

Project Based Learning Toolkit



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Project Based Learning (PBL) – Getting Started

Introduction

The aim of this toolkit is to give you an introduction and overview of PBL. It is designed to provide you with a practical 'how to' guide to help inform your thinking of how you can develop and create projects in order to introduce PBL to your school or college and students.



It is worth acknowledging from schools and colleges that PBL is called different things in different schools and it can form part of, or be the central ethos of, a school's or colleges approach to teaching and learning. For ease of explanation throughout this toolkit the teaching pedagogy is referred to as PBL. However, in your school or college PBL might be referred to as, for example, 'teaching through the lens' or 'applied learning'. You may already use different aspects of PBL in your teaching. For example, you may already focus on authenticity and addressing real-world problems and questions by working with and co-creating projects with experts and the community. This toolkit is designed for you to apply the framework and stages outlined to your context, and build upon your existing practice. It has been designed as a starting point. You can explore PBL as a pedagogy further through the links and additional information in the appendices and provided in the footnotes.

The toolkit addresses key questions including: what is PBL? What are its key elements? What does 'good' PBL look like?

The toolkit is split into two sections, stage 1 and stage 2, and is designed to systematically lead you through the process of creating a PBL project for your students, based on your idea. You will be required to focus on an area of the curriculum which would lend itself to PBL in order to create the project.

What is PBL? How can it be defined?

As a starting point it is useful to define what we mean by PBL, as defined by the Buck Institute for Education: *"Students work on a project over an extended period of time – from a week up to a semester – that engages them in solving a real-world problem or answering a complex question. They demonstrate their knowledge and skills by developing a public product or presentation for a real audience."*

As a result, students develop deep content knowledge as well as critical thinking, creativity, and communication skills in the context of doing an authentic, meaningful project.

Project Based Learning unleashes a contagious, creative energy among students and teachers."¹

What PBL is not

There are a number of common misconceptions about PBL. These are not features of the approach where it is delivered rigorously:

- Learning is unstructured
- Students just do what they want around a general topic or theme
- Students are left to their own devices
- There is no 'input' from the teacher until the end
- It's a 'free for all'
- There is no 'formal' learning/input or teaching from the teacher
- Students will be assessed as a group and as such individuals can get away with doing very little and leave it to the rest of the group
- There are no checks and balances through the project

What is your starting point with regards to PBL as a teacher?

When looking at PBL it might be useful to consider your starting point and level of experience as a teacher or lecturer to help inform what support and additional information you may identify as being needed from a personal development perspective. The project based teaching rubric below is designed to help you do this. Gaining experience and confidence in PBL often takes time and it is useful to acknowledge that practitioners, like students, also benefit from reflection and critiquing as they grow in terms of their PBL practice.

¹ Buck Institute for Education – www.bie.org/about/what_pbl

Project based teaching rubric²

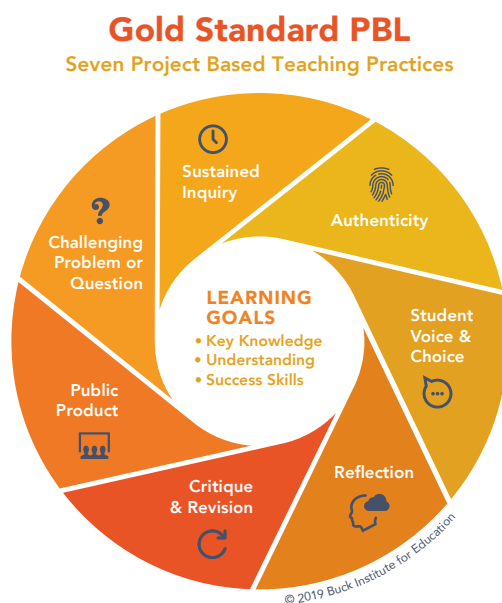
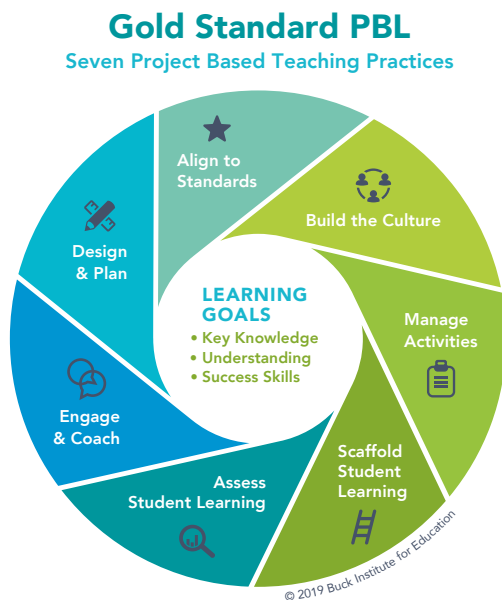
Project-based Teaching Practice	Beginning PBL Teacher	Developing PBL Teacher	Gold Standard PBL Teacher
Design and Plan	<ul style="list-style-type: none"> › Project includes some Essential Project Design Elements, but not at the highest level of the Project Design Rubric. › Plans for scaffolding and assessing student learning lack some detail; project calendar needs more detail, or is not followed. › Some resources for the project have not been anticipated or arranged in advance. 	<ul style="list-style-type: none"> › Project includes all Essential Project Design Elements, but some are not at the highest level of the Project Design Rubric. › Plans for scaffolding and assessing student learning lack some details; project calendar allows too much or too little time, or is followed too rigidly to respond to student needs. › Most resources for the project have been anticipated and arranged in advance. 	<ul style="list-style-type: none"> › Project includes all Essential Project Design Elements as described on the Project Design Rubric. › Plans are detailed and include scaffolding and assessing student learning and a project calendar, which remains flexible to meet student needs. › Resources for the project have been anticipated to the fullest extent possible and arranged well in advance.
Align to Standards	<ul style="list-style-type: none"> › Criteria for products are given but are not specifically derived from standards. › Scaffolding of student learning, critique and revision protocols, assessments and rubrics do not refer to or support student achievement of specific standards. 	<ul style="list-style-type: none"> › Criteria for some products are not specified clearly enough to provide evidence that students have met all targeted standards. › Scaffolding of student learning, critique and revision protocols, assessments and rubrics do not always refer to or support student achievement of specific standards. 	<ul style="list-style-type: none"> › Criteria for products are clearly and specifically derived from standards and allows demonstration of mastery. › Scaffolding of student learning, critique and revision protocols, assessments and rubrics consistently refer to and support student achievement of specific standards.
Build the Culture	<ul style="list-style-type: none"> › Norms are created to guide project work, but they may still feel like "rules" imposed and monitored by the teacher. › Students are asked for their ideas and given some choices to make, but opportunities for student voice and choice are infrequent or are only related to minor matters. › Students occasionally work independently, but often look to the teacher for guidance. › Student teams are often unproductive or require frequent intervention by the teacher. 	<ul style="list-style-type: none"> › Norms to guide the classroom are cocrafted with students, and students are beginning to internalize these norms. › Student voice and choice is encouraged through intentionally designed opportunities, e.g., when choosing teams, finding resources, using critique protocols, or creating products. › Students work independently to some extent, but look to the teacher for direction more often than necessary. › Student teams are generally productive and are learning what it means to move from cooperation to effective collaboration; the teacher occasionally 	<ul style="list-style-type: none"> › Norms to guide the classroom are cocrafted with and self-monitored by students. › Student voice and choice is regularly leveraged and ongoing, including identification of realworld issues and problems students want to address in projects. › Students usually know what they need to do with minimal direction from the teacher. › Students work collaboratively in healthy, highfunctioning teams, much like an authentic work environment; the teacher rarely needs to be involved in managing teams.

² Full rubric is available at www.bie.org/object/document/project_based_teaching_rubric

PBL as defined by Buck Institute for Education

One of the global leaders and exponents of PBL is the Buck Institute for Education (www.bie.org). They have identified eight key elements that make up what they describe as their 'Gold Standard' PBL. They have created the Gold Standard Framework to help promote a high standard of PBL and help teachers and students strive for excellence when designing and taking part in PBL. The two diagrams show these eight essential project design elements and how they cross over with and connect with each other.

The 8 key elements of PBL as identified by Buck Institute for Education^{3,4}



1. Standards – Key knowledge understanding and success skills

The project is focused on student learning goals, including standards-based content and skills such as critical thinking/problem solving, communication, self-management and collaboration.

2. Challenging problem or question – the 'Driving Question' and sub-questions

The project is framed by a meaningful problem to solve or a question to answer, at the appropriate level of challenge.

3. Sustained inquiry

Students engage in a rigorous, extended process of asking questions, finding resources, and applying information.

4. Authenticity

The project features real-world context, tasks and tools, quality standards, or impact – or speaks to students' personal concerns, interests, and issues in their lives.

5. Student voice and choice

Students make some decisions about the project, including how they work and what they create.

6. Reflection

Students and teachers reflect on learning, the effective-ness of their inquiry and project activities, the quality of student work, obstacles and how to overcome them.

7. Critique and revision

Students give, receive, and use feedback to improve their process and products.

8. Public product - 'exhibition' 'expedition'

Students make their project work public by explaining, displaying and/or presenting it to people beyond the classroom.

³ Buck Institute for Education www.bie.org/blog/gold_standard_pbl_essential_project_design_elements

⁴ Buck Institute for Education www.bie.org/about/what_pbl

The continuum of PBL practice

There is a wide range of practice with regards to PBL and different schools and education organisations have taken and adapted elements of PBL to fit with their context. Looking across them all, it is clear that they have common themes and elements running through their approach, ethos and execution of PBL. In addition, they are all clear about the purpose of PBL, its power and

impact and why they are embracing it as a pedagogy. Their common overarching aims are that PBL has a positive and identifiable impact on their students' learning and it supports their goals as institutions to ensure students have developed academic and life skills which will set them in good stead in the 21st century, whether as an employee or employer.

Examples of institutions leading on PBL and the continuum of practice

School 21

London

- Elements of the curriculum are taught through PBL with an additional focus on oracy
- www.school21.org.uk/sec-curriculum
- www.school21.org.uk



High Tech High

San Diego

- PBL follows students' interests and projects are co-created with learners
- www.hightechhigh.org

XP School

Doncaster

- PBL is part of the school's ethos of Expeditionary Learning <https://elearning.org> PBL is mapped to curriculum 'standards' at KS3, KS4 and KS5 scaffolded for learners
- www.xpschool.org

The toolkit has been split into stages 1 and 2. The stages have been further split into manageable steps which are designed to provide you with a systematic framework designed to help you formulate your project idea, taking it from inception to the starting point for delivery.

Stage 1

Step 1 – generating project ideas

The starting point for PBL is to generate an idea which will give students an opportunity to undertake a sustained inquiry. Whilst at the same time ensuring the project delivers the curriculum area(s) or 'standards' which students need to learn, developing their knowledge, skills and understanding.

When deciding on a potential project idea you need to consider:

- Is it academically rigorous? Can students pose questions, gather and interpret data, develop and evaluate solutions or build evidence for answers, and ask further questions?
- Does the inquiry have the potential to be sustained over time? How long do you envisage the project lasting?

In developing your project idea it is often helpful to begin with the end in mind. Be clear about what you want your students to learn or do and the skills you wish them to acquire through the project, and do not lose sight of this in your planning.

Common types of project

- **Addressing a real-world problem** e.g. climate change
- **Meeting a design challenge** e.g. create a physical or digital artefact, a piece of writing, multimedia or work of art; develop a plan, produce an event; or provide a service
- **Exploring an abstract question** e.g. when is violence justified?
- **Conducting an investigation** e.g. a historical event or natural phenomenon
- **Taking a position on an issue** e.g. a present day or historical controversy

Sources of inspiration for PBL projects

- **Community** – what are business needs in the community? Can they share a problem, issue or perspective?
- **Current events** – real world
- **The curriculum or 'content standards'** – what are you looking to teach? What skills knowledge and understanding do students need to acquire?

You may wish to utilise or adapt a project which has been delivered before or gain some inspiration. The following links may help:

Sources of information and inspiration:

- **XP School, Doncaster**
www.xpschool.org/our-expeditions/
- **School 21, London**
www.school21.org.uk/sec-curriculum
www.school21.org.uk/sec-beautiful-work
- **Buck Institute for Education**
www.bie.org/project_search
- **PBLU**
<http://pblu.org/>
- **Envision Schools Project Exchange**
www.envisionprojects.org/
- **High Tech High**
www.hightechhigh.org/student-work/student-projects/
- **iEARN (International Education and Research Network)**
<https://iearn.org/cc/search/groups>
- **Expeditionary Learning**
<https://modelsofexcellence.eleducation.org/projects>

If you are new to PBL and starting from scratch, firstly reflect on your current practice and consider the areas of the curriculum or 'standards' you are looking to cover this academic year. It is often a good idea to develop the project around an area of the curriculum you are looking to deliver and cover, so that the project is an integral part of your teaching. The project is something students would experience and be taught and experience as part of the curriculum for the academic year. So, in designing the project – decide what you want your students to learn and plan backwards from there. This approach also helps you identify the learning goals and assessment strategy for the project from its outset.



List the general topics and themes you plan to teach

Subject	
Topic(s)	Key Stage
Topic(s)	Key Stage
Topic(s)	Key Stage
Topic(s)	Key Stage

Circle the Key Stage and topics that jump out at you as a potential starting point for project ideas.



In the space below, collate your ideas for a project based on the curriculum area(s) you have identified above. Key tips – don't over think it at this stage.

From your initial ideas, select 2 potential project ideas. Try and come up with a project title or write a sentence explaining the overarching theme of each potential project.

Project 1

What curriculum will it cover? What will the students learn and do?

Project 2

What curriculum will it cover? What will the students learn and do?

Reflect on the 2 ideas you have outlined. Circle the project you are keen to develop as you think it has the most potential

Step 2 – the driving question

The importance of the driving question⁵

The driving question is the overarching question which students will address and answer by taking part in and undertaking the project. The framing and phasing of the driving question is an important element of the project. The question needs to be well thought out and considered as it forms the basis of the project. Devising good driving questions takes time and considerable thought. The question should inspire and stimulate students' interest in the project.

As such it should:

1. **Be a question that people ask in the 'real world'**
2. **Be a question that has no easy answer, and stretches students' intellectual muscles**
3. **Be a question that ignites students' imagination⁶**

Sub-questions can also be devised to sit below the driving question. These are helpful for scaffolding and framing the driving question and project. When devising the question(s) it is important not to lose sight of the 'standards' i.e. the curriculum the project is aiming to cover.

An effective driving question meets the following criteria:⁷

➤ Engaging for student

- It interests students in the project and is appropriate for the intended age, demographic background, community
- Students can understand the question
- It actively guides students through the project; it is not just a title or theme from the unit
- It uses words "I" "we" or "us" not "you" or "students"
- It provokes students to ask further questions, beginning the inquiry process
- It might have a local context and/or a call to take action, making it even more engaging – focusing on community issues and needs, or topics relevant to students' lives

➤ Open-ended

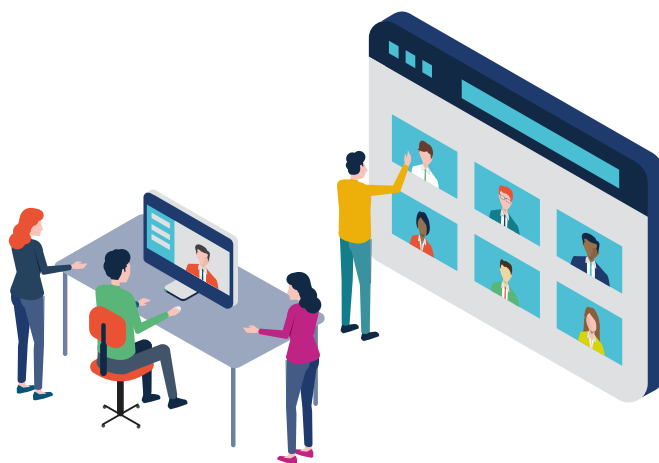
- It has several possible "right answers"
- The answer will be unique – it is not "Google-able" by students
- The answer is complex and leads to an in-depth inquiry
- It may be a "yes" or "no" question, but if so, the answer must require a detailed explanation or justification

➤ Aligned with learning goals and outcomes

- Students will need to learn important content and skills in order to create project products that answer the driving question
- Ensure the question is not too big, requiring more knowledge than can be learned in a reasonable amount of time
- It does not necessarily state the learning goals explicitly – they can be specified later, when telling students more details about the project and the products created

Different types of driving questions

- A philosophical or debatable issue or an intriguing topic
- Specifying a product, task or problem to be solved
- Adding a real-world role for students



⁵ Explore this further at www.bie.org/object/document/driving_question_rubric

⁶ *Work that matters* – the teacher's guide to project-based learning, published by Paul Hamlyn Foundation 2012, page 38

⁷ *PBL 101 Workbook*, Buck Institute for Education, page 20

Driving question exploration

Think about the curriculum and the learning outcomes you aim to meet and deliver through the project. Write down as many questions as you can and go with your first instinct – don't over think them!

Determine and focus on your driving question

From your initial ideas, select 2 potential project ideas. Try and come up with a project title or write a sentence explaining the overarching theme of each potential project

Project 1 driving question

Draft...

Refined...

Project 2 driving question

Draft...

Refined...

Use the following rubric to do a self-check of your driving question⁸ to ensure the question is well thought out and grounded.

Challenging problem or question	
Includes features of effective PBL	<ul style="list-style-type: none"> ➤ The project is focused on a central problem or question, at the appropriate level of challenge ➤ The central problem or question is framed by a driving question for the project which is: <ul style="list-style-type: none"> - Open-ended; it will allow students to develop more than one reasonable answer - Understandable and inspiring to students - Aligned with learning goals; to answer it, students will need to gain the intended knowledge, understanding and skills
Needs further development	<ul style="list-style-type: none"> ➤ inappropriate for the intended students ➤ The driving question relates to the project but does not capture its central problem or question; it may be more like a theme ➤ The driving question meets some of the criteria in focusing on the driving question but missed others
Lacks features of effective PBL	<ul style="list-style-type: none"> ➤ several tasks); or the problem or question is too easily solved or answered to justify a project ➤ The central problem is not framed by a driving question for the project, or it is seriously flawed, for example: <ul style="list-style-type: none"> - It has a single simple answer - It is not engaging to students (it sounds too complex or "academic" like it came from a textbook or appeals only to a teacher

Step 3 – refine your ideas and honing in on one potential project

Having come up with two initial project ideas, your task is now to hone this down into one possible potential project. This will be your working project, which you will utilise for the remainder of this workbook. When deciding on the project think about the following:⁹

As such it should:

1. Will this project engage my students?
2. Will this project engage me?
3. Will my students learn something meaningful from this project?



⁸ PBL 101 Workbook, Buck Institute for Education, page 23

⁹ Work that matters – the teacher's guide to project-based learning, published by Paul Hamlyn Foundation, 2012

Choose one project idea and summarise your thinking by responding to the prompts:

Key stage:

Subject(s):

Driving question:

Sub questions:

Give a brief description of the project:

Outline the learning goals of the project.

What skills, knowledge and understanding will students gain from the project? How the project is explicitly linked to the curriculum? It may be useful at this point to also capture the wider skills students may develop through the project.

How will the project build on previous learning?

What concepts and formal teaching will students need to have in order to tackle the project?

How will you know if the project has been successful? What are the success criteria and indicators for students?

Step 4 – entry event

The purpose of the entry event is to introduce and lead students into the project. It is designed to give all students the same start and equal access to the project.

The entry event takes place before the students are 'given' the driving question, or any input into the project, it is designed to kick-start the project and put it in context.

Examples of entry events include:

- > **Field trip**
- > **Guest Speaker**
- > **Film / video / website**
- > **Simulation or activity**
- > **Startling statistics**
- > **Puzzling problem**
- > **Piece of real or mock correspondence**
- > **Song, poem, art**
- > **Discussion**
- > **Proactive reading**

Having considered your central driving question the next step is to think about an entry event. Use the space below to collate your initial entry event ideas:

Step 5 – end product

One of the key elements of PBL is that what students produce is made public. This can take many forms, but a key aspect and common thread of PBL is that students make their project work public by explaining, displaying or presenting it to an audience beyond the classroom.

Check out these websites and schools to give you some ideas:

➤ **XP School, Doncaster**

www.xpschool.org/our-expeditions/

➤ **School 21, London curriculum**

www.school21.org.uk/sec-beautiful-work

➤ **High Tech High**

www.hightechhigh.org/student-work/student-projects/

➤ **RSA The ideal school exhibition**

<https://www.thersa.org/reports/the-ideal-school-exhibition>

Having considered your central driving question and entry event, the next step is to think about a possible end product. How will the project be made public? Use the space below to gather your initial thoughts.

List end products which are appropriate to the project:

What support or help might you need with the end product?

Are there any specific resources needed?

Do you foresee any opportunities? And challenges?

Outline in detail what you envisage the end product of the project being. What will students be required to explain, display or present to an audience beyond the classroom?

Step 6 – overview of the project – first draft initial project plan

Now it is time to draw all your initial thoughts together into one place to cover the different elements of the project. Having completed this first draft and stage 1 you will use this information to reflect on the project and your

progress to date. In stage 2 you will use the information outlined in this table to talk to colleagues about the project and will go through the process of critiquing it.

	Key prompts and questions	Notes
Curriculum to be covered. i.e. standards, national curriculum or syllabus	<p>What curriculum knowledge skills and understanding will the project aim to cover?</p> <p>What are the learning goals?</p> <p>Is this in student speak?</p>	
Assessment	<p>How will students be assessed?</p> <p>What are the key checks, formative and summative assessment students will need to achieve and attain to progress?</p>	
Driving question	<p>Have you decided on the driving question?</p> <p>Will it support sustained inquiry?</p> <p>Are there any sub questions which will help scaffold and frame the project?</p>	
Student voice and choice	<p>What opportunities will students have to make decisions about the project's products or processes?</p>	
Make the product public - 'exhibition' 'expedition'	<p>Have you established at the outset – what the students will 'do' or 'create'?</p> <p>What will the product be?</p> <p>What will this look like?</p> <p>How will the product be made public?</p> <p>When? How?</p> <p>What help, and resources will you need to support this?</p>	
Timelines deadlines and calendar	<p>Are you clear what these are?</p> <p>How much time can you allocate to the project?</p> <p>Are students clear what the deadlines are and what they have to achieve and produce by when?</p>	
Authenticity	<p>How will the project be authentic? For example, is there employer / expert or community involvement? Has the project got a real-world context and setting – is it authentic? Are there experts who can help input into the project?</p>	

Stage 2

Step 7 – critiquing the project

Once you have settled on the different elements of the project and done your initial thinking it is helpful to review and critique your project and reflect upon what you have designed and created so far. When critiquing it is helpful to follow 3 simple rules developed by Ron Berger and used at High Tech High and XP School Doncaster, which are outlined below.

Critique: How to do it¹⁰

These ground rules mean that feedback is helpful and well-structured and formulated.

The three elements are:

1. Be kind

Presenting work for critique puts the individual in a very vulnerable position and, as such, this rule is vital – and encourages the critique not to get 'carried away'.

2. Be specific

This encourages those critiquing not to be vague, but to be specific to back up comments with actual examples and support.

3. Be helpful

Critiquing is not just about saying what is wrong but is also about working out how to go about improving that work.

Once you have an overview of the initial design elements of the project it is helpful to share your ideas with colleagues to get their views and input into your idea. This process will help you tune the project as outlined in the process diagram on page 20.



Applying a 6-Step tuning protocol to the project¹¹ Introduction

The principle behind using this protocol is that having done your thinking and planning of the project you 'test' your idea by explaining it to colleagues. This will help you further formulate and finalise your ideas and planning by verbalising the key elements and components of the project. Colleagues will then get the opportunity to feedback, based on the discussion of the project. It is important to follow the guidelines set out in the protocol.

Note the tuning should be chaired by one person in the group who also keeps time for each stage, ensuring that the group is on track within the allotted timeframe, and that participants are adhering to protocols and norms.

The protocol can be as long or short as you need. Length will depend on what is being tuned, its stage of development, and how many people are involved. The critique protocol below is outlined in stages for a 25-minute tuning protocol, but this can be easily lengthened or shortened, as needed.

¹⁰ *Work that matters – the teacher's guide to project-based learning*, page 28, published by Paul Hamlyn Foundation 2012

¹¹ www.edutopia.org/blog/tuning-protocol-framework-personalized-professional-development-jess-hughes

6-step tuning protocol

1. Project overview 4 minutes



3. Probing questions 3 minutes



5. Reflection 3 minutes



2. Clarifying questions 2 minutes



4. Discussion 10 minutes



6. Debrief 3 minutes



1. Project overview

Owner of the project (the presenter) gives an overview of their project or idea and shares their thinking about its design and components. Participants (those listening to the presenter) are silent during this time. If possible the presenter poses a question to the participants in relation to their project – an area they would like some specific feedback on.

2. Clarifying questions

Participants ask clarifying questions of the presenter e.g. how will you assess literacy skills? Clarifying questions have brief factual answers.

3. Probing questions

Participants ask probing questions of the presenter such as:

What made you select the entry event?

What National Curriculum learning outcomes with the project cover?

4. Discussion

Participants discuss the project that has been presented and explore solutions. Participants should direct their comments to each other and not the presenter. During this time the presenter physically removes themselves from the group, is silent and takes notes. As a useful prompt for participants it is helpful to begin with what went well. 'I like'... as well as exploring how the project can be improved.

5. Reflection

Participants are silent during reflection, and the presenter has the opportunity to respond to the discussion. The presenter feeds back briefly what they have heard from the discussion and describes what the next steps will be. For example what I heard is that you like... what you were concerned about was...

I need to work on...

6. Debrief

The group debriefs the process, reflecting on how they were successful at adhering to the discussion norms. The idea of this protocol is to ensure the project idea has been considered by colleagues and gives participants the opportunity to reflect on the project – as well as give the presenter the opportunity to reflect before moving on to the final stages of planning the project.



Step 8 – timeline

Once you have thought through and designed the key elements of the project the next stage is to work out the project timeline. The project timeline should be shared with students and it should cover key elements of the project including as far as possible:

- A detailed breakdown of each week of the project
- The interim deadlines and milestones students need to achieve and are required to complete or demonstrate as they work through and progress through the project
- Scheduled critique and reflection sessions.
- Scheduled formal teaching and input and student work time
- The deadline for the end product



Step 9 – assessment

Some key principles with regards to assessment:

- Assessment should be ongoing throughout the project and not left until the end
- Students are clear from the outset how they will be assessed and what the criteria will be and the timeline for this. As such from the outset students understand what they are required to provide / demonstrate for each milestone and check in as they progress through the project. These could include for example a review meeting with the teacher or expert, written work produced, the work they are required to produce which contributes to the final product, a formal test of the knowledge skills and understanding the project is looking towards students being able to acquire and master
- Students may work in groups, but assessment is undertaken on an individual basis

In order to assess students learning as they work through the project it may be useful to get students to get into the habit of producing a learning journal or portfolio.

In developing and devising the assessment criteria for a project, as previously mentioned, the easiest thing is to often start with the curriculum and learning outcomes the project is aimed at cover and work backwards from this. As such starting with the National Curriculum or syllabus will help drive and inform the assessment criteria for the project. Again, it is vital to ensure students are aware of the criteria and are clear on how they are going to be assessed.

When devising the assessment criteria there are different forms of assessment which can be used.

For example:

- **Self-assessment** – emphasising student reflection
- **Peer assessment** – be kind, be specific, be helpful
- **Teacher assessment**
- **Outside expert /audience** – for example as part of a critique and reflection session or as part of the end product and public product

Step 10 – project design overview and calendar¹²

Once you have considered and worked through all the elements in your design and planning it is helpful to create a summative document which covers all the different elements of the project

Project design overview	
Name of Project:	Subject(s):
Key Stage / Year Group:	Curriculum content covered by the project i.e. the National Curriculum KS1-2 / KS3 or KS4 / KS5 syllabus learning outcomes
Teacher(s) / Lecturer(s):	Duration of project:
Questions:	
Project summary. What will students do?	

¹² Adapted from *PBL 101 Workbook* Buck Institute for Education page 91

Entry event:		
Making products public – how will the outcomes be made public?		
Products – what will be produced or created?	Individual:	Specific content and competencies to be assessed:
	Team:	Specific content and competencies to be assessed:
Resources needed:	Onsite people, facilities:	
	Equipment:	
	Materials:	
	To make the project authentic i.e. community resources and/ or expert and employer input:	
Learning outcomes/targets, knowledge, skills and understanding needed by students to successfully complete products:		
Check points/ formative assessments to check learning and ensure on track:		
Key themes and formal learning and content students need to have to complete the project:		

Project calendar				
Project name:				
Driving question:				
Entry event:				
End product:				
	Learning outcomes	Activities - student / teacher / lecturer input	Resources	Checkpoints / formative assessment
Project week 1				

Expert / employer project planning template	
Name of the project:	
Possible experts / employers to approach:	
Target learners e.g. year group(s) Anticipated numbers of learners:	
Contact details best time and method to contact – day of week and time:	
Name:	Employer / Expert / Organisation and position:
Email:	Contact numbers – mobile and direct dial:
	Notes
<p>Prompts to inform discussion for planning employer/ expert input into the project</p> <ul style="list-style-type: none"> > When do you need the input to take place? > Date? > Time? > Frequency? > What content do you require the employer/expert to cover? How does their input link directly to the project? > Is there any prior learning students should have undertaken or covered before the expert / employer input? > Are all the teachers / lecturers actively engaged and onboard? Do they understand the role of the expert/ employer? And what they are required to 'do' when the employer / expert is in school / college? > What resources will be needed? Employer and school /college? > What preparation needs to take place for it to be successful? > Outline opportunities and challenges 	

Step 11 – do the project yourself

Before the project is unleashed on students it is really important to do the project yourself and work through everything you have prepared. This is a vital step and one not to be missed as by working through the project you will be able to pick up on any areas which need further scaffolding for students and also any areas where issues are likely to arise. This step will help you establish:

- If the project is unworkable you will find out in advance
- You will have a sense of where students may run into difficulty, and as such you can plan accordingly
- You will get a realistic feel of how long it is going to take
- You will have a model to show the students before they begin, so your students will know what the expectations are¹³
- You can also do a final check does the project meet all the key elements of PBL – it could be helpful to use the 'six As' checklist for successful project design as outlined in the appendix

Step 12 – checklist for successful PBL execution

Project design overview			
1. Project documents – are these all available and in place at the start of the project?			
2. Assessment – are students clear how they will be assessed both formative and summative? The checks and milestones they are required to hit?			
3. Work time – have you built this into your planning and shared with students?			
4. Scaffolding resources – don't give students all the resources at once stage them			
5. Project wall – have all the information in one place for students to refer to			
6. Calendar – clear and shared with students – authentic deadlines			
7. Rubrics – students are clear from the outset on how they will be assessed			
8. Check lists and deliverables – are these available to students?			
9. End product – are students clear what they are being asked to do? When? How?			

¹³ *Work that matters – the teacher's guide to project-based learning*, published by Paul Hamlyn Foundation, 2012, page 44

Top tips for success

Entry event

- › Students are led into the project in an imaginative and creative way, with no sense of what the project is. It is important all students have the same experience at the start of the project to endure there is equality of access

Project wall

Make sure the project wall is not displayed until after the entry event has been completed. Include the following on it:

- › Driving question
- › Need to know list of questions
- › Word/concept list

- › Resources
- › Project calendar including milestones and checkpoints
- › Rubrics e.g. assessment criteria
- › End product information

Scaffold resources

Through your planning make sure students are clear of deadlines and the end product. It might be easiest in the first instance to split the larger project up into mini projects with clear milestones which students are aware they need to achieve and attain before moving onto the next stage.



Appendix – ‘six As’ checklist for successful project design¹⁴

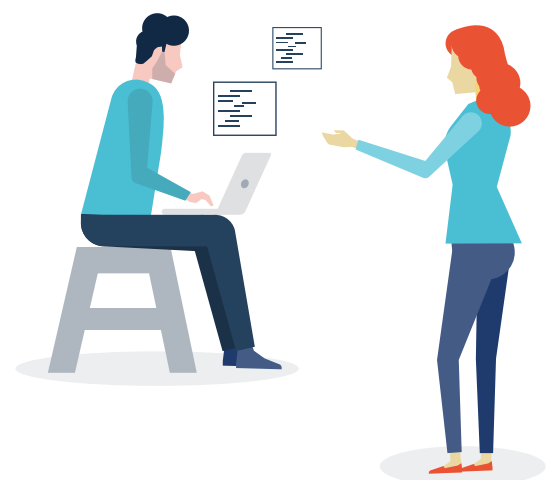
Having developed your idea. Finally check your project against Adria Steinberg's 'six As' of project-based learning. These are a set of design principles which have been developed by Steinberg and provide a useful set of prompts to check your project against at all stages of design.

Use the rag rating to reflect on the project you have created

Six As			
Authenticity – projects should:			
Use a real-world context			
Emanate from a problem that has meaning to students			
Result in a product or performance that has personal and/or social value			
Academic rigour – projects should:			
Address key learning standards (could be national, local or school specific...)			
Pose essential question(s) of relevance to the student			
Develop habits of mind & work associated with academic & professional disciplines			
Applied learning – projects should:			
Engage students in solving structured problems			
Demand skills expected in high-performance and work organisations			
Require students to develop organisational and self-management skills			
Active exploration – projects should:			
Extend beyond the classroom			
Connect to field-based investigations, community explorations, & work internships			
Require real investigations using a variety of methods, media and sources			

¹⁴ *Work that matters – the teacher's guide to project-based learning*, published by Paul Hamlyn Foundation 2012, page 40

Adult relationships – projects should:			
Connect students with adult members and coaches from the wider community			
Expose students to adults with relevant expertise			
Engage adults in the design and assessment of student projects			
Assessment – projects should:			
Provide milestones /checkpoints			
Involve lots of reflection for students and teachers			
Result is exhibitions and performances			
Be grounded in personal. School and real-world standards of performance			



Resources

Click on the images to download

PBL Toolkit Templates and Action Plans

PBL Toolkit Templates and Action Plans
Overview of the project - first draft initial project plan

	Key prompts and questions	Notes
Curriculum to be covered, i.e. standards, national curriculum or syllabus	What curriculum knowledge skills and understanding will the project aim to cover? What are the learning goals? Is this in student speak?	
Assessment	How will students be assessed? What are the key checks, formative and summative assessment students will need to achieve and attain to progress?	
Driving question	How you decided on the driving question? Will it support sustained inquiry? Are there any sub-questions which will help scaffold and frame the project?	
Student voice and choice	What opportunities will students have to make decisions about the projects products or processes?	
Make the product public - 'exhibition', 'expedition'	Have you established at the outset - what the students will 'do' or 'create'? What will the product be? What will this look like? How will the product be made public? When/ how? What help, and resources will you need to support this?	
Timelines deadlines and calendar	Are you clear what those are? How much time can you allocate to the project? Are students clear what the deadlines are and what they have to achieve and produce by when?	
Authenticity	How will the project be authentic? For example, is there employer / expert or community involvement? Has the project got a real world context and setting - is it authentic? Are there experts who can help input into the project?	

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Project Design Overview and Calendar

Project Design Overview and Calendar
Once you have considered and worked through all the elements in your design and planning it is helpful to create a summative document which covers all the different elements of the project

* Adapted from PBL 100 Workbook (Back Institute for Education page 58)

Project Design Overview	
Name of Project	Subject(s)
Key Stage / Year Group	Curriculum content covered by the project i.e. the National Curriculum KS2-2/ KS3 or KS4/ KS5 syllabus learning outcomes
teacher(s) / Lecturer(s)	Duration of project
Driving question	
Sub-questions	
Project summary What will students do?	
Entry event	
Making products public - how will the outcomes be made public?	

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The Edge Foundation
44 Whitfield Street
London, W1T 2RH

T +44 (0)20 7960 1540
E enquiry@edge.co.uk

www.edge.co.uk

The aim of this toolkit is to give you an introduction and overview of PBL. It is designed to provide you with a practical 'how to' guide to help inform your thinking of how you can develop and create projects in order to introduce PBL to you school or college and students