and that means time gets used better for everyone in the class.

"Also, it's more fun because we get to help each other on questions. And it's not just like handing over all the teaching to technology. It's still the teacher at the centre of the lesson."