

Lancashire Education Awards



Application Form

Please note that sharing good practice is an essential part of the Lancashire Education Awards and by completing this form you agree to be contacted by interested schools. The contact information and information you provide on this application form will thus be published on a website should your application be successful.

Establishment name:	Holmeswood Methodist Primary School on behalf of the West Lancashire Small Schools Cluster
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Lancashire Establishment no (e.g. 02013 or A1005). If you do not have a Lancashire number please provide your full school address and phone number	08/023
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Network/cluster name (if you are applying for an award for network/cluster work and more than one establishment will receive an award. Please list all the schools that would receive the award.	West Lancashire Small Schools Cluster: <ul style="list-style-type: none">• Banks Methodist Primary School• Bickerstaffe CE Primary School• Crawford Village Primary School• Dalton St Michaels CE Primary School• Holmeswood Methodist Primary School• Newburgh CE Primary School• Mere Brow CE Primary School• Our Lady's & All Saints RC Primary School• Richard Durnings Endowed Primary School• St Joseph's Catholic Primary School• Scarisbrick St Mark's CE Primary School• Westhead Lathom St James CE Primary School
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Headteacher/principal/ head of centre name	Relph Higson (Chair of cluster)
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Lead contact name (if different from Headteacher; this person will be contacted for queries/to provide evidence, etc.)	
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Lead contact email address (will need to be checked regularly)	head@holmeswood.lancs.sch.uk
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Project title (will appear on certificate, maximum 15 words)	3D Printer Project
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Award applied for (please put an X in the appropriate box):

Award category	X
Innovate <i>A project that demonstrates practice that is new or ground breaking, which successfully engaged and enthused learners.</i>	X
Achieve <i>A project had measurable impact on raising outcomes for pupils.</i>	
Invest <i>A project that has had a positive impact upon an aspect of the wider school community.</i>	
Collaborate <i>A project that involved work across more than one school or work with other agencies.</i>	
Include <i>A project in provision for pupils with Special Educational Needs and Disabilities.</i>	
Inspire <i>A project that demonstrates embedded exceptional provision of an aspect of the curriculum. Practice will have been developed and refined over time.</i>	

Project summary (maximum 200 words)
<p>This project involved a group of small rural/semi-rural schools sharing 3D printers, training and good practice.</p> <p>It was an opportunity to inspire children in years 3 to 6, to see the practical applications of current technology and use this as a springboard for learning across the curriculum.</p>

How did you identify the need for this project? What were you hoping to achieve?

3D printers have been around for many years, but have only just become accessible to the consumer market.

First of all, we identified an opportunity to 'get ahead of the game' and give the children in our small school a rare opportunity to see how this innovative, future technology works.

The intention was primarily to inspire and motivate children, but also to develop the children's understanding of Computer Aided Design and apply this across the primary curriculum.

Who led the project?

Rolph Higson, Headteacher at Holmeswood Methodist School negotiated the procurement of four 3D printers and training for designated staff in the cluster.

What steps/actions did you take?

- Discussed project with cluster heads
- Organised 'taster day' hosted at one school – an AGT event to showcase the possibilities
- Procured four 3D printers
- Organised training for the cluster
- Planned programme/rota for sharing of machines across 12 schools over academic year 2018/19
- Ongoing review/evaluation at meetings of cluster heads
- Each school reported successes and difficulties back

What was the impact of the project and how was this measured/assessed?

- Much of the impact of this project has been anecdotal – a short but purposeful questionnaire was devised and completed by a range of parents, pupils and staff in order to gather opinions of successes, flag difficulties, suggest advice for future users and think of creative applications through the curriculum. A final overall judgement of the project was also requested.
- Seeing and hearing the excitement from pupils as the printers fired into action to produce, in plastic, the designs they had been working on was priceless! The project inspired children to be creative, innovative and resilient, as well as widened their outlook on technology and its application in the workplace.
- Children learned about the basics of computer aided design using an application called Tinkercad, and produced some astounding results. Having been shown the basics, more-able pupils were able to produce intricate models which surpassed all expectations (Thunderbirds spacecraft,

replicas of homes etc).

- Cluster heads liaison over the project has led to wider discussion leading to unpredicted benefits e.g. lead school has entered into a scheme for the parental purchase/lease of Chromebooks, making the acquisition of IT equipment sustainable in times of financial difficulty. This will be brought to the cluster as a possible venture in the future.
- Computing leads and year group teachers networked around this project, sharing good practice for this project and about the wider curriculum and environment. Following training, our subject leaders disseminated knowledge to others in their schools and identified uses of the 3D printer to support other areas of the curriculum. For example, the British Museum have 3D scanned many of their artefacts which can now be downloaded and printed – such as Tutankhaman’s headdress, Scarab beetles and models of pyramids when studying ancient Egypt. You can also print sets of teeth, skulls and other bones for use in science. Furthermore, on the Thingiverse website there is a plethora of creative educational project ideas which pervade every area of the curriculum.

What are the next steps? How will you follow up this work?

- Cluster heads plan to evaluate the success of the project in the Summer term with a view to rolling it out for a further 12 months. A further four schools have already expressed an interest in being involved and we have secured funds for a further two or three printers.
- Staff and children would like to have access to a 3D printer more often. Currently, the limited number of 3D printers available on the year-long rota has meant that only one class per school used the 3D printer for one term. The plan is to purchase more 3D printers and consumables, aiming towards two classes per school, per year. In small schools, this means all children from year 3 to 6 would build on 3D printer skills every year;
- We have already invited an outside speaker from industry to show and tell the children about applications of 3D printing in the workplace. The presentation will be videoed and shared with all schools in the cluster.
- Explore further the educational resources available on Thingiverse and how these can be used to support all curriculum areas.
- It possible to produce a range of classroom resources very cheaply using the printers – including Base 10 equipment, fraction blocks and angle measurers. This application needs exploring.

Please attach any supporting evidence – this will be considered alongside the application.

Evidence could include: school improvement plans, governors minutes, e-scrapbooks, examples of children's work, PowerPoints, photographs, letters from parents, anything that demonstrates the outcome of the project.)

- Photos of children working with 3D printers, what they designed and printed, and examples from the Thingiverse website of what more can be achieved.

Do you have any other advice for establishments that might be considering a similar project?

Although this technology is still relatively expensive, working collaboratively with a cluster of school can make it accessible to all. My advice would be ... just do it!! Your children (and staff) will be wowed, inspired, mesmerised by this future technology which is already having a huge impact on industry and public services.

Adviser/LCC Consultant's supporting statement (the application will not be considered without this)

The foresight of the headteacher's of this small school cluster to see the potential of this exciting and advanced technology has resulted in a truly collaborative and innovative project, with multiple creative and practical applications.

The sharing of the cost of procurement and training across the cluster of small schools has enabled all the schools to achieve so much more than any one school could have done alone.

Through using this inspiring new technology, pupils at all the schools have had the opportunity to explore and increase their learning through tangible, physical representations and improve their problem solving and critical thinking capabilities, as well as having fun. Whilst it is difficult to assess the real impact on learning, the overall enjoyment as voiced in pupil interviews/questionnaires, speaks for itself.

The cluster has plans to further develop the number and use of the 3D printers across the curriculum in all schools and give even greater chances for all pupils to access this exciting technology of the future workplace, right now.

The schools are to be commended for the innovative and personal project which has been developed.

Adviser/LCC
consultant name

Ruth Ross

Date of application

Tuesday 12th February 2019

Please email your completed form to advisory.support@lancashire.gov.uk . You should also save the completed form to your computer/network before closing it.