

Workbook

AUTHENTIC LEARNING

course handbook

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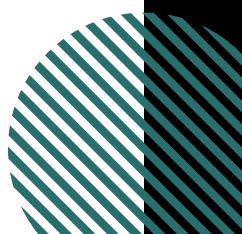
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01: INTRODUCTION

Why 'Authentic Learning Projects'?

Think back to when you were at school.

What are your memories? What was your most powerful learning experience? What work did you produce which made you feel proud?

I ask these questions at the start of every training I deliver about authentic learning projects. Over the years, I have always been surprised that the same answers come up over and over again. No matter who is in the audience, no matter which country they are from, I always hear the following things:

- Some form of sporting event or some form of art exhibition (such as a drama or music production);
- some form of independent project that was on a topic they really enjoyed;
- A time when their work was displayed in public; something that they did for charity.

What can we draw out from these responses?

- If the learning experience is to be memorable, it needs to be high-stakes and high-emotion - there is nothing like the thrill of preparing for an important game or a show and the sense of achievement at the end.
- Learning experiences should be communal but with clear individual responsibility - we get our energy and sense of fulfillment through working as an important part of a team to achieve a goal.
- We could also deduce that learning which has an element of autonomy and flexibility and which is carried out without constant micro-management by a teacher who is concerned about 'pace' is more memorable.
- Perhaps work which is produced for the benefit of others or has 'value' beyond exams imprints in our minds more deeply.

This to me is why it is important that all teachers have the knowledge, skill and experience to run projects in schools. Learning is an incredibly complex and dynamic process. As much as has been the trend in recent years to reduce learning to its most basic components and develop a strong evidence base to support this narrow definition, we know from our own experience that this is not a true reflection of how humans learn.

Therefore, teaching should not be about choosing one theory or one piece of evidence and repeating it ad nauseum. Rather, we should be 'pedagogical eclectics' who have a range of pedagogical approaches which we can deploy (and reflect on) depending on the context and the content we are aiming to teach. Choosing the right pedagogical tool for the right learning job.

Developing Student Agency

How often do we hear that young people today are not leaving schools with the knowledge they need to succeed in the workplace? Employers and the modern world are demanding that students leave with a sense of initiative, self-direction, collaboration skills and able to communicate effectively with a range of audiences?

In many ways, our schools ask students to leave any initiative they may have at the school gates. Understandably (to some degree), our schools are designed around compliance. We get students to learn almost against their will - with a range of intrinsic carrots and sticks to get them to do what we want (we hope).

We often tell students that they need to get through school - despite it being a trudge through boring content - so that they can get the qualifications they need to get to the next school. Eventually, they will be rewarded with a job - it is only then that they can make a meaningful contribution to the world.

What if there is another way? What if we think of school as important in itself? What if we believe that young people are able to make a difference to the world now - not just when they are 18 or 21? Our view is that *Today Matters*.

Authentic Learning Projects are designed to get students working on real-world problems in ways which mirror life outside school - high stakes, high trust; accountability and responsibility to produce high-quality work which has been redrafted; producing products which have real meaning to real people and real communities.

Purpose and Motivation

Schools were traditionally designed around a 19th Century view of motivation - rewards and punishments. Luckily, many workplaces have moved on from this set-up. Unfortunately, many schools have not. Modern theories suggest that when people have a mix of *mastery (getting better at something)*, *autonomy (control over what they are doing)* and *purpose (understanding their work has value)* they are more likely to be motivated.

We have already addressed that we believe students should have more agency over their learning. Now let's turn to purpose.

In many schools the only real purpose we give to students is that there will be an exam they have to pass at the end. Passing this exam will give them some reward in the future. However, we know that many students, particularly younger students, are not motivated by this. Students in some areas or from some backgrounds may not value the qualification at all.

So, what do we have now? Authentic Learning Projects give students a short-term purpose that is not an exam. It is helping to solve a problem for a real person in a real community. When they have completed the project, they present their work (often, literally) to the wider community.

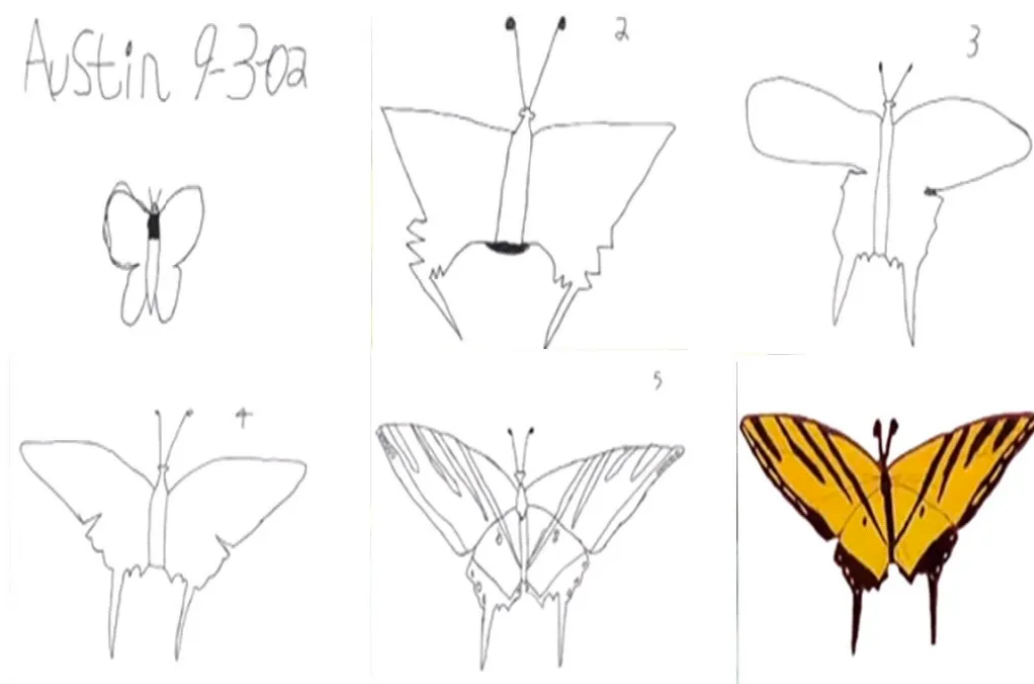
This gives the learning a real deadline, a real outcome and real purpose. It raises the stakes, has high levels of public accountability and a real purpose.

Excellence, Re-Drafting and Beautiful Work

The final aspect of motivation is mastery. People like to feel that they are getting better. This is why video games can hold the attention of young people far more easily than a lesson in school - they can see they are making progress and getting better.

Often, work produced in school is done once and forgotten. This is not how work in the 'real-world' is made. For most of us, to create high-quality work requires feedback AND time to re-draft (schools often do the feedback part).

Ron Berger in his seminal work '*The Ethic of Excellence*' argues persuasively for schools to focus on the creation of *Beautiful Work*. This is work which is redrafted to a high-quality. If you want to see this in action, Google, Austin's Butterfly.



Change is Difficult

Our first encounters with this type of curriculum design were not always successful. We were sceptics and continue to always engage with thinking about the pros and cons of this type of learning.

The truth is, planning high-quality authentic learning projects is difficult. Very difficult.

Not only this, but a bad project can be worse than a bad 'traditional' lesson.

So, why bother? After you have developed this skill, you will always have it stored in your 'pedagogical toolkit'. You will not use it for every curriculum that you plan. But when you do use it, you will produce high-quality learning which students will remember, and be proud of, their whole lives. It is worth it.

Below is a piece Joe wrote way back in 2014 for the Innovation Unit about his transition from being a sceptic, to a believer in planning authentic learning projects.

I USED TO THINK...

I used to think that I held very high expectations of my students and that I was empowering them to be lifelong learners and to succeed in the world outside of my classroom. I had a rather negative view regarding project based learning - I had seen it (or something claiming to be PBL) done badly far too many times. I used to think that PBL was a younger years KS3 gimmick which was rapidly going out of fashion and could never be used to deliver lessons for older students especially those about to take GCSEs and A Levels.

Despite my concerns and my belief that my teaching was already 'outstanding' (whatever that means) I wanted to buy into the ethos of School 21 and this meant experimenting with REAL Projects. When we started to plan our first project, I was incredibly sceptical and almost dismissed all of the advice I was given - I thought it was an American gimmick which would never stand up to the rigours of the British education system and OFSTED.

I was also worried that my students would not be engaged in the topic because they wouldn't have the 'pleasure' of me bouncing around the front of my classroom telling funny anecdotes about WWI - they wouldn't have my 'outstanding' teaching! Additionally,

I was worried that they would not develop the incredibly important essay writing skills (which they would need to pass exams) as no one would be teaching it to them. My final worry was time - I was concerned that we were spending a whole term on a topic I could have got through in a few lessons!

I used to start planning my units of work based on the idea that students couldn't do what I wanted them to. For example, I would have to teach students to evaluate the reliability of sources and then let them apply what I had taught them.

AND THEN I SAW...

My fears seemed to be entirely justified during the first few experiments with REAL Project lessons. The lessons took an entirely different form to what my students and I were used to and I honestly struggled to 'let go' as a teacher. But, I kept on continually reflecting, reading the theory and seeking advice from those more experienced than me. The more I read and investigated, the more I wanted to keep fighting to try to make it work. I am glad I did.

After a few lessons, I started to realise how genuinely engaged my students were in the lessons and just how much they started to progress in both knowledge and skills (both subject specific skills, such as essay writing, and also the 'softer' inter-personal skills). I saw them working calmly, professionally and independently in a way I never imagined they would. I started to sit with students one to one each lesson for a good length of time and really, deeply, critique their work and hold them to account. I started to really understand the needs of all of the students in my class and was able to tailor my feedback in a much more individualised way than I ever had previously. I was able to mark students' books with them sat in front of me and question them about their knowledge in real depth and correct any misconceptions, or encourage them to think more about concepts if they had 'got it'.

I saw, most worryingly, how low my expectations had been in the past! I started to see that a vast majority of my class could do this without me teaching them (except providing them with some graphic organisers) and indeed, some of them could already evaluate sources much more effectively than I planned to teach them. I was then able to concentrate my teaching on those who needed it in small group sessions. I was astounded by what my students were achieving, how engaged they were in their work and how much I was enjoying my teaching again.

AND NOW I SEE...

Now I see why REAL Projects are so effective. They are not only 'unshackling' for students but for teachers as well. I have been re-invigorated in my teaching - partly because I can now genuinely see the impact of my teaching in the classroom, partly because I no longer worry about behaviour management or hoop jumping in lessons and partly because teaching has become a rewarding academic challenge. I really feel like a 'professional' in a way I never did previously. I am excited about the start of every new term and I spend my time off visiting museums, reading books and looking out for ways that my students can have an impact in their community. I now see that I could not teach in any other way!

01: STARTING TO PLAN

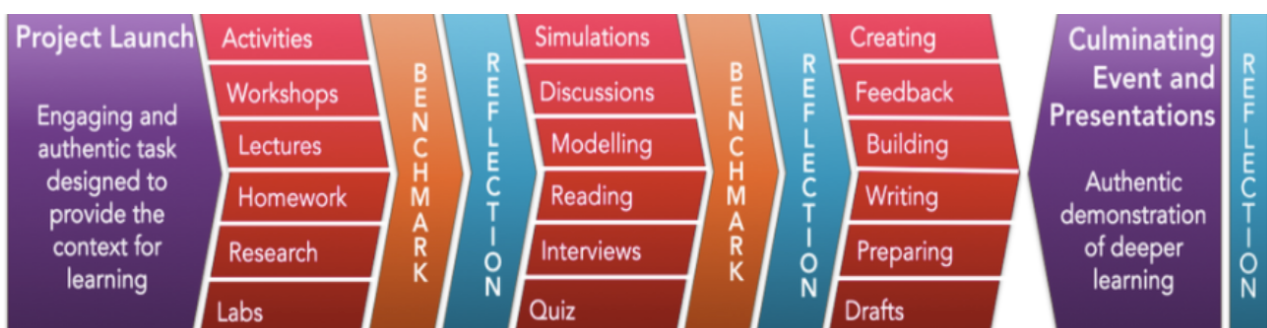
Planning traditional curriculum is relatively easy - especially for a more experienced teacher. You think about the content you want to teach, you plan some activities for students to do and then you write a test to evaluate has been learnt. Broadly speaking, the structure will look something like the below diagram by the Buck Institute for Education.



Planning Authentic Learning Projects add many more layers of complexity. There will not only be the knowledge you want students to learn, activities to help their understanding and tests to assess and evaluate, there will also be:

- End products which need to be created
- Authentic assessments to plan
- Knowledge banks to curate to guide agency
- Exhibitions to plan and prepare for
- Enriching experiences such as trips and guest speakers
- Collaborations with outside experts, employers and/or the community

These type of projects may look something like the diagram below - again, from the Buck Institute for Education.



An added dilemma is *where* to start your planning. With a traditional scheme of work, the only decision is *what* content to teach. When planning Authentic Learning Projects you will need to balance three things: *Content, end product and skills*.

For example, you may decide to start planning the project using the curriculum - building an end product and skills around the knowledge. Alternatively, you may have a great idea for a project which will solve a really relevant problem for the students - then build in the knowledge and skills. Finally, you may decide to start with a particular set of skills you want to develop and then fit the content and product around that.

The article below is from High Tech High's *Unboxed Journal*. It explains the dilemma of where to start the planning process well.

WHERE DO PROJECTS COME FROM?

On a cold October morning, my colleague Breawna and I carpoled to school together as we often do. I piled my bags into the back seat, hopped in the passenger side, handed over a cup of coffee, and settled in for a drive full of teacher talk.

The topic of discussion, as it so often is, was how to make projects meaningful and still hit the content needed in the history standards. This is an odd question for us to ponder, since we teach at a school that alleviates some of that “standards” stress by asking teachers to teach what they are passionate about through projects. But there we were, without the pressure of a frustrated principal or a zealous department chair, agonizing over our fear of not giving the kids enough content.

This may be because we both started our teaching careers at traditional high schools, attended traditional universities, and attended traditional high schools where school looked very much the same; teachers lectured, students feverishly took notes, a test was given, an essay written and a grade awarded that measured proficiency on some standard. Breawna and I are both struggling to define what education is all about, and building the curriculum around projects requires a break from the past that is often difficult. But on that morning when Bre asked me, “Where do good projects come from?” I felt I finally had something to say.

This question, and the struggle to meet standards, plagued my first year teaching at High Tech High Chula Vista. So much of my work in the first year was simply writing and reading—a pretty standard English class by most accounts. As I entered my final grades and completed my first year of teaching, I made a promise to myself to create engaging projects that would also comfort me by hitting standards. But what were the Expert Read projects going to look like? Where would I get the ideas? Where did projects like that come from?

Thirty journal entries, ten morning walks, hours of reviewing the state standards and countless conversations with friends left me no better off with my query as the summer days slipped by. I decided to simply enjoy summer for a while and return to the burning question in August. But then something happened that answered my questions. And it happened while I was enjoying myself, no less. My sister invited me to a local museum to see an exhibition called “Historical Takes,” by Eleanor Antin. I sauntered into the swanky evening exhibition expecting to be impressed by the art. Indeed I was, but it turned out to be a lesson planning adventure like no other. Antin had created a collection of photographic portraits depicting historical tales from ancient Greece and Rome with feminist spins on the events. Helen of Troy was a devious vixen slinging a rifle on her hip. Ancient Grecians strolled casually by the dying veterans of the Trojan War with shopping totes and sunglasses. Wealthy Romans dined in elaborate clothing while servants died in the wings unbeknownst to their masters. And next to each scene was an explanation of the artist’s “take” on it. I was fascinated and found myself wondering how the artist came up with her interpretations.

Then I wondered how I would create scenes from different time periods from different perspectives, say, a nihilist's perspective, or a child's perspective on the French Revolution. As I gazed at more images, and wondered more about how to create my own, I felt my legs tremble with delight. I had reached a new understanding. "This is perfect!" I exclaimed to the surprise of the museum docent.

History, photography, costume design, set and scene design, research, literature—all these things were present in the work. And they could all be studied in a project modeled after this exhibition. It almost felt like cheating since the idea came to me, not when I was agonizing over the state standards or feverishly writing up drafts at my desk, but rather while I was out looking at art and doing something I enjoyed. From this outing, my 35mm Revolution project was conceived. In this project, students choose a revolution to research and write about and then choose one scene to reenact in a photographic portrait. We plan to unveil the students' artwork at High Tech High Chula Vista's 2009 Festival Del Sol, a school wide exhibition of learning held every spring term. After the "art aha moment" as I now refer to it, I started thinking about projects while doing all sorts of things I love to do. Checking out music at local venues, I thought about starting a local artist Rolling Stone magazine to teach writing, photojournalism, editing and advertising. Running through the city, I thought about "walking a mile" in the shoes of someone who was homeless. Hiking up in the Sierras, I thought about nature reflections, the history of natural parks and the preservation efforts in California.

It seemed that every time I was doing something I truly enjoyed, a new idea for a potential project sprang into my head. Some of the project ideas had been done before, but somehow, this new revelation made them feel fresh, pristine. Do what you love and let the project drive the curriculum. These are the mantras of my wise teaching partner, Rod Buenviaje. Rod would listen patiently as I voiced my concerns about my inability to come up with what felt like meaningful projects. At the end of each conversation, he would repeat these mantras. I would nod in agreement and stare blankly out the window. I could never fully comprehend what he meant. After viewing Antin's exhibition, however, the mantras made sense. I was doing something I loved. I was passionate about it. I wanted the kids to see it. I wanted to teach it. It turned into a project that would guide the curriculum.

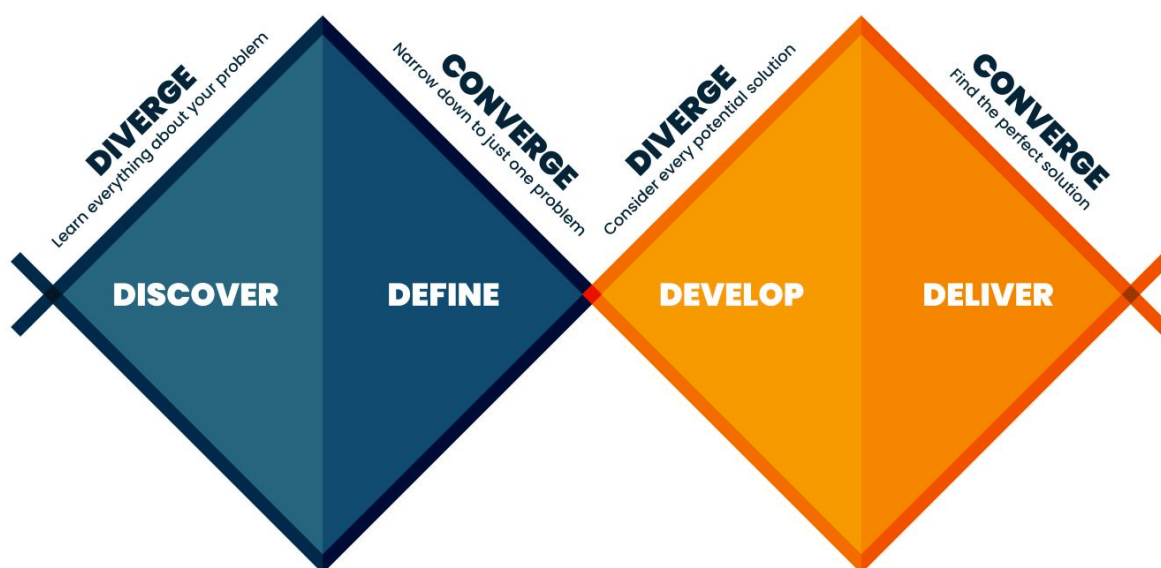
So, where do projects come from? My answer is this: they are born in the places we love to visit, the things we love to see, the tasks we love to lose ourselves in. They are the things we find exciting. They are the things we deem worthy of writing essays and graphing charts about. They come from teachers who fall in love with something and decide to share that something with their students.

From Unboxed: Issue 3 Angela Guerrero High Tech High Chula Vista

The Authentic Learning Project Checklist

You would be forgiven if, at this point, you are feeling daunted and overwhelmed at the prospect of planning a project! Do not worry, we have developed a checklist and a linked planning document (which you can find in the Resource Hub at the back of the workbook). The rest of the workbook will take you through the process of planning your project.

However, we do not advise that you simply work through the checklist in a linear way. Rather, think of the process as the Double-Diamond used in the design-thinking process. You can see this below.



As you begin to plan your project, try to keep in the 'divergent' space - open to new ideas and willing to change your mind. As you work through the planning process, you will begin to solidify - *define* - your idea. Now you have your idea, you will begin the *develop* stage - another, open, messy phase. Now it is time to '*deliver*' the project. It is natural to have moments of 'writers block' as you work your way through the planning of a project.

The Checklist

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Authentic Learning Project Checklist



Essential Question



Authentic Audience



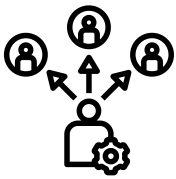
End Product



Significant Content



Assessment



Student Agency



Timelines



Resources



Essential Question

One element of a great Authentic Learning Project is the 'Essential Question'. This is the question which frames everything which happens in a project. This is the way students will understand what they are doing. If someone walks into a lesson and asks a student what they are working on, the essential question should form part of the idea.

It is called an Essential Question because it is a level underneath an 'enquiry question' which you may have used to plan schemes in the past.

Here are some examples:

Enquiry question: What did the Ancient Greeks contribute to Western Civilization?

Essential question: **How Greek are we?**

Enquiry question: How can we use measurement skills and geometry to plan a park?

Essential question: **How can we design a park for our community?**

Enquiry question: What foods should we eat to be healthy?

Essential question: **Are we what we eat?**

Obviously, the distinction between the two is blurry - there is no clear definition of an essential question. However, it is important to try to get to the root of what you want the students to be thinking about - and it should be open-ended enough for students to reach different, but equally valid, conclusions.

On the next page is a tool to help you generate some essential questions.

HOW CAN...	I WE	BUILD... CREATE... MAKE...	REAL WORLD PROBLEM
HOW DO...	WE AS, (ROLES) OCCUPATIONS	DESIGN... PLAN...	FOR A PUBLIC AUDIENCE
SHOULD...	(TOWN) (CITY) COUNTY)	SOLVE...	FOR A SCHOOL
COULD...	(STATE) (NATION)	WRITE...	FOR A CLASSROOM
WHAT...	COMMUNITY ORGANISATION	PROPOSE... DECIDE...	FOR AN ONLINE AUDIENCE

Defined Student Role

Another thing which can help here is to think about the 'real-world' role students might be working and thinking as. This is touched on in the diagram above. For example, 'how can I as a historian...?' 'how can I as a policy maker...?' 'how can I as an event organiser...?' 'How can I as a project manager...?'

If you are planning this project in collaboration with a partner (for example, a local employer), this is a good opportunity to learn about the different roles in the workplace and how students might mirror these real jobs in the classroom. Even better if the partners can come into school to mentor your students through the project!

Authentic Audience

One of the key aspects of Authentic Learning Projects which distinguishes them from alternative ways of planning is the introduction of the authentic audience.

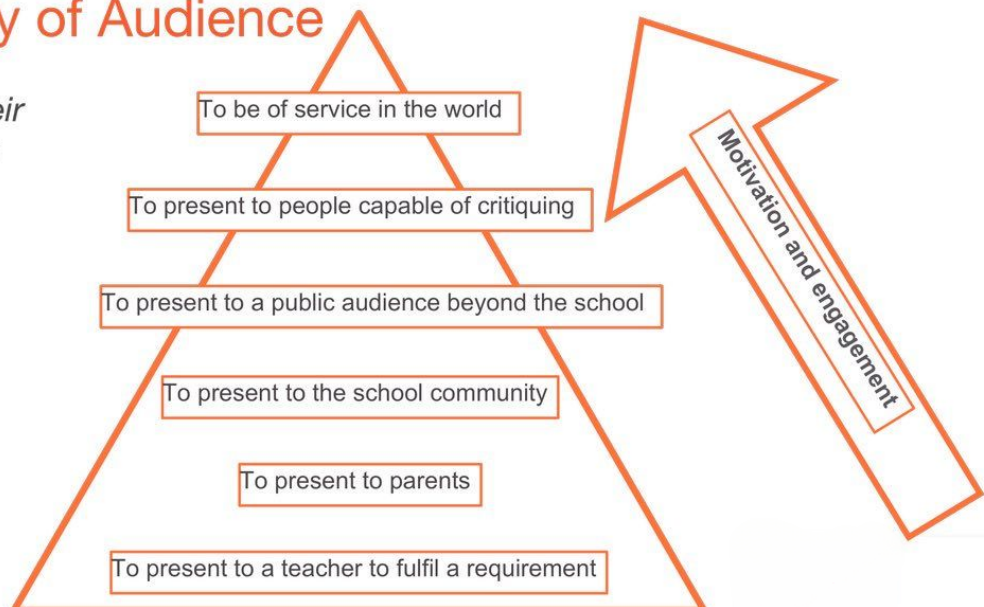
Most schemes of learning in schools have the teacher as the audience - no other person will see the work except when the teacher marks it. Occasionally, the work will go on display in the school or be given to students to take home to show their family. As students get older there is another audience which appears - the examiner and employers. It is one of the motivation tools we have later in the school journey... the test which an external person will grade and the employers who will use those grades in the hiring process.

However, there are many other ways to bring an audience into the classroom throughout the curriculum journey.

Ron Berger has developed the following diagram to get us to think about 'who' students are creating work for.

Hierarchy of Audience

Ron Berger
*Leaders of their
Own Learning*



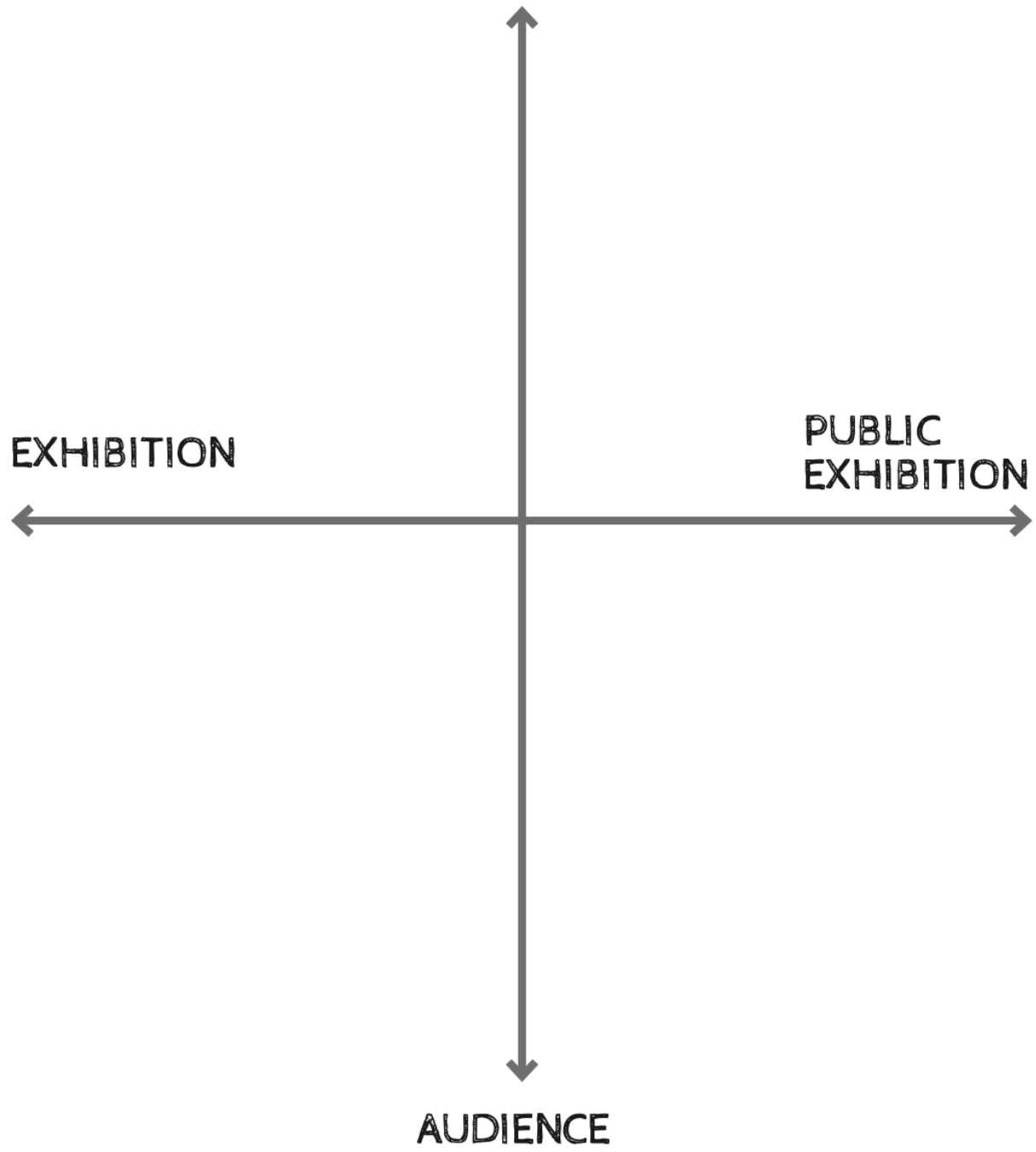
As mentioned earlier, planning for an authentic audience is a complexity which many in education may not have encountered before.

The following tools may help you to think about how 'authentic' you want to make your audience - for example, you may need to make trade-offs if you only have limited time or if you are running a project for the first time.

Display work in public area of the school	Display work in classroom	Carnival at School	Students publish work on You Tube / Amazon	Students complete a portfolio of work
Students present their work and interact with public / authentic audience	Final product presented by students to business partners	Final product presented to teachers	Draft of a product presented to a company who may buy the patent	Sometimes presented outside of school in the 'real world'
Exhibit in a museum	Display work in bulletin boards	Work presented at a conference of experts	Presentation given to the students' class	Mural in School
Mural in local community park	Final product presented to parents	Presenting work to a local primary school	Posting student work to a pinterest board	Publishing a report on the issue of bees and presenting to a local chemical company

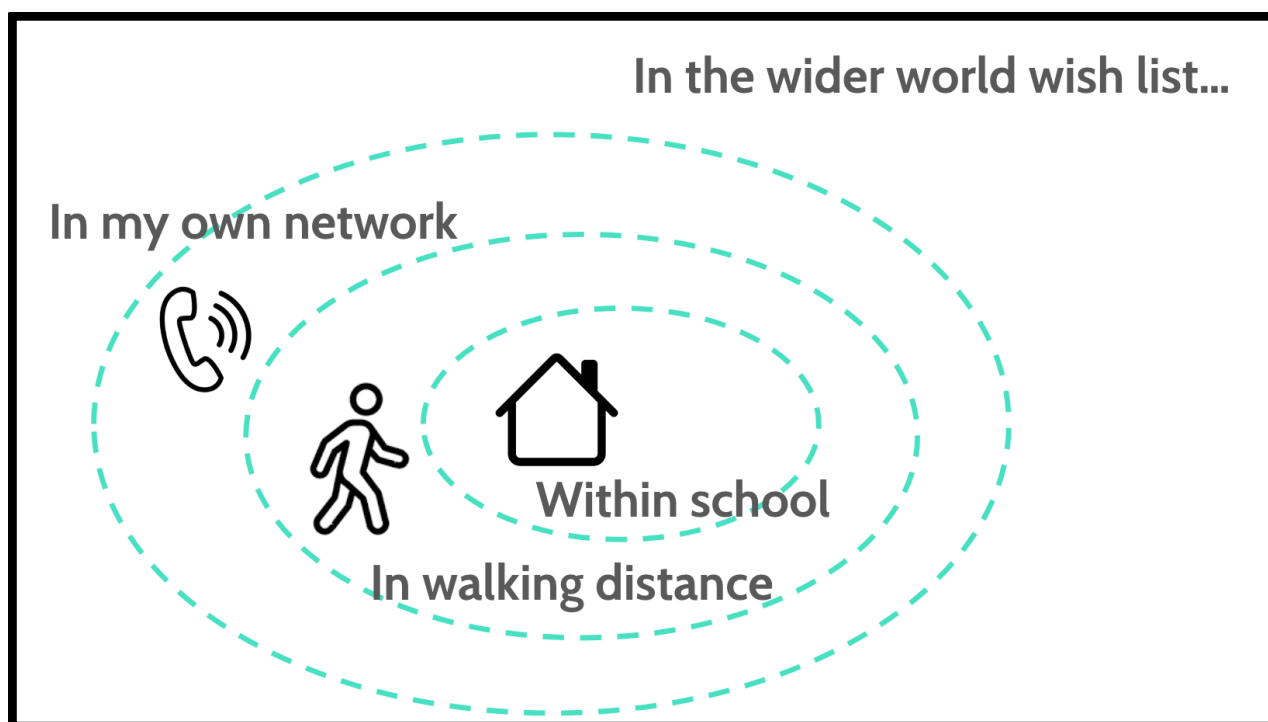
Above are some examples of different audiences. You can place them on the matrix on the next page.

AUTHENTIC AUDIENCE



Your local community is a rich resource of authentic audiences, or authentic clients for your projects. It can be a useful activity with your staff team to spend some time building your collective 'asset map' of these potential audiences or clients. You might do it using the following categories:

- In school (e.g. sports teams, parent groups, governors, clubs, Y6-7 transition team)
- In walking distance (e.g. local businesses, resident groups)
- In my network (e.g. personal connections, clubs, previous employers)
- In the wider world wish list (inc cool organisations, international things, 3rd sector changemakers)



Teams can then use this 'asset map' to begin some project ideation, or your school might want to keep a directory of possible audiences ready for future projects.

End Product

As well as considering the audience, it is worth simultaneously thinking about *what* it is that the students will be producing at the end of the project.

Depending on factors such as your own skills and experience, time and budget, these end products can be simple (an anthology of poetry in a published book) to complex (a public event held in the local park).

Before exploring end products in more detail, here are a few tips to get you started:

- The end product does not have to include *everything* the student has learnt during the project. Even exams don't examine *everything* on the syllabus! Rather, think of the end product as an artifact which you can use as a discussion point to learn more about the students' learning journey.
- The end product doesn't start at the end! The students should be working on their end product from the start of the project. The longer they have, and the more re-drafting which takes place, the higher the quality will be. One of the most common mistakes we see is when teachers plan an eight-week project - 'teach' the content for six weeks and then complain that the final two weeks was messy and the end product not completed!
- Keep it simple. The best end products are the most simple. If it is a complex end product which a group are working on - break it down into simple products.
- If the end product is built in collaboration - make sure you can identify each individual students contribution. There is nothing more demotivating than someone taking credit for work they didn't do!
- The best projects are ones which build-out of a skill-set and passion. However, consider how much skill your students will need before completing a project - a good way to test this is to try to make the end product yourself - this will show you the process the students need to complete.
- Make sure you have examples which you want the students to aim for. If the students are tasked with 'writing a report' or 'making a design' then it is good to show them what a good report and a good design look like - they have more chance of producing quality work if they know what quality looks like.

Real World Problems

Another starting point, when thinking about end-products, is to think about problems which need to be solved. This can be particularly useful if you want the students to engage with the local community or with a local organisation.

Starting from a problem, then designing a solution to that problem, can give a clear and focussed end-product - as well as a great assessment point... did the students solve the issue?

03: LEARNING AND DEVELOPMENT

Significant Content, Knowledge and the Curriculum

It may sound obvious, but Authentic Learning Projects are designed to engage students in learning and development. Although we want our projects to be engaging, the idea is to tap into the engagement for the sake of learning.

We focus on this a lot in schools, so it can be tempting to put it to one side when given the opportunity to run a project. However, students will be *more* engaged in the project if they know they are learning new things and are developing new skills.

Alongside thinking about essential questions, authentic audiences and end products, it is important to map any projects against the curriculum and / or your organisations aims.

Another way to approach this is to think about what you wish you could teach if you had the option. This might be a niche era of history, a particular philosophy of science or the genre of science-fiction.

Wherever it comes from and whatever it is, it is important to have a body of knowledge on your plan which you expect students to learn and which you will assess as part of the project. This is not at all to say that this is everything a student will learn - many will learn much more if they are especially engaged, but there should be a baseline of knowledge which students will learn through a project.

Skill Development

Authentic Learning Projects are a great way to create space for students to develop and reflect on their skill development.

Just like with curriculum content above, this should be considered carefully - it is usually best to focus on one or two skill areas and build assessment methods to evaluate how well a student performs in these aspects.

Your organisation or curriculum is likely to have a set of skills and attributes which students are expected to develop in their learning journey. These can be used to help with your planning.

If not, on the next page are some skills set out by the World Economic Forum.

Top 10 skills of 2025



Source: Future of Jobs Report 2020, World Economic Forum.

If you are working with an organisation as part of this project, it is also a good idea to see if you can map the project against any performance management tools they may use - this really adds a level of authenticity to the project.

Assessing Skills?

These skills are notoriously difficult to assess in traditional ways. One way to think about this is to ask students to reflect on a particular skills throughout the project - documenting how they have developed this skills throughout the project. This type of reflection is a good way to prepare students for the type of job interview questions they may be asked in the future.

Enriching Experiences and Careers Encounters

When planning Authentic Learning Projects it is also good to build in / map out the type of enriching experiences students will take part in. These could involve trips out of school, surveying local residents or hearing a talk from an academic. These projects lend themselves to opening up the school and demonstrating to students how what they are learning has a real world application.

In addition, these are great opportunities to engage students with the world of work. Building in encounters with local employers and employees is a great way for students to learn more about potential career options available to them in the future and understand that there are many different routes available to them.

Finally, these types of experiences are a good way for students to develop their real world oracy skills - as interacting with adults outside of their family or school may be a novel experience for many students.

04: BEAUTIFUL WORK

Can you think of something you have created which you are really proud of? What makes it so special?

As mentioned earlier in this handbook, the core outcome of an authentic project is student crafted beautiful work. Each project will culminate with a single student-crafted outcome; something that has been honed through critique and multiple drafts, and final product that students are proud of.

Understanding what we mean (and what we don't mean!) by 'beautiful work' is essential to bringing all teachers on board with designing and delivering high quality projects - we have to believe that students can and will produce work of excellence, work that can leave a mark on the world, and work that is, in some way, beautiful.

When we say beautiful work, we're not talking necessarily about something aesthetically beautiful, or with visible appeal. In fact, a well written, professional sounding report could be 'beautiful work'! What we mean is work that has been *crafted*, work that is (as Ron Berger puts it) '*strong and accurate*' and work that students are genuinely, authentically proud of.

It is really work spending time digging down into what this means with your teaching teams, sharing examples of work you think is beautiful, and unpicking what gets it to this level of quality.

The extract below is from Ron Berger's *An Ethic of Excellence*. It explains what he means by beautiful work and craftsmanship really clearly, through an example from his own teaching.

What makes a craftsman?

For twenty five years I've led a double life. I'm a full-time classroom teacher in a public school. In order to make ends meet for my family, I've worked during the summers, and sometimes weekends, as a carpenter. In the classroom or on the building site my passion is the same; if you're going to do something, I believe, you should do it well. You should sweat over it and make sure it's strong and accurate and beautiful and you should be proud of it.

In carpentry there is no higher compliment builders give each other than this: That guy is a craftsman. This one word says it all. It connotes someone who has integrity and knowledge, who is dedicated to his work and who is proud of what he does and who he is. Someone who thinks carefully and does things well.

I want a classroom full of craftsmen. I want students whose work is strong and accurate and beautiful. Students who are proud of what they do, proud of how they respect both themselves and others.

When building a complex roof frame, some carpenters are adept at trigonometry and use calculator to figure rafter angles. Others never paid attention during high school math and rely on a tape measure, spatial intelligence, and an experienced eye. In the end, as long as time and budget are reasonable, these differences don't matter. What matters is clear; a well-built house.

In my classroom I have students who come from homes full of books and students whose families own almost no books at all. I have students for whom reading, writing, and math come easily, and students whose brains can't follow a line of text without reversing words and letters, students who can't line up numbers correctly on a page. I have students whose lives are generally easy, and students with physical disabilities and health or family problems that make life a struggle. I want them all to be craftsmen. Some may take a little longer to produce things; some may need to use extra strategies and resources. In the end, they need to be proud of their work, and their work needs to be worthy of pride.

A few years ago I was crouched on the roof of a playhouse, nailing shingles with Aaron, one of my sixth-grade students. It was a glorious October Sunday, bright and crisp, one of those rare days that made me remember why I lived in New England. The afternoon light was on the maple trees around us, the leaves yellow and scarlet, and from up there the world looked good.

Holly and Justine, fifth graders from my class, were painting trim down below and giggling about something. Mike showed up with his little sister and called up: I know I'm not in your class but could we help out too? So they pitched in and soon Kate showed up and joined the crowd. With a crew of seven you might think we could finish the whole thing off quickly; it was only a playhouse. The truth was my class had been working almost every afternoon during school and after school for three weeks and still we had quite a way to go. Building with kids takes time.

I'll admit it was an elaborate playhouse. It was designed by my students in collaboration with their kindergarten buddies as a service project during our study of architecture; it was a gift to the younger students of the school. By Kindergarten request, it was two stories tall with a stair ladder inside, a "spy window" on the second floor, two windows on the first floor, and a front porch. It also had clapboard siding, Victorian trim details, and interior panelling. It wasn't that big, but it was nicely done.

I had argued repeatedly with my students that they were making a big mistake with their colour choices: with pine green paint for the siding and cream coloured trim, they had chosen green shingles. A green roof with green siding! I explained to them that it was going to clash and pleaded with them to consider a safer shingle colour, something like black or tan. I got outvoted by my class. Turns out I was totally wrong. The shingles were a dark shade of grey-green that complemented the siding very well. My students received glowing comments from the community on their colour choices. And don't think they didn't point this out to me all year long. As I was nailing off a shingle I noticed Aaron smiling at me. I know

they look good, I said.

I looked at Aaron carefully spacing roof nails. I looked at the kids below me working together intently, installing clapboard and painting trim. I looked at this beautiful playhouse the students had designed and built. How do I share this? I thought. How do I capture this?

The power of that Sunday was not really about New England or playhouses. It was not about gifted kids, or clever teaching, or curriculum that should be marketed. There was a spirit, and ethic in the air that day. It was partly about the kids, the teaching, the curriculum, the school conditions, the community, but importantly, it was about all of these things at once. It transcended these things. It was the culture of the school that encouraged these kids to volunteer, to work together, and to care deeply about the quality of what they did. It was the ethic that this school culture instilled.

How do you share a culture? An ethic?

From An Ethic of Excellence by Ron Berger

- 1. What resonated with you?**
- 2. What is in the toolkit of a craftsperson?**

It can be really powerful to invite colleagues to bring in and share a piece of their own 'beautiful work' - something that they have crafted and are proud of. Give them time in advance to think about what they want to bring and share, and set some examples around what this could be, and what 'beautiful work' means.

Invite colleagues to share their beautiful work and tell the story behind it in small groups (e.g. 6s), Afterwards, ask groups to reflect on how it felt to share work they are proud of, and what they noticed about what was shared.

You will probably find people find it very empowering and enjoyable to share the story of something they are proud of, and will reflect on some similarities in what made their work a source of pride. It is worth drawing attention to how powerful this could be for every student in your school to be able to do this.

Materials, Critique and Re-Drafting

In addition to having purpose and being for an authentic audience, there are other things which help students to create 'beautiful work'.

The first is both simple, but very difficult - high-quality resources. One of the things Ron Berger suggests is that to create work of a high standard, students need to be using the tools of a professional.

The next feature of creating beautiful work is one of the fundamental mindsets of being a great project designer and learner - getting feedback and redrafting work.

As part of the planning process, it is really important to build in many opportunities for students to get feedback on their work - via a critique or tuning process. There are example protocols for this in the Resource Hub section of the workbook.

A suggested process involves using 'deadlines' to get momentum - with each deadline being a critique point. As the leader of the project, you will be expecting to see progress in the quality between each deadline. If you are working with an external partner, it is a good idea to include professionals in the critique process - this will raise the stakes for the students (and the teacher!)

I would usually build in a 'messy-first-draft' critique quite early in the project. This is to show students that we are working on the end-product from the start and, as a teacher, it is a really useful assessment point - I get to see the various different starting points of the students.

I would then build in *at least* one more critique point, about half-way through the project. This should be a fairly high-stakes assessment point for the students. They should have made considerable progress since their first draft.

I would then usually build in a critique point just before the exhibition. If there is an element of oracy or presentation, I would usually focus the critique on how the students will communicate their work and their learning journey.

07: RESOURCE HUB

This resource hub contains examples of additional resources for help with designing, and delivering authentic projects effectively.

First up, here are two examples of project planner that could be used by teachers for planning their new projects. However you design this document, make sure you are thinking about what it prompts teachers to priorities in their design, and that it promotes consideration of key project checklist elements.

Project Planner Version 1:

PROJECT DATA CARD		Year															
The aim of this card is (1) to support the design of projects at inception and tuning (2) to record key information about a project once complete (3) to allow teachers to reflect in a structured way on their projects		Term															
		Year Group															
		Duration															
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 30%;">PROJECT NAME</td><td></td></tr> <tr><td>TEACHERS</td><td></td></tr> <tr><td>DEPARTMENT(S)</td><td></td></tr> <tr><td>PBL MENTOR(S)</td><td></td></tr> <tr><td>ESSENTIAL QUESTION</td><td></td></tr> <tr><td>FINAL PRODUCT</td><td></td></tr> <tr><td>HOW IS THIS MAKING A DIFFERENCE TO THE WORLD?</td><td></td></tr> </table>		PROJECT NAME		TEACHERS		DEPARTMENT(S)		PBL MENTOR(S)		ESSENTIAL QUESTION		FINAL PRODUCT		HOW IS THIS MAKING A DIFFERENCE TO THE WORLD?	
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ESSENTIAL QUESTION																	
FINAL PRODUCT																	
HOW IS THIS MAKING A DIFFERENCE TO THE WORLD?																	
HOW ARE YOU ASSESSING THIS PROJECT?		STUDENT ROLE															
AUDIENCE / CLIENT		GROUNDING TEXT / KEY STIMULUS															
KEY SKILLS & KNOWLEDGE		EXHIBITION DETAILS															

1) STUDENT-MADE FINAL PRODUCT

2) PUBLIC EXHIBITION

3) AUTHENTIC AUDIENCE

4) ESSENTIAL QUESTION

5) SIGNIFICANT CONTENT

6) MULTIPLE DRAFTS & CRITIQUE

PROJECT RADAR CHART

Assess where the project measures against these six scales and join the dots to understand the type of project you are planning and areas to develop in the future.

KEY

PO = Project-oriented learning

PB = Project-based learning

AP = Authentic projects

Six Project Components

The aim of this checklist is

- (1) to help you fill out the Data Card overleaf when you are designing, tuning, recording or reflecting on a project
- (2) to help identify the different types of PBL and areas which you may focus on developing in the future.

PROJECT-ORIENTED LEARNING	PROJECT-BASED LEARNING	AUTHENTIC PROJECTS
1. Student-made Final Product		
<ul style="list-style-type: none"> <input type="checkbox"/> Students work on product after a series of 'learning' or master lessons <input type="checkbox"/> Products lack proper materials and limited time spent to create products 	<ul style="list-style-type: none"> <input type="checkbox"/> Students spend a significant amount of time working on the final product <input type="checkbox"/> Product drives learning & resembles a professional craft 	<ul style="list-style-type: none"> <input type="checkbox"/> Students spend most of their time working on a final product <input type="checkbox"/> Product includes all aspects of student learning, mirrors a professional craft and uses experts to assist in creation
2. Public exhibition		
<ul style="list-style-type: none"> <input type="checkbox"/> Project is shown to the teacher and peers <input type="checkbox"/> Project may be displayed in classroom, corridors or hall 	<ul style="list-style-type: none"> <input type="checkbox"/> Project is displayed in school exhibition to parents and school community <input type="checkbox"/> Project may also be publicly displayed at school or another venue or school exhibition 	<ul style="list-style-type: none"> <input type="checkbox"/> Project publicly displayed at an external venue where parents and members of the authentic audience/client are invited <input type="checkbox"/> All students attend and play a role in presenting the work
3. Authentic Audience		
<ul style="list-style-type: none"> <input type="checkbox"/> The audience is teachers, parents and possibly the school community 	<ul style="list-style-type: none"> <input type="checkbox"/> The audience is teachers, parents, the school community and possibly the local community 	<ul style="list-style-type: none"> <input type="checkbox"/> The audience is teachers, parents, the school community, the local community and possibly experts capable of critiquing. <input type="checkbox"/> The project exists to be of service to the audience/client
4. Essential Question		
<ul style="list-style-type: none"> <input type="checkbox"/> Question is present but lacks complexity and is easily answered 	<ul style="list-style-type: none"> <input type="checkbox"/> Complex question drives learning and project outcomes <input type="checkbox"/> Question is relevant and interesting to students 	<ul style="list-style-type: none"> <input type="checkbox"/> Complex question found in the real world drives learning, project outcomes <input type="checkbox"/> Question challenges students to think critically and form their own opinions
5. Significant Content		
<ul style="list-style-type: none"> <input type="checkbox"/> Content mostly derived from National Curriculum, with few links to other subjects <input type="checkbox"/> There may be some light evidence of 21st century skills 	<ul style="list-style-type: none"> <input type="checkbox"/> Content derived from needs of the project and includes several interdisciplinary links <input type="checkbox"/> 21st century skills emphasised throughout the project 	<ul style="list-style-type: none"> <input type="checkbox"/> Content derived from authentic modelling of real-world situation, drawing upon multiple subject areas <input type="checkbox"/> 21st century skills are emphasised and assessed
6. Multiple Drafts & Critique		
<ul style="list-style-type: none"> <input type="checkbox"/> Work goes through 1-2 drafts <input type="checkbox"/> Peer critique is present but lacks specificity <input type="checkbox"/> Students may or may not use feedback in future drafts 	<ul style="list-style-type: none"> <input type="checkbox"/> Teacher deconstructs exemplar work with students <input type="checkbox"/> Work goes through multiple drafts <input type="checkbox"/> Clear indication of students using feedback 	<ul style="list-style-type: none"> <input type="checkbox"/> Teacher deconstructs exemplar work with students <input type="checkbox"/> Work goes through multiple drafts <input type="checkbox"/> Critique is incorporated into revisions and progress is clear from draft to draft <input type="checkbox"/> Class works together to improve the work of all students

Project Planner Version 2:

PROJECT PLANNING PRO-FORMA

Project Overview:			
Length (weeks)	<input type="checkbox"/>	Year group	<input type="checkbox"/>
Subject(s) or domain(s)	<input type="checkbox"/>	What skills will pupils develop?	<input type="checkbox"/>
Hours per week?	<input type="checkbox"/>	How will students be assessed?	<input type="checkbox"/>

Enquiry Question - *what is the question or problem that will help frame students' understanding?*

Professional Role - *who will the students be working as? This helps define and narrow what they will do.*

Outcome - *this should be a single, defined product.*

Authentic Audience/Client - *who are we working for/with?*

Exhibition - *where and how will the outcome be exhibited*

Grounding Text/Stimulus - *what grounding text/stimulus will be used as a main reference?*

Project brief - *a clear description of what they will be doing on the project.*



PROJECT PLANNING PRO-FORMA

Delivery Approach - How will student time be spent while working on this elective?

Overview of knowledge / skill covered

Assessment area	What are we assessing?	Where will this be assessed?	How will this be assessed?
Knowledge (25%)			
Big Ideas (50%)			
Attitude towards project (25%) <i>This is fixed for all projects</i>			

Possible activities - what will the pupils be doing during the project? Can you build in oracy?

Resources Needed - will the pupil need anything other than a device + internet to complete the project?

PROJECT PLANNING PRO-FORMA

BACKWARDS PLANNING - make the outcomes of the project and produce a timeline of your project led by deadlines and critique points. Remember to include an early draft of the product.

WEEK	PHASE	KEY ACTIVITIES	DEADLINES/CRITIQUE POINTS
12			
11			
10			
9			
8			
7			
6			
	Half term		
5			
4			
3			
2			
1			

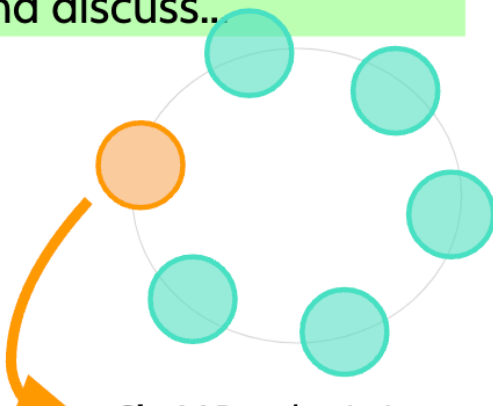
Ideas Critique Protocol:

It's helpful to run some ideation sessions with your staff teams to get everyone getting excited about possibilities for projects, and exploring the idea of planning curriculum from the start point of essential question, product and authentic audience. You might want to build in some brief critiques to get people sharing their early ideas and pitching projects that could be developed. A protocol like this can be helpful to hear lots of ideas in brief:

QUICK CRIT: Nominate a chair and discuss..

- 30 seconds** from the designer:
*Project in a nutshell:
product, audience,
essential question*

- 2 minutes** from the group:
I like...
I wonder...



Chair! Run the timings,
and bring in a range of
voices.

Project Tuning Protocol:

Once a project plan has been completed, but before any more detailed scheme of work is written, or lessons are planned and resourced, it is important to critique the project plan, and gather some feedback that will help shape the delivery. One way of doing this is through a 'project tuning'. This is a collaborative, protocolled meeting, where the project plan is presented for 'tuning' or feedback. It is a good idea to invite a range of voices to the project tuning, including teachers who will deliver the project, and teachers with specific useful expertise (ie a literacy expert who can offer advice on plans a written outcome). This protocol can be used for the meeting.

Norms:

- Hard on the content, soft on the people
- Be kind, helpful and specific
- Share the air (or "step up, step back")

Protocol: (40 min)

1 Project Overview (10 min): The presenter gives an overview of the project and shares his/her thinking about key design issues, such as:

- Goals of the project
- Ideas for facilitation
- Proposed product

The presenter then frames a dilemma question to guide the discussion. Participants are silent review the project plan and any related resources, writing down:

- strengths of the project to highlight,
- questions that might push the thinking of the presenter. Presenter is silent; participants do this work silently.

2. Clarifying Questions (5 min): Participants ask “clarifying” questions of the presenter. Clarifying questions have brief, factual answers and are intended to help the person asking the question develop a deeper understanding of the project design. An example of a clarifying question is “How do you plan to select the students involved in this work?”

3. Probing Questions (7 min): Participants ask “probing” questions of the presenter. Probing questions help the presenter expand his/her thinking about the dilemma. However, probing questions should not be “advice in disguise”, such as “Have you considered...?” An example of a probing question is “How will students know how their voice influenced the work in the end?”

4. Discussion (15 min): Participants discuss the project proposal and provide insight on the presenter’s dilemma question. It is helpful to begin with positive feedback, such as how the work demonstrates meaningful student voice and choice. For example, “What strikes me about this work is...” Participants can then take a more critical analysis of the work, using the question posed by the presenter to frame the discussion and identify opportunities for growth. For example, “What is the presenter not considering?” or “I wonder what would happen if...” Often participants offer ideas or suggestions for strengthening the work presented. During this time, the presenter physically removes him/herself from the group, is silent and takes notes. Participants should direct their comments to each other, not the presenter. The facilitator may need to remind participants of the presenter’s dilemma question.

6. Reflection (3 min): The presenter has the opportunity to respond to the discussion. It is not necessary to respond point by point to what others said. The presenter may share what struck him/her and what next steps might be taken as a result of the ideas generated by the discussion. Participants are silent.