



# PBL for beginners

Setting up your first project-based learning unit can be an intimidating task – but for **Alyson Boustead**, all that preparation and planning paid off. Here, she details her school’s ambitious venture into PBL, and the astounding impact it had on her learners’ creativity, resourcefulness and resilience.

Despite being called William Hulme’s Grammar School, our school is in fact a non-selective inner city academy in Manchester for three to 18-year-olds. A third of the students are eligible for free school meals and many students belong to families which can be classed as the ‘working poor’, often meaning that parents have limited time and money to spend on their children. As a consequence, opportunities to become involved in learning outside of the classroom can be limited for many.

William Hulme’s Grammar School is a highly aspirational, oversubscribed and successful school which provides outstanding extra-curricular opportunities for all students, although many of the more ambitious come at a price.

Even though we work hard to ensure that all of our students make above-average progress and achieve well at GCSE, it sometimes feels that in doing so, we are in danger of sacrificing curiosity and creativity. These skills are increasingly important in an uncertain future and are often conspicuously lacking in the sixth form. As E.M. Forster sagely pointed out: ‘Spoon feeding in the long run teaches us nothing but the shape of the spoon.’

Morally and academically, we felt the need to change in order to prepare our students for the future.

## What I wanted to achieve by introducing project-based learning:

1. Engage students and teachers in a rigorous, extended process of enquiry focused on complex, authentic questions and problems whilst demonstrating in-depth understanding of academic knowledge and learning skills.
2. Build skills such as collaboration, critical thinking and communication, independent learning, personal resilience, engagement and investment in tasks by giving students some degree of 'voice and choice'.
3. Create high quality products and performances which are presented and relevant to a public audience, both locally, nationally and internationally.
4. Get our students out into the city to understand it, explore its heritage and take advantage of some of the opportunities on their doorsteps.

### Planning the project

I began by introducing the concept in a whole-staff inset event designed to inform colleagues about the philosophy behind project-based learning (PBL) and gather ideas, consider logistics and test the water. This event stirred up enough enthusiasm to form a cross-curricular project team, who would be responsible for ensuring broad curriculum coverage and academic rigour within each subject area.

The project team continued to meet in order to divide colleagues into sub teams, which were each allocated a Year 9 set, a different week off timetable and a broad subject area through which to answer the question: How has Manchester changed the world?

The groups were as follows:

- 9A1: Literature, Music & Politics
- 9A2: Science & Industry
- 9B1: Drama, Art & Media
- 9B2: Sport
- 9B3: Food

Each group was given an outline timetable and a brief about how each week could work. They were also given a list of essential activities they'd need to take part in during the project and the required outcomes – introduction, skills training, educational visit(s) and input, visitors invited in to critique work, creation of an exhibition-worthy product and a family tree which explained what it meant to each student to be a Mancunian.

Training about the PBL philosophy took place over the weeks leading up to the launch in April and then the madness began in a large empty room where the brief was: if you can imagine it, you can create it. It was a daunting prospect.

### Timeline

- **February 2013:** Whole-school inset day about project-based learning.
- **February – March 2013:** Weekly planning meetings with group leaders.
- **March – April 2013:** Fine-tuning and detailed planning.
- **22 April – 24 May 2013:** Five consecutive project weeks. Throughout the process, each day was evaluated and reviewed and each group passed recommendations to those who followed. Resources were bought as the students came up with ideas and became immersed in their individually driven projects. The project team also met every week to discuss progress and what worked well and what didn't. Students were assessed both academically through a critique of their work, and in their ability to develop

the skills of resilience, resourcefulness, collaboration, interdependence and independence.

- **27 May – 5 June 2013:** ‘Snagging week’, where students organised their time independently to ensure their products were exhibition-worthy. Exhibits included:
  - furniture
  - murals
  - models and textiles
  - film and animation
  - interactive game design
  - photography
  - paintings
  - sculptures
  - clothing design
  - musical composition
  - recording a CD
  - creating a pub finder app
  - learning to cater for a mass event.
- **6 and 7 June 2013:** Public exhibitions took place, with parents, governors, those institutions and individuals involved in the projects and members of the community invited. It was a great success and the food project group catered for our 200 guests. The exhibition remained up for a further 24 hours so that the rest of the school could visit.
- **June – July 2013:** Final evaluations and planning next steps. The project team was debriefed in order to plan for the next incarnation of project-based learning at Key Stage 3 during 2013-2014.

‘The students were clearly proud with their outcomes...I was so pleased to see less able students achieving and having their achievement recognised publicly on a level playing field with those more able students who regularly achieve academically.’

P. Mulholland, Principal



### Impact

The impact of the project was far-reaching – on the school, the students, teaching and learning, and staff professional development.

### On the school

The projects were very high profile, taking place over five weeks in a centrally located room with large windows. As a result, it provoked the interest of all other year groups, some of whom benefitted from project activities (for example, meeting and listening to outside speakers). Every member of staff visited at some time.

It also attracted visits from neighbouring schools and PGCE students, and has stimulated a significant amount of publicity and conference invitations as a result.

The school now has contacts with many local businesses and people. The list of is impressive, and includes:

- Manchester United and Manchester City Football Clubs
- Nobby Stiles (footballing legend)
- The National Cycling Centre

- Gary James (author)
- Manchester Music Tours
- Craig Gill & Lea Mullen (musicians)
- Airtight Productions
- Manchester District Music Archives
- Ed Glinert at Manchester Walking Tours
- Manchester University Graphene Department
- The Bridgewater Canal Company
- The People's History Museum
- English Heritage
- Ryan Thomas from Coronation Street
- The BBC news at Media City
- Applique Apparel
- The Unicorn Cooperative Grocery
- North Star Delicatessen
- Manchester Academy
- Trafford Catering College.

Although involved in this specific project, the relationships formed will be able to enrich the learning of other students.

### On the students

Student engagement was high. The projects were a break from the norm – a chance for them to set their own agendas, manage their own time and to take some real responsibility for their own learning.

Although all groups expressed their enjoyment, the students who gained the most from the original objectives of the experience seemed to be the B band groups. They turned out to be more resourceful, resilient and collaborative than their A band counterparts.

The A band students created some wonderful products, with a high degree of finish, but insisted on more resources and were less receptive to critique. Moreover, they took the educational visits in their stride and did not see these as such an important part of the process – they were used to being taken on trips.

'Some of the A band didn't like the feedback initially, but they always took the advice on board and improved their work.'

M. Williams, Science teacher

Interestingly, these students are the most likely to continue studying at A level and already demonstrate a penchant for being spoon-fed, which was the project's aim to eradicate, in the long term. On a brighter note, students said that one of the most exhilarating aspects of the project was the opportunity to be creative.

'The most enjoyable part of the project was being able to be totally, uncompromisingly creative and have the freedom to do your own thing for a full week.'

Ruby, 9A2

The B band students also created some wonderful products. They were much more resourceful when it came to being creative with fewer resources and developed much more resilience when work was critiqued, finding solutions to problems and bouncing back with a plan B when things did not go as expected.

They were more responsive to going on the visits and particularly enjoyed meeting experts other than their teachers, especially Ryan Thomas, who plays Jason Grimshaw on Coronation Street.

'The most enjoyable part was seeing everyone's finished product and how happy they were...and meeting Ryan Thomas.'  
Jacqueline, 9B1

### On teaching and learning

Students adapted well to a 'less teaching, more learning' approach and this has inspired some teachers to reflect upon and adapt their own practice as they had to alter their practice across the project, with varying degrees of success.

Many found it difficult to stand back and allow the students to solve problems by themselves or critique creative work with confidence – some were remarkably uncritical and where this happened, the products lacked a degree of depth, most markedly with some of the more able. Nevertheless, all staff commented on the engagement of all students, especially those who struggle to engage in a traditional curriculum.

'If you cannot do something, compromise and keep going.' Lucia, 9A2.

'I learned that I can work with anyone.'  
Waqas, 9B2

As part of their evaluation, students were asked which 21st century skills they felt that they had developed across the process and felt that the greatest gains were in time management, resilience and independence.

### On professional development

The most obvious and immediate impact on professional development within the school was through the provision of regular training sessions for the project teams. This was based upon the philosophy behind project-based learning and the best practice of established PBL centres. Much of this research I carried out myself, alongside visiting a school who deliver much of their Key Stage 3 curriculum through PBL.

Once our project began, we were visited by several local schools, which were developing PBL and wanted to compare approaches. This joint practice development was incredibly useful and getting feedback from third parties helped us to refine what we were doing as the weeks progressed.

The influence of this training also had an impact on the regular classroom practice of colleagues, who were taking PBL ideas, certainly those about building resilience, resourcefulness and interdependence, and using them in mainstream lessons.

In the post-project evaluations, one colleague echoed the thoughts of many when he explained: 'It was a terrific learning experience for the pupils and me (I have taken more risks in lessons as a consequence).'

In the same vein, the projects enabled colleagues to see some students blossom in this learning environment, for example one head of department commented: 'The video programme produced ... was excellent – something we would never have expected him to do!' As a consequence, this has encouraged much valuable reflection on classroom practice.

Moreover, although we have not yet fully adopted PBL as a cornerstone

of the Key Stage 3 curriculum, its repercussions continue to be felt strongly throughout the school community. Our whole-school CPD drive for the next two years will be driven by the qualities we want to see in all of our students, which manifested themselves in the project.

In addition, a core of colleagues involved in the project, including myself, have continued smaller scale project work in their subject areas, securing funds from various sponsors and designing sustainable projects that are allowing us to more confidently forge new partnerships with the larger community and become more outward-facing as a result.

It has also been noticeable that the largest student cohort to volunteer to take part in the creative ventures and competitions run throughout the school since September has been Year 10 – the students who took part in the project. This is not a coincidence and encouraging creativity was one of our aims when we started out.

Overall, the ideas and philosophy behind our project have had a lasting impact and are what have become embedded in our culture, ensuring the sustainability of the original aims of our project.

### Where next?

- As a result of the project, the curriculum at Key Stage 3 will gradually be adapted to incorporate the best aspects of project work in every year group. The idea, if not the exact process will be sustained.
- Currently, students continue to develop aspects of their projects independently, such as the completion of the recording of a CD at a local recording studio, and many are utilising the newly formed partnerships with local businesses to organise work experience. Equally as pleasing is the fact that local businesses know more of our students and welcome them in this capacity.
- Some of the exhibition work is being 'curated' out to various interested organisations around Manchester, such as The Salford Lads' Club, which has a room dedicated to The Smiths and The People's History Museum, so that the exhibits are receiving continued exposure to a wider audience.
- Projects now abound throughout Key Stage 3 across the curriculum, for example through projects such as The English Project (across a number of schools and English departments) and The Bloodhound Physics Project. Also, as a result of our newfound ability to attract external funding to support more ambitious ventures, we run the regular STEM Sustainable Power Project, sponsored by Kyocera Printing Solutions. We have also secured an English Heritage grant to create sustainable artefacts through project work and we are about to embark on creating a community allotment project.
- The Manchester PBL activity will take place again in its current format (but improved from our last reflections, especially about sustainability) in 2015.



### An invigorating opportunity

Having the opportunity to make lasting contacts from outside the school and have others take such an interest in our work has been priceless.

As well as encouraging an exploration and an understanding of the local and wider community, the project allowed the students to explicitly recognise the kinds of skills needed in the 21st century workplace. It gave them access to businesses and both further and higher education institutions on their doorstep which has been incredibly valuable.

Project-based learning has certainly been the beginning of our journey into becoming a more outward-facing institution and has laid the foundations for the direction of development of our Key Stage 3 curriculum offer, especially for those students who lack aspiration and do not thrive in a traditional classroom setting. Although it was incredibly hard work, it was exhilarating and fulfilling and I feel immensely privileged to have been given the opportunity to make it happen.

'I loved it all, it was the best experience I've ever had in school.'  
Shuab, 9B2

### Planning your own project

Planning a project takes a lot of thought! Good PBL comprises of a number of necessary elements, and for students to reap the full benefits, you'll need to think about how you can incorporate all of them.

Appendix 1 provides a project design rubric – essentially a mark scheme using the eight essential elements of PBL as criteria to evaluate your planned project and make the necessary adjustments to improve rigour. This rubric has been taken, with permission, from the Buck Institute for Education's website ([www.bie.org](http://www.bie.org)). It describes three levels to assess the design of a project – 'Lacks essential features of effective PBL', 'Needs further development', and 'Incorporates best PBL practices'. Definitions and practical examples are used to clarify the meaning of each dimension.

According to the BIE website, teachers 'can use this rubric to guide the design of projects, give formative feedback, and reflect and revise'.

Aside from planning the project itself, there are also a number of wider practicalities you'll need to take into consideration should you wish the venture to prove successful and sustainable. These include:

#### Time

Make sure at the outset that you plan and allocate time for the project. We had to plan quickly and evaluate rapidly and reactively – although this was an exhilarating and exciting process at the time, it was often challenging and required boundless energy.

The time to plan strategically is vital in getting the most out of this sort of project. Time to train staff to become more prepared to deal with the type of learning taking place and the philosophy behind PBL is also essential.

Appendix 2 provides a project calendar (also taken, with permission, from the Buck Institute for Education). This can be used to plan your project, but may also come in handy during the project, as a record of activities and events for later scrutiny.

#### Money

Ensure the project is supported by some allocated funding. Our budget wasn't big but it helped enormously having some money, especially for buying resources for the exhibition and facilitating trips for those students whose families find these costs prohibitive.

**Get others involved**

Distribute leadership and ownership of the project. Sharing leadership with other enthusiasts helps drive the process. It wasn't until the projects took place and bore fruit that everyone was convinced it was a worthwhile endeavour.

**Moral purpose**

Believe in and champion outward-facing teaching. Going ahead with a project which flies in the face of the majority of teaching and learning that currently takes place at Key Stage 3 and being convinced that it is the right thing to do, (when there is always the possibility that it could go wrong) takes courage, which only comes from having a strong sense of moral purpose – the conviction that what the students will gain from the experience will be positive and worthwhile.

The moment the students began to appreciate and respond to stimulus beyond the classroom convinced everyone that outward-facing activities can raise aspirations and attainment, especially amongst the children who need it the most.

**Recognise and celebrate the achievement**

Having a public exhibition or similar celebration event at the end is helpful. This encouraged students to recognise and respond to the fact that their task was 'real' and would culminate with showing their work to a critical audience beyond their usual teachers.

This was both exciting and daunting at the same time – for both teachers and pupils. It encouraged a great deal of reflection about what level of work students are capable of and how we all raised our expectations as a learning community about what could and should be achieved for the exhibition. Moreover, many students developed a real passion to create something worthwhile and be successful, which can sometimes be missing in their day-to-day classwork.

**Schedule**

Ensure that this is a defined and overt initiative. This project ran across five consecutive weeks. An alternative would be to run the same project throughout the year in dedicated curriculum slots, which would certainly have been less frantic and stressful.

But the way we did it allowed students to become totally immersed and independent in their work in a way that would have been compromised if the project was drawn out across an extended time period. Moreover, two colleagues from neighbouring schools who run projects throughout the year said that if they were to plan again, they would use our model. Why? Because the atmosphere and excitement they experienced when they entered the project room at our school was palpable in a way that it was not in their own institutions.

**Alyson Boustead is Vice Principal at William Hulme's Grammar School in Manchester.**

**Knowledge trails**

- 1) **Project Inspire** – Geraldine Norman describes how their exciting project-based learning scheme, My World, came into existence.  
[library.teachingtimes.com/articles/projectinspire](http://library.teachingtimes.com/articles/projectinspire)
- 2) **Epic dreams** – Andrew Beswick's Year 6 students take on a project of epic proportions and film a Celts v. Romans blockbuster movie with every child in the school playing soldiers.  
[library.teachingtimes.com/articles/school-film-project](http://library.teachingtimes.com/articles/school-film-project)

# Project design rubric

Essential element of PBL	Lacks essential features of effective PBL	Needs further development	Incorporates best PBL practices
	<i>The project has one or more of the following problems in each area:</i>	<i>The project has essential PBL features but has some of the following weaknesses:</i>	<i>The project has the following strengths:</i>
<b>Significant content</b>	<ul style="list-style-type: none"> <li>■ The project is not aligned with standards and what students learn is not important in terms of concepts from academic subject areas.</li> </ul>	<ul style="list-style-type: none"> <li>■ The project is aligned with standards and concepts from academic subject areas, but it may focus on too few, too many, or less important ones.</li> </ul>	<ul style="list-style-type: none"> <li>■ The project is focused on teaching students important knowledge and skills derived from standards and key concepts at the heart of academic subject areas.</li> </ul>
<b>21st century competencies</b>	<ul style="list-style-type: none"> <li>■ The development of 21st century competencies is not included.</li> <li>■ It is assumed that some 21st century competencies will be gained by students, but the project does not explicitly scaffold the development of these competencies.</li> <li>■ Students do all project tasks as individuals.</li> <li>■ Students are not asked to think critically or solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>■ Too few or relatively unimportant 21st century competencies are targeted, or too many to be adequately taught and assessed.</li> <li>■ The project scaffolds the development of 21st century competencies to some extent, but there may not be adequate opportunities to build competencies or rigorously assess them.</li> <li>■ Students work in teams, but it may be more cooperative than collaborative (the work of individuals is pieced together).</li> <li>■ Students are asked to analyse and solve problems and think critically, but not in depth or in a sustained way.</li> </ul>	<ul style="list-style-type: none"> <li>■ A limited number of important 21st century competencies are targeted to be taught and assessed.</li> <li>■ There are adequate opportunities to build 21st century competencies and they are rigorously assessed (with a rubric and feedback).</li> <li>■ Students work in collaborative teams that employ the skills of all group members when completing project tasks.</li> <li>■ Students may collaborate with people beyond the classroom.</li> <li>■ Students are asked to analyse and solve problems and think critically, in an in-depth and sustained way.</li> </ul>
<b>In-depth inquiry</b>	<ul style="list-style-type: none"> <li>■ The 'project' is more like an activity or applied learning task, rather than an extended inquiry.</li> <li>■ The 'project' is unfocused, more like a unit with several tasks than one project.</li> </ul>	<ul style="list-style-type: none"> <li>■ Inquiry is superficial (information-gathering is the main task).</li> <li>■ Inquiry focuses on only one too-narrow topic, or it tries to include too many issues, side topics, or tasks.</li> </ul>	<ul style="list-style-type: none"> <li>■ Inquiry is academically rigorous: students pose questions, gather and interpret data, ask further questions, and develop and evaluate solutions or build evidence for answers.</li> </ul>

<p><b>Driving question (DQ)</b></p>	<ul style="list-style-type: none"> <li>■ There is no DQ.</li> <li>■ The DQ is seriously flawed; for example:             <ul style="list-style-type: none"> <li>■ It has a single or simple answer.</li> <li>■ It is not engaging to students (it sounds too 'academic', like it came from a textbook or appeals only to a teacher).</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ The DQ relates to the project but does not capture its main focus – it may be more like a theme.</li> <li>■ The DQ meets some criteria for an effective DQ, but lacks others (it may lead students toward one particular answer, or it may be hard to answer thoroughly with the resources and time available and/or by students in this class).</li> </ul>	<ul style="list-style-type: none"> <li>■ The DQ captures the project's main focus.</li> <li>■ The DQ is open-ended – it will allow students to develop more than one reasonable, complex answer.</li> <li>■ The DQ is understandable and inspiring to students.</li> <li>■ To answer the DQ, students will need to gain the intended knowledge, skills, and understanding.</li> </ul>
<p><b>Need to know</b></p>	<ul style="list-style-type: none"> <li>■ The project does not motivate students to learn new content knowledge or gain skills.</li> <li>■ No entry event is planned. Day one of the project will feel like any other day (or worse, because it seems like more work than usual).</li> </ul>	<ul style="list-style-type: none"> <li>■ The project motivates students to learn new content knowledge or gain skills because they see the need for them in order to complete project products and not be embarrassed to present their work.</li> <li>■ The entry event will gain student attention but it will not begin the inquiry process by creating a 'need to know' or generate questions about the topic of the project.</li> </ul>	<ul style="list-style-type: none"> <li>■ The project motivates students to learn new content knowledge or gain skills because they genuinely find the project's topic, driving question, and tasks to be relevant and meaningful.</li> <li>■ The entry event will powerfully engage students, both emotionally and intellectually (make them feel invested in the project and provoke inquiry).</li> </ul>
<p><b>Voice and choice</b></p>	<ul style="list-style-type: none"> <li>■ Students are not given opportunities, if appropriate, to express 'voice and choice' (to make decisions affecting the content or conduct of the project).</li> <li>■ Students are expected to work too much on their own, without adequate guidance from the teacher and/or before they are capable.</li> </ul>	<ul style="list-style-type: none"> <li>■ Students are given limited opportunities to express 'voice and choice', generally with less important matters (deciding how to divide tasks within a team or which website to use for research).</li> <li>■ Students are expected to work independently from the teacher to some extent, although they have the skills and desire to do even more on their own.</li> </ul>	<ul style="list-style-type: none"> <li>■ Students have opportunities to express 'voice and choice' on important matters (the topics to study, questions asked, texts and resources used, products created, use of time, and organisation of tasks).</li> <li>■ Students have opportunities to take significant responsibility and work independently from the teacher.</li> </ul>

<p><b>Revision and reflection</b></p>	<ul style="list-style-type: none"> <li>■ Students do not give and receive feedback about their work-in-progress.</li> <li>■ Students are not taught how to give constructive critique of each other's work-in-progress (it is brief, superficial, vague).</li> <li>■ Students do not use feedback about the quality of their work to revise and improve it.</li> <li>■ Students and the teacher do not engage in reflection about what students learn and about the project's design and management.</li> </ul>	<ul style="list-style-type: none"> <li>■ Students are provided with opportunities to give and receive feedback about the quality of their work-in-progress, but they may be unstructured or only occur once.</li> <li>■ Students are given brief, general guidelines for critiquing each other's work-in-progress.</li> <li>■ Students look at and/or listen to feedback about the quality of their work, but do not substantially revise and improve it.</li> <li>■ After the project's culmination, the students and the teacher briefly reflect on what students learned and on the project's design and management.</li> </ul>	<ul style="list-style-type: none"> <li>■ Students are provided with regular, structured opportunities to give and receive feedback about the quality of their work-in-progress.</li> <li>■ Students are taught how to constructively critique each other's work-in-progress.</li> <li>■ Students use feedback about the quality of their work to revise and improve it.</li> <li>■ At key checkpoints and after the project's culmination, students and the teacher engage in thoughtful, comprehensive reflection about what students learn and the project's design and management.</li> </ul>
<p><b>Public audience</b></p>	<ul style="list-style-type: none"> <li>■ Students do not present or exhibit their work to an audience.</li> </ul>	<ul style="list-style-type: none"> <li>■ The audience for student presentations is limited to classmates and the teacher.</li> <li>■ Students present culminating products, but their explanation of how and why they did things is limited to a short, superficial question/answer session.</li> </ul>	<ul style="list-style-type: none"> <li>■ Students present or exhibit their work to an audience that includes other people from both within and outside the school, which may include online audiences.</li> <li>■ Students present culminating products and defend them in detail and in depth (by explaining their reasoning behind choices they made, their inquiry process, etc).</li> </ul>

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PROJECT CALENDAR				
<b>Project:</b>	<b>Time frame:</b>			
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY
FRIDAY				
<b>PROJECT WEEK ONE</b>				
Notes				
<b>PROJECT WEEK TWO</b>				
Notes				

<b>Project:</b>				
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>PROJECT WEEK THREE</b>				
Notes				
<b>PROJECT WEEK FOUR</b>				
Notes				