"How does teaching creativity across the curriculum lead to young people who are better prepared for their future in a changing workforce?"

Penryn Creativity Collaborative:

Preparing for a Creative Future

Embed and Grow - The impact story in schools Years 1-3

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Authors:
Ursula Crickmay,
Sarah Childs,
Associate Professor Kerry Chappell

School of Education, University of Exeter
Penryn College

Contact:
creativitycollaboratives@penryn-college.cornwall.sch.uk
Sarah Childs- Penryn Creativity Collaboratives Lead
Penryn College 01326 372379

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Glossary of Terms

ACE	Arts Council England	KS4	Key Stage 4 (age 14-16)
AR	Action Research	MAT	Multi Academy Trust
CC	Creativity Collaborative	PCC	Penryn Creativity Collaborative
CPD	Continuing Professional Development	RQ	Research Question
EYFS	Early Years Foundation Stage	STEAM	Science, Technology, Engineering, Arts and Mathematics
KS1	Key Stage 3 (age 5-7)	STEM	Science, Technology, Engineering and Mathematics
KS2	Key Stage 2 (age 7-11)	UoE	University of Exeter
KS3	Key Stage 3 (age 11-14)		

Foreword

In an increasingly complex and rapidly changing world, creativity has become a cornerstone of success for children and young people, shaping not only their personal futures but the future of society as a whole. Nurturing and developing creativity in the classroom is therefore essential, helping young minds to think critically, solve problems, engage in dialogue, collaborate, and innovate in ways that will empower them throughout their lives.

In 1999, the National Advisory Committee on Creative and Cultural Education (NACCE) defined two essential dimensions of creativity in education: teaching creatively and teaching for creativity. While the former refers to the innovative approaches teachers use to engage students (i.e. focused on teacher creativity), the latter is about fostering students' own creative potential (i.e. focused on learner creativity). It is through teaching for creativity that educators unlock and nurture the innate creativity in students, equipping them with the tools and confidence to approach challenges from fresh perspectives. The research literature, however, suggests that there is still confusion between these two expressions of creativity in teaching and learning and that teaching for creativity remains rare in classroom practice, even in schools that claim to prioritise creativity.

It is within this context that the Penryn Creativity Collaborative (PCC) set out to explore, over the past three years, how teaching for creativity can be characterised and enacted within everyday teaching practice, in order to address the question "how does teaching creativity across the curriculum lead to young people who are better prepared for their future in a changing workforce?" In this third year of the pilot project, PCC delves into how teaching for creativity can be embedded and grown within, across and between schools, ensuring that teaching for creativity has a crucial future place in the curriculum across the Penryn Partnership.

With creativity often sidelined due to other educational pressures, this report examines what it takes to keep creativity at the forefront of educational practice over the long term. By presenting a roadmap for embedding creativity in education, the PCC sets a course for educators, policymakers and researchers who aspire to create classrooms and school communities where creativity thrives. The report also raises important provocations about sustaining teaching for creativity into the future. The work here holds relevance not only locally but also internationally. It demonstrates that teaching for creativity does not have to remain rare, and it provides a powerful resource for educators across the globe who are committed to fostering creativity in the next generation.

Dr Mathilda Joubert

Executive Principal, Christian College Geelong, Victoria, Australia
Honorary Research Fellow, The University of Western Australia

Acknowledgements

We would like to thank all of the students, the Penryn Partnership schools, teachers, industry and cultural partners who have given their time and shared their thoughts through our Year Three Creativity Collaborative Journey. We would particularly like to thank the Head Teachers and Governors from across the Penryn Partnership for their drive, enthusiasm and ambition in embracing the development of this project; this report could not have been written without them.

We are grateful to Arts Council England for their support of this project, to Amanda Rigler, Jenny Woods and Bill Lucas for fostering the peer network between the eight national pilots. We would also like to acknowledge the support of the research team at Durham University led by Dr Helen Cramman and Vic Menzies and the local expertise of our cultural and industry partners who have shared their knowledge and experience as part of our wider learning community.

To cite the report please use:

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Preparing for a Creative Future: Years 1-3 Embed and Grow.
https://penryn-college.cornwall.sch.uk/creativity-collaboratives

Executive Summary

Creativity Collaboratives is a national pilot programme of eight clusters of schools across England who are working together to test innovative practices in teaching for creativity, sharing learning to facilitate system-wide change. Launched in 2021, the programme is funded by Arts Council England with support from the Freelands Foundation. Creativity Collaboratives: Penryn Partnership is the South-West pilot, and over three years has focussed on exploring one central question:

- How does teaching creativity across the curriculum lead to young people who are better prepared for their future in a changing workforce?

This report provides insight into how Penryn Creativity Collaborative (PCC) has been delivered, and its impact. The project's Year 3 ambition has been to ensure that teaching for creativity has a crucial place in the curriculum across the Penryn Partnership for the future. The accompanying Year 3 research has focussed on capturing the overall impact of the pilot from 2021-2024, exploring the ways in which this ambition has been achieved.

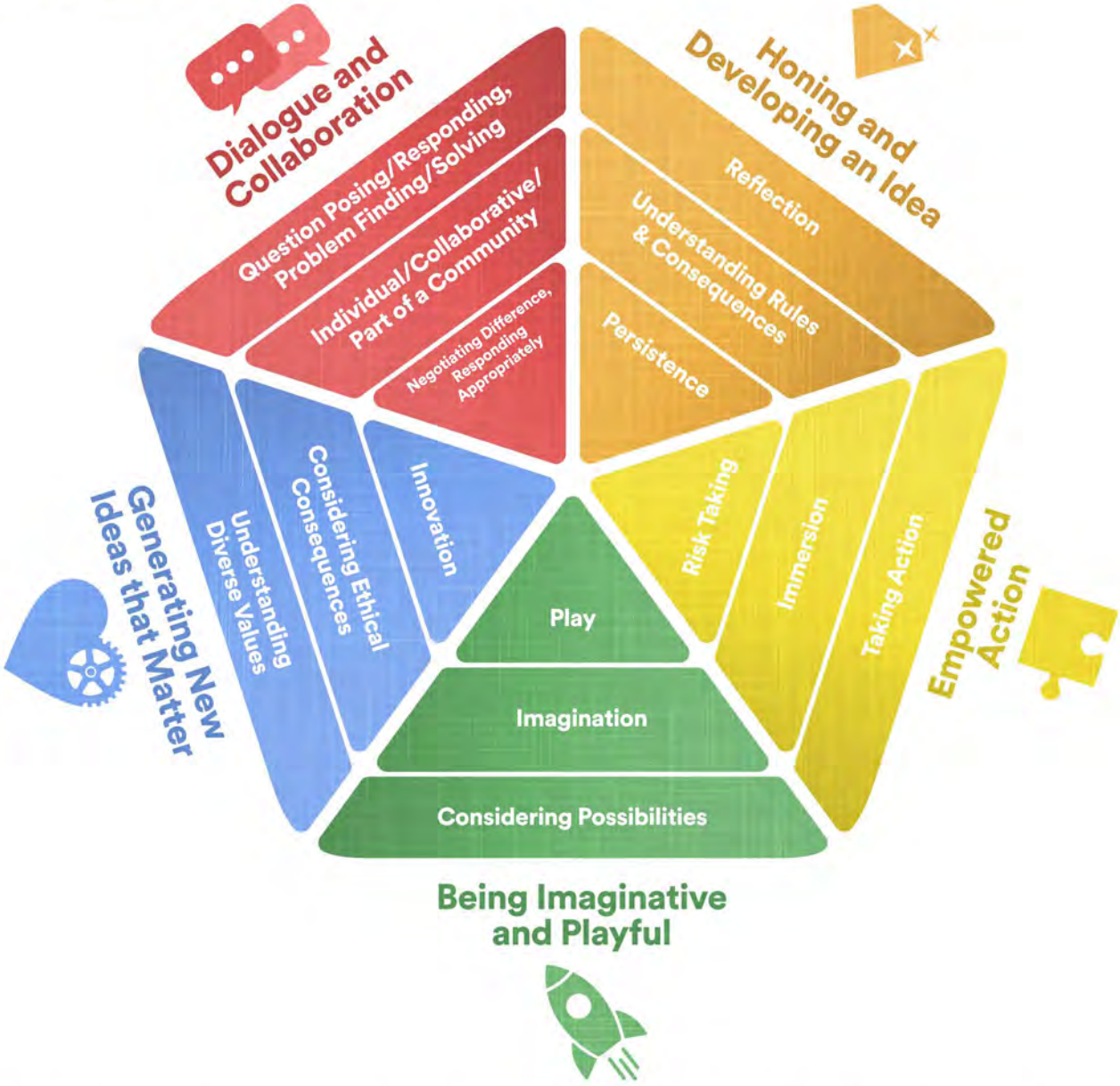
About Penryn Creativity Collaborative

PCC is led by Penryn College, an 11-16 school on the south Cornish coast, and incorporates the existing Penryn Partnership, a Creativity Collaboratives Network that comprises a group of industry and cultural partners and research partner, the University of Exeter (UoE).

PCC Year 1: Question, Challenge and Explore

In Year 1 we asked: *Why are creative skills needed in a changing workforce? What creative skills are needed to be developed by Cornish students to become better prepared? How do we best prepare schools and teachers for teaching for creativity?* Using a literature review and a range of data collection methods with partners, teachers and students, we developed the PCC Creative Skills and Pedagogies Frameworks. We built understanding of how curriculum Teaching and Learning is developed across PCC and what this looks like in the classroom. We also provided CPD to introduce teaching for creativity and Action Research.

Figure 01 *PCC Model of Creative Skills*



We also learned that students moving into a modern workforce were being met with an uncertain future and change, meaning there is a need for continuous adaption in a modern workforce. We also learned that creativity is hard to define – teachers and students often associated 'creativity' initially with the arts. Teachers' and leaders' understanding and pedagogy therefore needed development.

Read more here:

Crickmay, U. Childs, S. Chappell, K. (2023).
Preparing for a Creative Future: Year One Report Question, Challenge and Explore.
https://penryn-college.cornwall.sch.uk/creativity-collaboratives

PCC Year 2: Build and Test

In Year 2 we asked: *How do creative pedagogies manifest in the Penryn Partnership? How do students' creative skills progress?* We carried out teacher-led collaborative action research projects facilitated and mentored by UoE researchers who also synthesized overall findings with PCC-wide data collection, whilst providing CPD to develop creative pedagogies.


BBC NEWS

England | Local News | Cornwall

Teaching creativity benefits teachers and pupils

Researchers investigated if teaching for creativity helps students prepare for the future

Figure 02 *BBC news article*

Covered in a **BBC news article**, teachers told us about the freedom they had to take their own risks during the Action Research process.

Students were more motivated, engaged and felt more empowered in their own learning, often using problem-solving approaches used in real-world problems. Teachers identified the need for time for creativity to flourish in the classroom.

Read more here:

Crickmay, U. Childs, S. Chappell, K. (2024).
Preparing for a Creative Future: Year Two Report Build and Test.
https://penryn-college.cornwall.sch.uk/creativity-collaboratives

PCC Year 3: Embed and Grow

In Year 3 we asked: *What is the map of teaching for creativity in the PCC? How are teachers using PCC resources and experiences to teach for creativity in PCC? How are students' creative skills manifesting? How does this prepare young people for a changing workforce?* Using a range of data collection methods we responded to the Year 3 research questions, carried out a second cycle of action research focused on assessment, provided CPD to embed and grow creativity, and launched the **PCC Toolkit** at the PCC Symposium at UoE Penryn Campus in March 2024.

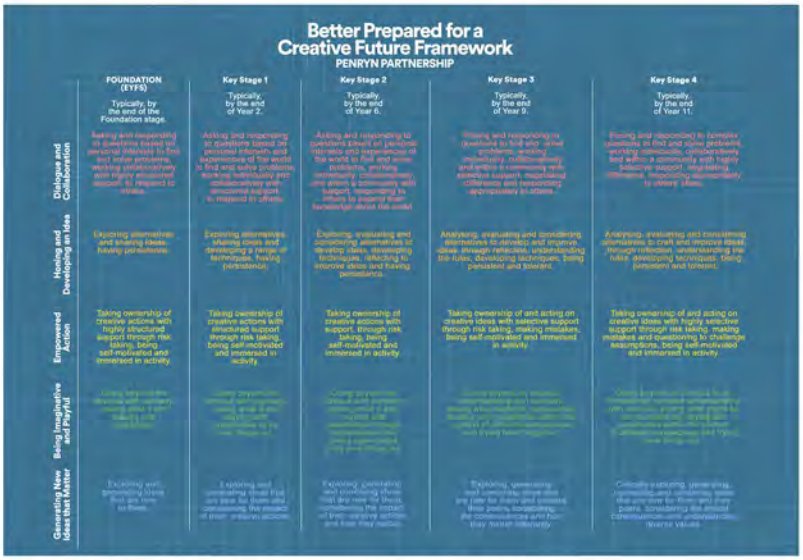


Figure 03 *PCC Better Prepared for a Creative Future Framework*

This **Framework** (please see full-sized version on pages 23-24 of this report) is based on the PCC Creative Skills and envisages how those creative skills may develop over time, from Foundation Stage to Key Stage 4. Whilst this framework has the potential for further development it has been used across the Penryn Partnership during the 3 year pilot phase.

Capturing the Impact of PCC

In Year 3, Penryn Creativity Collaborative set out to embed and grow, ensuring that teaching for creativity has a crucial future place in the curriculum across the Penryn Partnership.

Methodology

Students, teachers, Headteachers and senior leaders, parents, local industry and cultural partners, and symposium attendees participated in the research. This utilised focus groups, surveys, portfolios, fieldnotes, and the findings from a second cycle of assessment-focused action research (Van Veen et al., 2024). Data was analysed qualitatively and quantitatively using thematic analysis and descriptive statistics. Ethical permission was gained from the University of Exeter Ethics Committee, and ethical processes have been based on the British Educational Research Association (2024) Research Ethics Guidelines.

Findings

Findings are summarised below according to the four research questions (RQ) explored in Year 3 of the programme.

RQ1: What is the map of teaching for creativity in PCC?

During year 3 all schools report cascading the practice across their school communities. The detail of how this has taken place are mapped into these areas:

Creative school cultures are represented by openness, a drive to try things out and staff who have been re-energised, with teachers reporting that the status of creativity has risen in a number of schools, particularly notable in the PCC Lead school. It can be observed across other schools where PCC is: included in five participating schools' improvement / development plans, included in whole staff action-plans, being cascaded upwards to MAT level, included in whole school visions and values, and built into communications branding. Developing a shared language around creativity has been particularly powerful in terms of integrating creativity into school cultures, as has the ownership of this language and its integration into practice through action research, particularly in understanding creativity beyond an arts context. Parents are part of the culture shift in some areas, but several schools report that more work needs to be done to engage parents.

Creative leadership: Commitment to creativity at leadership level was specifically commented on across five schools. They described leadership involvement in incorporating initiatives and action research findings into practice, engaging the creative pedagogies in response to OFSTED feedback, and in providing time for staff to work on PCC. A leadership challenge came in the relationship of the project within MATs where priorities or approaches at this time did not align. One of the MATs has been looking for links that could be made, suggesting potential in developing this level of leadership further in the project.

Creativity in the curriculum: Every participating school reported changes to their curriculum in relation to PCC. Curriculum design trialled through the Action Research projects was being applied more widely during year 3, with further roll out planned. Schools report curriculum development in English, Science, Humanities, Maths, PE, Media, STEAM and Forest school. Developing skills in the PCC Creative Skills area of 'dialogue and collaboration' was reported as a priority in curriculum development for seven schools, and all except one of these linked this to an increasing focus on oracy skills. Whilst a dialogic approach is much broader than spoken conversation, the data here shows that a link is often being made between oracy, dialogue and communication which could be explored further.

Assessment for creativity: Discussions highlighted the dilemmas that emerge when considering assessing creativity. In Lead school Penryn College, changes to assessment practices were made at the start of year 3 of the project, notably a reduction in KS3 assessment points creating more time and space for creativity. An action research project then explored assessment in more detail in Science and KS4 English (see Van Veen et al., 2024). Penryn College reports that each faculty is developing new assessment language for 2024-2025 incorporating PCC Skills language for learning.

Developing creative teachers: All schools report engagement with PCC CPD and cascading learning to a wider staff via staff meetings, Teaching and Learning briefings and coaching. September refresher training is already planned in some schools for new members of staff. Survey data showed that by December 2023 (i.e. before the significant work to embed the project during Year 3 had taken place), 38% of teachers reported the impact of the project on their own practice at 4 or 5 on a 5-point Likert scale where 5 = a high level of impact. Findings thus suggest that PCC has impacted schools' provision of training and support for teaching for creativity, and that there is still scope to involve more teachers. Several sources voiced the ambition to extend PCC to initial teacher education so that newly qualified teachers would be equipped with the skills to teach for creativity.

Collaboration and partnership: Partnership and collaboration has been the model for project delivery, and can now be seen embedded in practice, for example: collaboration between PCC leaders and schools; working regularly with high quality visits and visitors to bring learning to life; developing resources to support teaching for creativity with cultural partners; engaging in CPD with cultural partners; connecting PCC work with Primary Careers Hub / Cornwall Careers Hubs; supporting pathways to the workforce through links with Young and Talented Cornwall, and developing knowledge of post-16 apprenticeships; co-developing projects in school with industry partners; linking with local community arts festivals; disseminating practice through existing partnerships such as MATs and the Cornwall Association of Primary Heads and Cornwall Association of Secondary Heads.

Areas for development: In its third year, PCC is a project which is still developing, and this is seen both in reference to future plans and to ongoing challenges. The most widely reported barriers to developing impact from PCC were time and capacity. Work continues to be required in developing understanding of creativity, in changing (negative) pre-conceptions about what it is, and in securing staff commitment. Changes in staffing, including leadership and administrative staff have presented challenges. It is a concern for several schools how to maintain priority with governors, or to further involve governors and parents.

Linking creative skills and careers: PCC has led to developments in schools' careers education. In Penryn College, this has comprised development of an existing programme. In several primary schools it has prompted new work in careers, through connections with the Careers Hub CIOS.

Resources: PCC has impacted the development and use of resources for teaching for creativity, notably through the PCC Toolkit. Further resources continue to be produced to add to the toolkit and in addition to this, individual schools have produced in-school resources which support their own teaching for creativity.

RQ2: How are teachers using PCC resources and experiences to teach for creativity in the PCC?

Analysed through the PCC Creative Pedagogies Framework, results show that the creative pedagogy teachers report using most is encouraging empowerment, autonomy and agency. This is ranked considerably higher than it was in Year 2. The pedagogy which teachers report using least is facilitating ethics and trusteeship – this is in line with Year 2. The dynamics of the PCC Creative Pedagogies manifestation were as follows:

Teachers continued to express their commitment to supporting student **empowerment, autonomy and agency**. They expressed its value in terms of the independence it gave for students to think for themselves, and the need to respond to students' own interests rather than focusing exclusively on pre-set knowledge.

A small number of examples of teachers explicitly considering **ethics and trusteeship** were strongly integrated with creative processes, including for example: responses to global problems, utilising the arts to work in a transdisciplinary way on topics including war and role playing to consider ethical issues in history.

Teaching regularly provided opportunities for **risk, immersion and play**, through open-ended play with materials, immersing in different environments, using playful approaches even with older age groups. Taking risks was seen as an important part of learning with teachers seen as key to modelling risk taking, and immersive and playful approaches helped students develop knowledge with more '*stickability*'.

Possibilities -rich thinking and spaces were generated in a variety of ways including: providing a range of activities and modes of working, allowing multiple different approaches or responses to a given task, approaches which encouraged students to broaden their thinking by considering different perspectives or by using multi-disciplinary approaches, using open-ended tasks, using 'what if questions' to support students' own creative responses and also to analyse the creative work of others.

Generating and exploring ideas was seen across Key Stages with a high level of acceptance of children's ideas, including in art, music, media, science, maths, forest school, English, PE and STEAM. Teachers, from EYFS to KS4, gave detailed accounts of their skill in stepping back and stepping in to balance control and freedom, and holding the tension between openness and structure in their work.

Teachers valued a **problem-solving** approach as a way to bring different areas of the curriculum together, for being inclusive, and for helping students learn about the world without spoon feeding them answers. Problem solving was also seen in enquiry-based learning and students were able to give multiple examples of using enquiry skills or problem-solving skills.

A wealth of references were made to **individual, collaborative and communal activities for change** pedagogies. This is consistent with Year 2 findings. Teachers continue to use collaboration as a core approach for supporting the development of creative skills across all key stages and subjects, with some demonstration of a co-constructed approach. Engagement with community was also evident.

As in Year 2, **teacher creativity and wisdom** is more apparent in the evidence of inventive and reflective teaching practices than it is through direct comments. Parents and cultural partners both commented directly on witnessing teacher creativity, observing that PCC was not only about nurturing pupil creativity.

RQ3: How are students' creative skills manifesting?

Notable quantitative findings are that there are only small differences between perceived level of ability across the different creative skills. Comparing primary and secondary results shows that primary students are giving higher self-ratings of 'generating new ideas that matter.'. Other skills are self-assessed at a more consistent level across primary and secondary students.

Dialogue and collaboration was the skill yielding the largest set of qualitative data, related to speaking and listening, to oracy, or to working collaboratively. Students valued collaborative skills for making learning more enjoyable, helping them concentrate, broadening their views, developing their subject-related ability and developing skills for the future; some students would welcome more focus on collaboration at school. Teachers observed students' collaborating across a wide range of contexts and were able to note progression. Students described the challenges and pleasures of learning to negotiate difference and respond appropriately and developed their skills in question posing and responding, and problem solving in different ways.

There is a bias in the data relating to **being imaginative and playful** towards examples in English, art, drama and media and the younger age groups. Examples in science and at secondary school were given, but were less common. Although some examples supported possibility thinking, little data was collected in this area. Teachers observed that early years children immersed themselves in self-directed **play** on a daily basis; other examples of play almost all related to English.

There were a good number of examples of students from KS1 through to KS4 **generating new ideas that matter**, with the focus of skill development primarily on innovation and idea generation. Teachers and students both felt confident that this skill was being nurtured in English at different levels, although students in the KS3 and 4 focus groups were not convinced that there were many opportunities to generate new ideas at school. There were few responses that related to the skill of understanding ethical consequences, nor understanding diverse values.

Honing and developing an idea was the creative skill that students self-assessed themselves mostly highly in through the survey. KS4 students attributed this to having some hesitancy in taking initial steps in being creative, but having more confidence to develop ideas once they were initiated. Teachers were able to identify students showing this skill. Parents expressed concern that there was not enough time to reflect and redraft work in school compared to in a real-life scenario, and some students expressed their reluctance to engage in reflection or revision.

Students self-assessed **empowered action** lowest in the surveys. KS4 students suggested that this was to do with many things in school being 'safe' or 'the same'. This view was reinforced by KS1 students and by parents, the latter of whom suggested that there was too much focus on learning 'certain ways to answer certain questions for exams'. Contrastingly, teachers rated students' skills in empowered action most highly and observed increases in this skill through a 'can do attitude' and willingness to trial ideas. Teachers described careful interventions to support students to take risks, scaffolding the confidence of individuals to help them share their ideas. Immersion continued to be a focus skill in some classes, although the issue of time continued to be raised in relation to this.

RQ4: How does teaching for creativity prepare young people for a changing workforce?

Aspiration and the Cornish workforce - low aspirations are repeatedly cited as impacting the readiness of young people for Cornwall's changing workforce. Five key elements were felt to be in need of attention:

Life experience and cultural capital are seen as lacking in many children and young people, and as challenging within Cornwall's geographical context.

Role models and mentors are seen as important particularly for students in rural and coastal areas, some of whom come from the most deprived 20% of the national demographic.

Developing awareness and understanding of local opportunities is an area in which PCC has made some impact. Concern prevails that more needs to be done to make local opportunities visible including self-employment and remote working models.

Learning to leave, or the 'story of leaving' was a common theme. Countering this were comments about the Cornish workforce being locally driven and outward looking, globally oriented, having aspirations beyond the borders.

The importance of nurturing **self-belief and confidence** were noted regarding developing students' aspirations and their readiness to work independently.

Creativity and positive engagement with a changing workforce - key elements noted here are:

Resilience, linked to reflection, persistence, problem-solving, positivity, adaptability and accepting failure, was widely seen as an important attribute for young people to thrive in their diverse future pathways. Industry partners urged young people to recognise that they did not only need to adapt, but also be empowered to influence the changes happening.

Empowerment, related to agency, confidence and self-motivation, was seen as an important dimension of positive engagement. Teachers and cultural partners described it as students finding the 'thing they're passionate about'.

Collaboration and communication are emphasised as core skills within the workplace. Teachers were able to describe how they were building these skills through utilising the PCC Creative Pedagogies.

Wellbeing was also linked to workplace resilience and positively linked with creative skills by students. Cultural partners commented that workplaces were becoming more concerned with wellbeing and that young people with awareness in this area may be able to drive positive change.

Pathways to success was seen as a crucial part of preparing young people for the changing workforce. Evidence suggests that as PCC starts to embed, it is beginning to make a contribution attending to:

The need to provide creative pathways for the community recognising **diversity** in terms of socio-economic status, ethnicity and neurodivergence. Parents felt that diversity and accessibility needed attention in schools and workplaces. Industry partners emphasized the value of a diverse workforce which they actively sought to innovate and address problems.

Real-world learning opportunities have led teachers to note student's improved understanding of how their learning links with local industry, and that they are linking PCC Creative Skills with future careers. Partners commented on role models as important guides of pathways to success.

Particular industries emphasised through PCC include the creative industries and STEM industries: these industries were most extensively linked with the PCC Creative Skills. Students linked PCC Creative Skills most readily to careers in the creative sector. Teachers made most references to future work in STEM.

PCC Skills scaffolding the pathway: Developing greater understanding of the creative skills and their importance in industry was reported as an area in which PCC was contributing to workforce readiness by all participant groups. Students most readily connected dialogue and collaboration and generating new ideas that matter with future workforce skills. They saw dialogue and collaboration as important in terms of teamwork, communication, working with others, helping others and listening. For adult participants, dialogue and collaboration dominated workforce readiness discussions.

Outstanding Questions: Provocations for the future

The third year of the project generated a number of questions worthy of further exploration:

- How can diversity be celebrated and sustained, whilst also tracking the impact of the work on students going forwards?
- How can PCC maintain and develop the PCC Creative Skills, Pedagogies and Progression framework within and beyond PCC after the pilot phase?
- How can a more consistent picture of PCC Creative Skills and Pedagogies be established moving forward?
- How can the ongoing development and renewal of staff skills in teaching for creativity be supported in the long term, including across changes in staffing and leadership within and beyond PCC?
- Can the need for time continue to be acknowledged, and are there further innovations, such as the reduction in assessment points which was trialled at Penryn College this year, that can help to create time and space for creativity at school?
- How can the growing understanding of progression be harnessed to further develop teaching for creativity in PCC?
- How can teachers' own developing creativity and wisdom continue to be supported to offer appropriate balance between student and teacher agency?
- How can the research going forward be streamlined to minimize the impact on participants and maximise the strength of the data collected?
- How can PCC build on the strong partnerships established and grow understanding of this core issue to actively develop students' readiness for their future in a changing workforce in relation to creative skills?

What next?

PCC can conclude that teaching for creativity makes a valuable contribution to preparing young people for their future in a changing workforce. It is recommended that the following aspects of PCC are extended and developed:

Reinforce and disseminate the new PCC model

Develop and extend collaboration and partnership

Celebrate diversity

Encourage creative, dispersed leadership

To cite or access the full report:

Crickmay, U. Childs, S. Chappell, K. (2024).
Preparing for a Creative Future: Years 1-3 Embed and Grow.
https://penryn-college.cornwall.sch.uk/creativity-collaboratives

Introduction

Creativity Collaboratives is a national pilot programme of eight clusters of schools across England who are working together to test innovative practices in teaching for creativity, sharing learning to facilitate system-wide change. The programme is funded by Arts Council England [ACE] with generous support from the Freelands Foundation and launched in October 2021. It builds on a rich and varied history of teaching for creativity in England from its long-term embedding within arts education to its drive across the curriculum in the previous Creative Partnerships scheme (2002-2011). Penryn Creativity Collaborative is the South-West pilot for the programme, and over the course of three years is focussed on exploring one central question:

- How does teaching creativity across the curriculum lead to young people who are better prepared for their future in a changing workforce?

Here teaching for creativity is understood as the relational engagements between students, teachers, environment and other elements of educational systems that generate creativity. This report provides insight into how Penryn Creativity Collaborative has been delivered across the three years, and into the impact it has had. The ambition of the project during its third year has been to ensure that teaching for creativity has a crucial place in the curriculum across the Penryn Partnership for the future. The research during year 3 has focussed on capturing the overall impact of the pilot phase from 2021-2024, exploring the ways in which this ambition has been achieved.

Section A of the report introduces Penryn Creativity Collaborative, introducing the partners who make up the Collaborative, providing a short summary of activity across the three years and introducing the Penryn Creative Skills Framework and Creative Pedagogies Framework which have been developed through the project.

Section B of the report introduces the research in detail, presenting findings in relation to four research questions which have provided the focus for year 3, which together capture the impact of the pilot phase of Penryn Creativity Collaborative.

Implications of the research are brought together in the discussion section at the end.

Further details of our journey so far can be found in our first and second reports;

Our Year 1 report;

Crickmay, U. Childs, S. Chappell, K. (2023).
Preparing for a Creative Future: Year One Report Question, Challenge and Explore.
https://penryn-college.cornwall.sch.uk/creativity-collaboratives

Our Year 2 report;

Crickmay, U. Childs, S. Chappell, K. (2024).
Preparing for a Creative Future: Year Two Report Build and Test.
https://penryn-college.cornwall.sch.uk/creativity-collaboratives

Section A: About Penryn Creativity Collaborative

Penryn Creativity Collaborative Learning Community

The Penryn Creativity Collaborative (PCC) is led by Penryn College, an 11-16 school on the south Cornish coast, and incorporates the existing Penryn Partnership, a Creativity Collaboratives Network that comprises a group of industry and cultural partners and research partner, the University of Exeter (UoE). Sarah Childs is the Penryn Creativity Collaborative Lead and member of the Senior Leadership team at Penryn College as Assistant Headteacher. Sarah leads the Teaching and Learning team at Penryn College with responsibility for Continued Professional Development (CPD) and coaching. Her expertise as a Specialist Leader of Education has led her to deliver training and CPD across Cornwall to both primary and secondary phases.

The Penryn Partnership is a long-established collaboration between 8 primary schools and its feeder secondary school. Established almost 20 years ago, it is built on a vision that children from 4-16 years old will have a breadth of experiences across curricula which will enable them to be creative, resilient, independent learners with a thirst for knowledge and exploration. Alongside Penryn College the partnership includes Penryn Primary Academy, Constantine Primary School, Flushing C. of E. School, Mabe Primary School, Mawnan C. of E. Primary School, Mylor Bridge Community Primary School, Perran-ar-Worthal CP School and Kennall Vale School and also includes two Area Resource Base units for Special Educational Needs and Disabilities provision in Penryn College and Penryn Primary Academy.

Figure 04 *Penryn Partnership Learning Community*

The Penryn Creativity Collaborative Network comprises representatives from local industries, including the cultural industries.

Partners from across our community have contributed their time directly during this pilot phase to support teachers in developing their understanding of the role of the PCC Creative Skills in the workplace, alongside providing valued professional development opportunities.

Members of our Creativity Network during Year 3 have included Allen and Heath, CAST, Cornwall Association of Primary Heads (CAPH), Cornwall Association of Secondary Heads (CASH), Cornwall Careers Hub, Hall for Cornwall, KEAP (Kernow Education Arts Partnership) - The Writers Block and Story Republic, Pendennis, and Watson Marlow – Fluid Technology Group. The Creativity Network was designed to keep the Collaborative in Penryn focused on understanding what skills schools need to help their students be better prepared for the changing workforce utilising the expertise and knowledge of local community. For clarity during discussion of the findings in this report, members of the Creativity Collaboratives Network are collectively referred to as 'industry and cultural partners'.

Figure 05 *Our Learning Community during Year 3*

The University of Exeter [UoE] is the Penryn Creativity Collaborative research partner and has been involved since the conceptualisation phase of the Creativity Collaboratives bid which underpins the project. The UoE team comprises of Associate Professor Kerry Chappell and Ursula Crickmay who work within the UoE School of Education, where Chappell leads the **Creativity and Emergent Educational Futures Network**. The Penryn Creativity Collaborative research falls within the remit of this network to challenge the status quo in education through creativity. The team brings 20+ years expertise in researching creativity in education and engaging communities; they aim to carry out research 'with' rather than 'on' schools and industry partners, with the ultimate intention of co-producing research outcomes whilst simultaneously offering professional development in research skills and understanding.

PCC Year 1: Question, Challenge and Explore

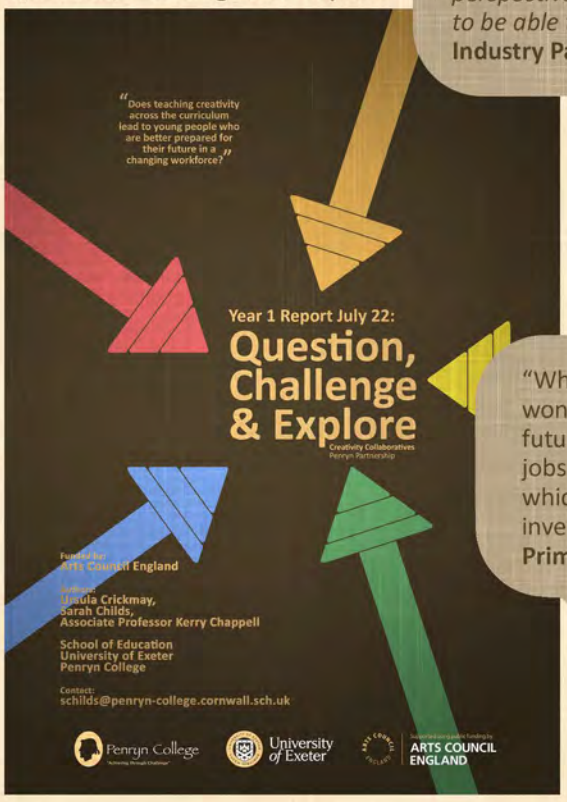
What did we want to know in Year 1?

RQ1: Why are creative skills needed in a changing workforce?

RQ1: What creative skills need to be developed by Cornish students to become better prepared?

RQ1: How do we best prepare schools and teachers for teaching for creativity?

Year 1 Report
Question, Challenge and Explore



"Creativity is needed to see things from multiple perspectives, and in order to be able to adapt."
Industry Partner

"What matters now won't matter in the future... there'll be new jobs in the next 30 years which haven't been invented yet as well"
Primary school teacher

What implications were there for Year 2?

- How to expand the understanding of creativity across the curriculum for teachers, leaders and students?
- How do we use the PCC Creative Skills and Creative Pedagogies moving forward and what might these look like for teachers and students in the Penryn Partnership?

What did we do?

- Research methods included: Literature review, focus groups, interviews and surveys including industry and cultural partners.
- Developed a shared language for teaching for creativity: PCC Creative Skills and Pedagogies Frameworks.
- Built understanding of how curriculum Teaching and Learning is developed across PCC and what this looks like in the classroom.
- CPD to introduce teaching for creativity and Action Research.

What did we learn?

- An Uncertain Future: students moving into a modern workforce were being met with an uncertain future and change, meaning there is a need for continuous adaption in a modern workforce.
- Hard to define creativity: teachers and students often associated 'creativity' initially with the arts. Teacher and leader understanding and pedagogy therefore needed development

PCC Year 2: Build and Test

What did we want to know in Year 2?

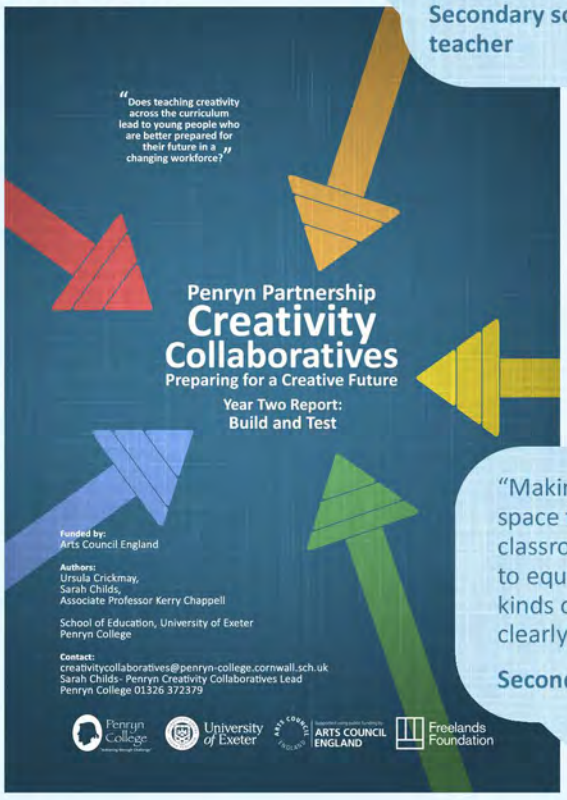
RQ1: How do creative pedagogies manifest in the Penryn Partnership?

RQ2: How do students' creative skills progress?

"There is a moral imperative of embedding creative pedagogy and skills into classroom practice"

Secondary school teacher

Year 2 Report
Build and Test



"Making the time and space for creativity in the classroom is vital if we want to equip teenagers with the kinds of skills that they so clearly need for the future"

Secondary school teacher

What did we do?

- Research Methods included teacher-led collaborative action research projects facilitated and mentored by UoE researchers who also synthesised overall findings with PCC-wide data collection
- Each teacher researcher developed their own line of enquiry which related to the overarching research question but was specific to their own teaching and learning context, written into an individual report
- Data collection included: observations, interviews, focus groups, surveys, reflective journals / diaries, video logs, photographs, video, students' work, and a 'Preparing for a Creative Future: Creative Skills' wheel
- CPD programme across the partnership to develop creative pedagogy

What did we learn?

- Teachers told us about the freedom they had to take their own risks during the Action Research process.
- Students were more motivated, engaged and felt more empowered in their own learning, often using problem-solving approaches used in real-world problems. Teachers identified the need for time for creativity to flourish in the classroom.

BBC
NEWS
England | Local News | Cornwall

Teaching creativity benefits teachers and pupils

Researchers investigated if teaching for creativity helps students prepare for the future

BBC Article

What implications were there for Year 3?

- What is the impact on existing assessment systems and requirements on teaching for creativity?
- Where does teaching for creativity find its place in a restricted and **congested 'knowledge based'** curriculum and the development of creative skills across KS2 to KS4?

PCC Year 3: Embed and Grow

What did we want to know in Year 3?

RQ1: What is the map of teaching for creativity in the PCC?

RQ2: How are teachers using PCC resources and experiences to teach for creativity in PCC?

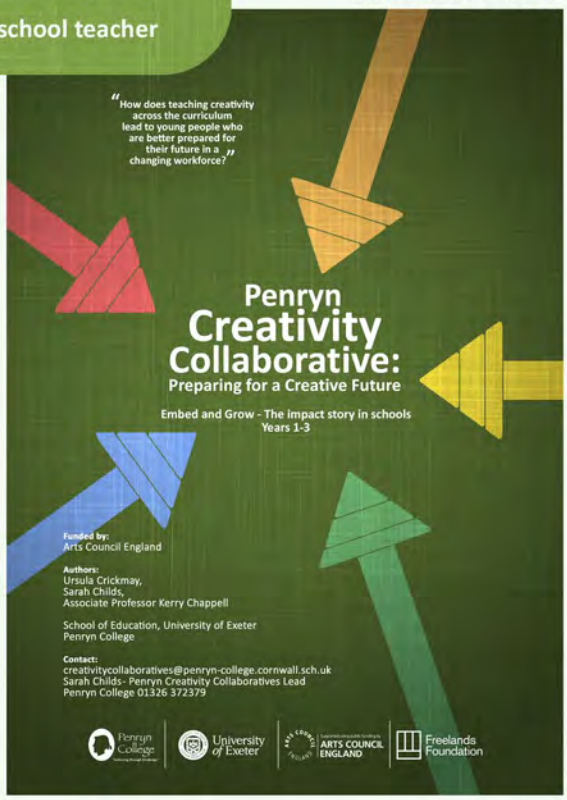
RQ3: How are students' creative skills manifesting?

RQ4: How does this prepare young people for a changing workforce?

"Creative pedagogy deepens understanding; students are engaging in more memorable learning whilst also developing the creative skills they need for their futures"

Secondary school teacher

Years 1-3 Report
Embed and Grow



What did we learn?

- The **status** of teaching for creativity has risen in all schools with changes in visions and curriculums taking place.
- Teachers continue to report about the impact on their classroom practice including feeling **more energised** whilst developing their own creativity.

What did we do?

- Research methods included focus groups, surveys, evidence gathering portfolios, and research focused discussions during teacher CPD sessions and at the PCC Symposium.
- Second cycle of Action Research took place in Penryn College focusing on assessment.
- CPD provision continued to embed and grow supporting across the curriculum.
- PCC Symposium was held in March and launched the PCC Toolkit.

What implications were there moving beyond the pilot phase?

- What is the impact of PCC on young people and can we continue to articulate this?
- How do we build a sustainable model for teaching for creativity in English schools within existing systems and structures?
- How will the PCC Creative Skills and Pedagogies Frameworks develop over time?

'Our research shows how teachers' own action research embeds understanding of teaching for creativity much more deeply than if teachers are trained in techniques.

We are extremely excited to be able to pass on this understanding through the creative toolkit for more teachers nationally to encourage their students.' creativity.

Associate Professor, Kerry Chappell UoE

Better Prepared for a Creative Future Symposium

26 March, 2024, University of Exeter Penryn Campus

On Tuesday 26 March 2024, teachers, leaders, researchers, and industry/cultural networks came together for the Penryn Creativity Collaborative Symposium and the official launch of the **Penryn Creativity Collaborative Toolkit**. Joined by students in the Penryn Partnership, over 100 colleagues from across Cornwall and beyond focused on the importance of teaching for creativity and why creative skills are needed in a modern Cornish workforce. Following the keynote speeches, workshops were delivered by teachers, leaders, students and UoE experts from the PCC learning community.

Sir Nicholas Serota, Chair of Arts Council England, opened the Symposium, saying:

> *"Each day, teachers and pupils at the schools in the Creativity Collaboratives are making changes – big and bold, some small and simple, but all highly effective in enhancing the quality of teaching and learning. To thrive in a world where they [young people] will have to adapt to seismic changes and switch careers with greater frequency that their grandparents, or even parents, did – young people will need the confidence, resilience and spirit of enterprise that creativity encourages."*

This was echoed later in the day when Sarah Waller (Wildworks, Young and Talented Cornwall) led a 'sofa debate' with Laura Giles (Screen Cornwall), Wyl Menmuir (The Writers Block), Steve Hancock (Pendennis) and Mike Chapman (Allen and Heath) to explore why creative skills are needed in a modern Cornish workforce.

Figure 06 *PCC Symposium*

Better Prepared for a Creative Future Toolkit

The Penryn Creativity Collaborative 'Better Prepared for a Creative Future' Toolkit was launched in March 2024 and is a space for school leaders, teachers, those working in cultural and industry organisations, researchers and parents/carers to find ideas about how to Teach for Creativity and develop young people's creativity at and beyond school. It is a culmination of resources designed by teachers, leaders and researchers from the University of Exeter and is a 'living space' that we hope will grow over time.

https://penryn-college.cornwall.sch.uk/creativity-collaboratives/toolkit

The toolkit includes:

Planning tools

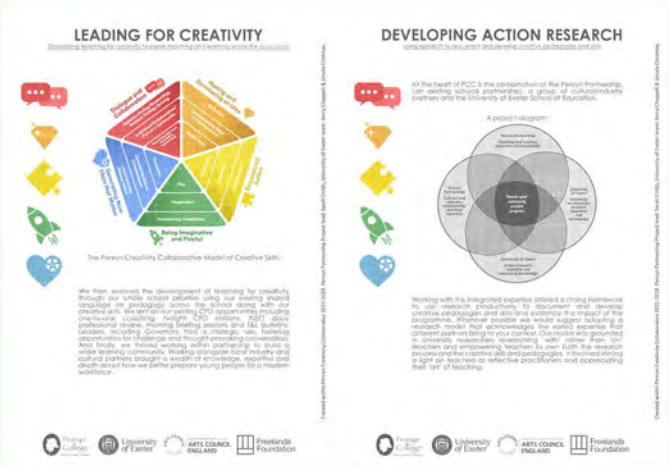
For teachers, practitioners and leaders, providing ideas that '**You Might Like to Try**' to develop teaching for creativity.

Teaching for Creativity

Resources share the main findings from each of the Year 2 Action Research projects, providing examples of the PCC Creative Skills and Pedagogies in action in the classroom

Developing creativity across the curriculum

Resources are designed to develop understanding of teaching for creativity, supporting teachers and others to reflect and plan ahead for developing teaching for creativity in their own setting. Additional resources also include developing action research and creative leadership.



Creativity is Everywhere

Resources explore the Penryn Creativity Collaboratives Creative Skills across the curriculum, describing how they might look in different subjects and key stages.

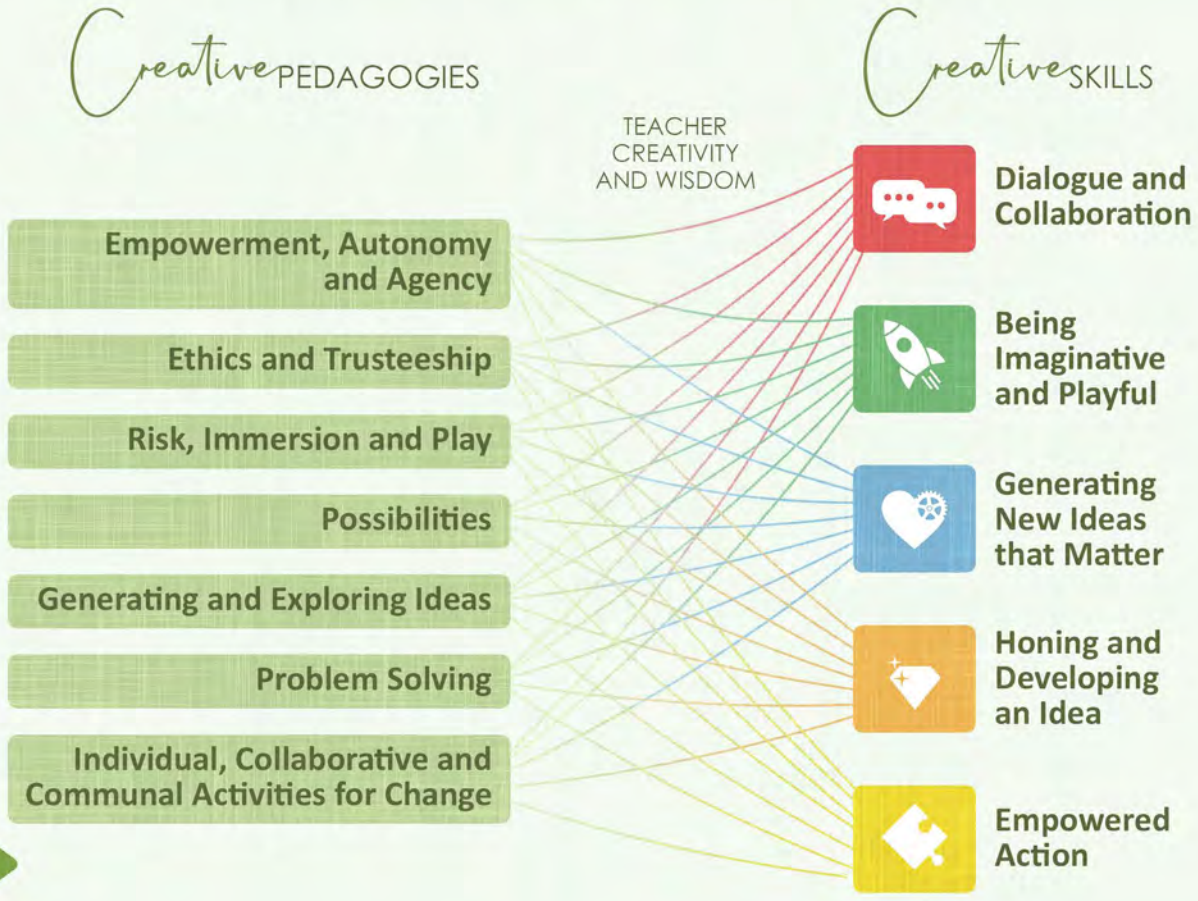
PCC Creative Skills and Pedagogies

PCC defines creativity as: 'imaginatively generating and developing new ideas, processes and products that matter, through empowered action, dialogue and collaboration.'

Resources on the following pages have been developed and used during the 3-year CC programme and include;

- PCC Model of Creative Skills and Pedagogies created with the University of Exeter (UoE), drawing on understandings from the Durham Commission, NACCE Report, key creativity theories (Possibility Thinking, Wise Humanising Creativity, Posthumanising Creativity, Five-Dimensional Model of Creativity, the Australian Curriculum model, the UK QCA Framework), alongside work with teachers, leaders, industry and cultural partners.
- PCC Better Prepared for a Creative Future Framework created during Year 1 as a draft Framework serving as a starting point for moving forward into Year 2. It is based on the PCC Creative Skills and envisages how those creative skills may develop over time, from Foundation Stage to Key Stage 4. Whilst this framework has the potential for further development it has been used across the Penryn Partnership during the 3-year pilot phase.

PCC Model of Creative Skills and Pedagogies



Creative SKILLS

Dialogue and Collaboration

Dialogue, question, communicate and collaborate, in both verbal and embodied ways.

- Question posing/responding; problem finding/solving
- Individual/collaborative/ part of a community
- Negotiating difference, responding appropriately

Being Imaginative and Playful

Use imagination, improvise playfully, and generate and try out possibilities: to go beyond an understanding of 'what is' to consider instead 'what might be.'

- Play
- Imagination
- Considering possibilities

Generating New Ideas that Matter

Combine innovation with critical attention to the consequences of ideas, their ethical impact, and understanding diverse values.

- Innovation
- Considering ethical consequences
- Understanding diverse values

Honing and Developing an Idea

Develop creative ideas, incorporating self-reflection, development of techniques and understanding of the rules, and persistence.

- Reflection
- Understanding rules & consequences
- Persistence

Empowered Action

Foreground pupils' own agency in creative action, their ability to take risks and question accepted ideas, be immersed, and act on creative ideas.

- Risk taking
- Immersion
- Taking action

Creative PEDAGOGIES

Approaches to foster and encourage creativity in the classroom.

Ethics and trusteeship

- Consider the **implications** and **impacts** of creative processes and products.
- Think about *who* **holds the values** in question - now and in the future.

Empowerment, autonomy and agency

- Give students **ownership** of their learning; to act **independently**, giving students **power**.
- Teachers and learners having a sense of **autonomy** and self-determination in teaching and learning.
- **Empower** students to develop and try out their **own ideas**, independently and with others.

Possibilities

- Encourage students to **explore multiple possibilities**.
- Create **spaces** that encourage possibility thinking, shifting from 'what is' to 'what might be'.
- Use **'what if'** questions to narrow or broaden these possibilities.

Teacher creativity and wisdom

- Teachers use **their own creativity** in their teaching and to model authentic creative practices.
- Teachers use their knowledge and intuition to **direct their own creative teaching** and **navigate common tensions** between teaching for creativity and existing school systems.

Risk, Immersion and play

- Make safe space for *teachers and students* to **take risks and make mistakes**.
- Encourage students to become absorbed in an activity.
- Allow for **imagination** and **playful experimentation**.

Generating and exploring ideas

- A classroom ethos of **openness** and acceptance for students' ideas.
- Step back and step in, to **balance control** and **freedom**.

Individual, collaborative and communal activities for change

- Utilise **dialogue** between people, ideas and disciplines, asking questions that lead to new ideas and more questions.
- **Construct** teaching and learning **jointly** developing real-life skills of group work and collaborating, potentially in the wider school and community.

Problem solving

- Incorporate **problem-finding**, exploring, reasoning, reflecting, questioning and experimenting.
- Use **real problems** to motivate and engage learners.
- Find opportunities to work in a **transdisciplinary** way: encourage students to use knowledge and ways of thinking from across the curriculum to solve real problems.

PCC Better Prepared for a Creative Future Framework

	FOUNDATION (EYFS) Typically, by the end of the Foundation stage.	Key Stage 1 Typically, by the end of Year 2.	Key Stage 2 Typically, by the end of Year 6.
Dialogue and Collaboration	Asking and responding to questions based on personal interests to find and solve problems, working collaboratively with highly structured support, to respond to others.	Asking and responding to questions based on personal interests and experiences of the world to find and solve problems, working individually and collaboratively with structured support, to respond to others.	Asking and responding to questions based on personal interests and experiences of the world to find and solve problems, working individually, collaboratively and within a community with support, responding to others to expand their knowledge about the world.
Honing and Developing an Idea	Exploring alternatives and sharing ideas, having persistence.	Exploring alternatives, sharing ideas and developing a range of techniques, having persistence.	Exploring, evaluating and considering alternatives to develop ideas, developing techniques, reflecting to improve ideas and having persistence.
Empowered Action	Taking ownership of creative actions with highly structured support through risk taking, being self-motivated and immersed in activity.	Taking ownership of creative actions with structured support through risk taking, being self-motivated and immersed in activity.	Taking ownership of creative actions with support, through risk taking, being self-motivated and immersed in activity.
Being Imaginative and Playful	Going beyond the obvious with curiosity, asking what if and playing with possibilities.	Going beyond the obvious with curiosity, asking what if and playing with possibilities to try new things out.	Going beyond the obvious with curiosity, asking what if and playing with possibilities through improvisation and being open-ended to try new things out.
Generating New Ideas that Matter	Exploring and generating ideas that are new to them.	Exploring and generating ideas that are new for them and considering the impact of their creative actions.	Exploring, generating and combining ideas that are new for them, considering the impact of their creative actions and how they matter.

PCC Better Prepared for a Creative Future Framework

	Key Stage 3 Typically, by the end of Year 9.	Key Stage 4 Typically, by the end of Year 11.
Dialogue and Collaboration	Posing and responding to questions to find and solve problems, working individually, collaboratively and within a community with selective support, negotiating difference and responding appropriately to others.	Posing and responding to complex questions to find and solve problems, working individually, collaboratively and within a community with highly selective support, negotiating difference, responding appropriately to others' ideas.
Honing and Developing an Idea	Analysing, evaluating and considering alternatives to develop and improve ideas, through reflection, understanding the rules, developing techniques, being persistent and tolerant.	Analysing, evaluating and considering alternatives to craft and improve ideas, through reflection, understanding the rules, developing techniques, being persistent and tolerant.
Empowered Action	Taking ownership of and acting on creative ideas with selective support through risk taking, making mistakes, being self-motivated and immersed in activity.	Taking ownership of and acting on creative ideas with highly selective support through risk taking, making mistakes and questioning to challenge assumptions, being self-motivated and immersed in activity.
Being Imaginative and Playful	Going beyond an obvious understanding with curiosity, asking what might be, purposefully playing with possibilities within the context of different perspectives and trying new things out.	Going beyond an obvious to an increasingly complex understanding with curiosity, asking what might be and purposefully playing with possibilities within the context of different perspectives and trying new things out.
Generating New Ideas that Matter	Exploring, generating and combining ideas that are new for them and perhaps their peers, considering the consequences and how they matter differently.	Critically exploring, generating, connecting and combining ideas that are new for them and their peers, considering the ethical consequences and understanding diverse values.

Sharing our PCC Learning

Learning from PCC has been widely shared, including through...

Press coverage

- BBC Cornwall News
  (5 Nov 23)
- Arts Professional
  (Nov 23)
- Falmouth Packet
  (March 24)
- University of Exeter
  (March 24)
- Education HQ
  (March 24)

Publications

- Chappell, K., & Crickmay, U. (in preparation).
  E*mbodied Dialogic Creativity: Catalysts and Transformations.*
  Creativity Collaboratives Special Issue, Thinking Skills and Creativity.
- Crickmay, U., Childs, S., & Chappell, K. (2024)
  Penryn Creativity Collaborative: Developing teaching for creativity in primary and secondary schools through an action research model.
  Impact, journal of the Chartered College of Teaching.
- Chappell, K., Cremin, T., & Crickmay, U. (in review, 2024).
  Creative Pedagogies in school. In B. Lucas, E. Spencer & P. Sowden (Eds.)
  Handbook of Creativity in Schools. Edward Elgar Publishing.

Conference presentations and teaching

- Chappell, K., & Crickmay, U. (2024, September 8-12).
  Embodied Dialogic Creativity: Catalysts and Transformations.
  [Conference Presentation]. BERA 2024, Manchester, UK.
- Lucas, B., Reid, E., Childs, S., & Chappell, K. (2024, July 11).
  Invited Symposium. Possibility Studies Goes to School:
  Rethinking Curriculum, Pedagogy and Assessment for
  a World of Possibilities, Possibility Studies Network, Cambridge, 2024.
- Childs, S., & Crickmay, U. (March, 2024).
  Penryn Creativity Collaborative – invited seminar for module EFPM907
  Creativity: Valuing, Facilitating and Assessing it,
  MA Creative Arts in Education, University of Exeter.
- Creative Pedagogies Research and Practice in Conversations
  - BERA Creativities in Education special interest group online seminar
  (June, 2023, 50 people):
- Childs (July 23) Royal Opera House Bridge Organisation Head Teacher Symposium
  – hosted discussion.
  Face the Future – the role of Creativity and the Arts in Children's Lives
  Royal Opera House, London
- Keynote Bill Lucas with Childs, Fenton, Teasdale (November, 2023)
  CAPH Conference *Heartlands Happening*, Heartlands, Cornwall.

Podcasts and Webinars

- Penryn Creativity Collaborative in Conversation:
  Australian Council for Research Teacher Magazine podcast, July 2024
- Teaching for Creativity Teach Meet
- Penryn Creativity Collaborative Symposium (March 2024):
  The Importance of Teaching for Creativity
- Childs, S., Chappell, K., & Herring, B. (November 2023).
  A webinar exploring approaches to research in schools and plans
  for the future sustainability of the Creativity Collaboratives Webinar
- Year 1 Report Webinar with Real Ideas Organisation, February 2023 (45 people)

Blogs

- Chappell & Childs, *Penryn Creativity Collaborative*
  invited to speak at leading education seminar,
  Creativity Exchange.
- Reynolds, H. *How do Partnerships evolve and Flourish,*
  Creativity Exchange.
- Childs, S. (2024) *Leading for Creativity:*
  To inspire teaching and learning for creativity across the curriculum,
  Leading for Creative Thinking.

Section B: Capturing the impact of Penryn Creativity Collaboration

In Year 3, Penryn Creativity Collaborative set out to embed and grow, ensuring that teaching for creativity has a crucial place in the curriculum across the Penryn Partnership for the future. The research explores the impact of this by asking four questions:

RQ1: What is the map of teaching for creativity in the PCC?

RQ2: How are teachers using PCC resources and experiences to teach for creativity in PCC?

RQ3: How are students' creative skills manifesting?

RQ4: How does teaching for creativity prepare young people for a changing workforce?

This part of the report includes a summary of the methods used to collect and analyse data in relation to these questions, and then a presentation of the findings, addressing each question in order. The report concludes with a discussion of the findings and implications for consideration as the work moves forward in Penryn and across a wider field as part of the ongoing development of the Creativity Collaboratives programme and beyond via dissemination.

Methodology

A broad cross section of the PCC community participated in the research which utilised a variety of methods.

Participants included:

- Students from Year 2 - Year 10, mostly including those who were part of the Action Research projects that took place in Year 2 of the programme
- Teachers, including the Creativity Collaborative Leads for each school, and also teachers who have not previously been directly involved in the programme.
- Head teachers and senior leaders
- Parents
- Local industry and cultural partners who are members of the Creativity Network
- Symposium attendees: the wider community interested and involved in PCC, including teachers, researchers, members of the participating school communities, Arts Council England staff, local industry and cultural workers

Data collection methods were utilised as follows[1]:

Focus Groups

Nine focus groups were conducted between February-April 2024, each with 4-6 participants, including groups of students from KS1 through to KS4, primary and secondary staff who were not Creativity Collaborative Leads, head teachers, senior leaders, parents, Creativity Network members, and the PCC Lead Teacher. Focus group discussions included semi-structured interview questions, drawing activities, self-assessment using the PCC Creative Skills Framework, and discussion of preliminary analysis of data from the surveys for clarification and to gain deeper insight into topics raised.

Surveys

Surveys were developed capturing attitudes towards PCC Creative Skills and Pedagogies amongst teachers and students, and addressing the impact of PCC experiences amongst teachers. Surveys combined closed questions utilising a 5-point Likert scale (reduced to 3-point scale for students) and open-ended questions. They were checked for accessibility by teaching staff. The survey was completed by 155 students (KS2-KS4) and 51 staff in November-December 2023. A follow-up survey was administered in May-June 2024 but completion numbers were insufficient to yield valid quantitative data; see Discussion for further information. Qualitative data (32 students, 15 staff) from the second survey was incorporated into the overall thematic analysis.

Evidence Gathering Portfolios

Eight schools collected evidence of activity and the impact of PCC at the level of individual students, teachers, and at whole school level across a range of topics. Evidence was presented in a portfolio style document responding to a series of prompts. Portfolios were completed in January 2024, and updated in June 2024. The portfolios were completed by Creativity Collaborative Leads and Head Teachers, with support from the PCC Lead.

Field Notes

Field notes were produced at three events across the year. These included two CPD sessions with Creativity Collaborative Leads where research discussions took place: one focusing on assessment, and one on workforce readiness. The third event was the Symposium, where field notes were taken during a sofa-debate between industry and cultural partners, and during reflection on this debate between a wide cross section of Symposium attendees.

Action Research

Two teachers from Penryn College undertook a second cycle of Action Research, mentored by the UoE team, extending lines of enquiry raised during Year 2 of the project. The approach mirrored that in Year 2, which has been documented in full in the Year 2 report (Crickmay, Childs & Chappell, 2023b). Focusing on assessment, each teacher developed their own line of enquiry relating to the overall research questions this year. Each developed their practice in the area and explored it through collecting data which included student work, interviews with colleagues, their own reflections, and in one case a re-analysis of data from last year. They analysed the data using thematic analysis combining a deductive approach using the PCC Creative Skills and Pedagogies frameworks, and an inductive approach identifying emergent codes. A data synthesis pro-forma and report pro-forma supported the development of a combined action research report documenting findings from the action research this year.

Please see the action research report for full details of findings from this part of the research:

Van Veen, E. Manclark, H. Laing, B. Childs, S. (2024).
What do we learn about assessment from Penryn Creativity Collaborative?
Penryn Creativity Collaborative.
https://penryn-college.cornwall.sch.uk/creativity-collaboratives

[1] All data collection tools are available on request for interested parties.

Analysis

Qualitative Data

Qualitative data including transcriptions of all focus groups, field notes, evidence portfolios and open-ended survey question responses were coded by one researcher. Data relating to RQ2 and RQ3 were deductively analysed in relation to the PCC Creative Pedagogies and Creative Skills Frameworks, and findings are presented in relation to these frameworks. Other data was open-coded and initial grouping into categories was guided by the literature review in Year 1 (Crickmay, Childs & Chappell, 2023a) and related literature (Lucas, 2021; Hartmann, Weiss, Newman & Hoegl, 2020). This was followed by discussion between the research team which helped to define categories and produce and refine themes. Data relating to RQ1 is synthesized into areas of impact, while data relating to RQ4 is presented in relation to emergent themes.

Quantative Data

Survey responses were analysed using descriptive statistics including calculations of mean and modal responses. These provide a broad overview of attitudes towards the PCC Creative Skills and Pedagogies at a fixed point in the third year of PCC, and findings are integrated in reporting with the qualitative data.

Ethics

Ethical permission was gained from the University of Exeter Ethics Committee, and ethical processes have been based on the British Educational Research Association (2024) Research Ethics Guidelines. Participation in the research was informed and voluntary. For the action research, students and other staff members were invited to participate in the research by the teacher researcher. The teaching that provided the focus for the research took place with a full class, but data was only collected in relation to those students who consented to participate in the research, via spoken permission from the young person, and written permission from their parent/carer. Data relating to all participants has been anonymised and pseudonyms are used throughout.

Findings

RQ1: What is the map of teaching for creativity in PCC?

Over the course of three years, PCC has developed teaching for creativity in a diversity of different ways: the programme, and thus the impact, necessarily looks very different in each of the participating schools as it integrates in a bespoke way with wider school values and priorities. The level of integration of teaching for creativity has also been varied – some schools are still working to embed the work, whilst for others, creativity is embedded into lesson planning, woven through the curriculum. The challenge is therefore that the level of integration into everyday practice makes it more difficult to identify and report on.

The findings in response to RQ1 provide a map of the areas of impact: the aspects of school life in which participants report changes in their practices in and around teaching for creativity. In each identified area, a short summary of impact is provided and this is contextualised by a description of a school which exemplifies this aspect of change. Changes to pedagogy and development of students' creative skills are addressed in RQ2 and RQ3 so these are not included here.

Eight of the Penryn Partnership schools have contributed to the research during Year 3 and the findings relate primarily to these schools. The reach of PCC within these schools has increased significantly during year 3 of the project. Whereas the Creativity Collaborative Leads and their classes provided the main focus for activity in year 2, during year 3 all schools report cascading the practice across their school communities. The detail of how this has taken place can be seen in the text below, mapped into the areas of **school culture, leadership, curriculum, assessment, developing creative teachers, collaboration and partnership, areas for development, careers and resources.**

Creative School Cultures

> *'We've opened up the conversation about what creativity is and what it looks like in schools both in the primaries and the secondaries.' (PCC Lead)*

Making creativity part of the culture of a school is complex, and the shift in this direction has been varied across schools. It has been observed in attitudes of 'openness', being more outward-looking through work with external partners, in a 'drive for people to try things out' and in 'staff who have been re-energised' (comments from SLT and head teachers).

Teachers report that the **status** of creativity has risen in a number of the schools. This is particularly notable in the PCC Lead school who commented on how the CC Lead teachers have driven this increase in status through their energy and ownership, together with the platform that has been provided for them and for the project as a whole through school-wide briefings and training. It can be observed across other schools as well, where PCC is now:

- Included in five of the participating **schools' improvement / development plans**,
- Included in whole staff action-plans,
- Being **cascaded upwards** to MAT level,
- Included in whole school visions and values,
- Built into **communications** through the inclusion of logos on worksheets, newsletters, websites and letterheads.

Developing a **shared language** around creativity has been particularly powerful in terms of integrating creativity into school cultures, as has the ownership teachers feel of this language and its integration into their own practice through action research. Teachers feel this has been transformative in terms of their own understanding of creativity, particularly in understanding creativity **beyond an arts context**. Head teachers and industry partners have both commented on how the PCC Creative Skills and Pedagogies language has helped to make creative skills 'feel so much more accessible to a larger group of people' (industry partner). It is noticeable that schools that have not adopted this language have reported lower levels of impact overall.

Parents are part of the culture shift in some areas, but several schools report that more work needs to be done to engage parents, and suggest that consolidating the link to workforce readiness may be an opportunity for building parental 'buy in'.

FLUSHING C of E Primary School

Example School: Flushing CE Primary School

Flushing CE Primary School have integrated PCC Creative Skills into their overall vision by introducing a new set of 'curriculum drivers' that integrate the Creative Skills with their school values: Inspiration, Aspiration and Collaboration. Alongside this, they have launched the 'Flushing Five' – a set of experiences that they expect all pupils to benefit from while at school, emphasising an expanded cultural offer.

Figure 07 Flushing CE Primary School Vision

Creative leadership

Commitment to creativity at leadership level was specifically commented on across five of the participating schools. They described leadership involvement in incorporating initiatives and action research findings into practice, engaging the creative pedagogies in response to OFSTED inspection feedback, and in providing time for staff to work on the project. **Changing staff** at leadership level was seen as problematic in one school and as an opportunity in another where new leadership brought PCC experience with them. A leadership challenge came in the **relationship of the project within MATs**: since the PCC partnership was at school level rather than MAT level, it was the case in a number of the schools that MAT priorities or approaches at this time did not align with PCC work. One of the MATs has been looking for links that could be made to the project, suggesting further development potential via MAT level of leadership in the project.

Example School: Penryn College

Penryn College
"Achieving through Challenge"

Staff at Penryn College noted that leadership capacity is essential to the scale of change that can be achieved in a school, and their integration of creativity into leadership structures through PCC evidences this. With comprehensive involvement from governance level through senior and middle leaders including faculty and character leads, the careers team, the student council and the parents forum, it has been possible to effect wide-reaching change. PCC is woven through Penryn College's school improvement plan, impacting whole school visions, values and a shared language across the school. PCC Creative Skills and Pedagogies are positively impacting curriculum in English, science, humanities, media, creative arts, STEAM, PE and Life Skills with a particular focus on dialogue and collaboration. Creative skills are also beginning to be integrated with personal development through an embedded delivery of character and careers education linked to PCC. Character Skills integrate with PCC creative skills impacting school systems such as tutoring / house systems, achievement manager rewards and assessment feedback. New assessment languages are also being developed. PCC continues to be built into regular CPD and coaching; whilst extensive partnerships with local industry and cultural partners continue to enhance creative learning, provide real-world learning opportunities and consolidate pathways into industry.

Creativity in the curriculum

Every participating school reported changes to their curriculum in relation to PCC. Most of the schools reported a similar pattern of change whereby curriculum design trialled through the Action Research projects in year 2 was being tried with more classes or in more curriculum areas during year 3, with further roll out planned for the next academic year. For some schools, this centred on setting curriculum priorities to be adopted across the school. For others the CC Lead is building creative skills into newly designed schemes of work for a wider staff group to utilise, and for others it has focused around bespoke projects including a gradually wider group of students / subject areas. Schools report curriculum development in the areas of English, Science, Humanities, Maths, PE, Media and STEAM. Forest school was a particular focus for Mabe Primary School (see below), and following CPD from outdoor learning company Alfresco Learning, three of the other primary schools also describe development in this area.

Figure 08
KS2 Forest School Art: Combining Aesthetic and Structural Problem Solving.

Figure 09
Examples from the Faraday Challenge one day event led by the Institute of Engineering and Technology (IET)

Developing skills in the PCC Creative Skills area of **'dialogue and collaboration'** was reported as a priority in curriculum development for seven of the schools, and all except one of these linked this to **an increasing focus on oracy skills**. Teachers explained this link through viewing speaking and listening as important precursors for developing creative skills in dialogue and collaboration. Whilst a dialogic approach is much broader than spoken conversation, the data here shows that a link is often being made between oracy, dialogue and communication and that this is an area where further research could helpfully tease out connections and potentials from these fledgling starting points.

One of the schools (Kennall Vale Primary) has focused on addressing **wellbeing** in the curriculum through creative pedagogies. This priority is not reported by other schools, although it was commented on by parents, students and the creative and industry partners network so may be an area for further consideration.

Example school 1: Mylor Bridge Community Primary School

Mylor Bridge Primary School conducted an action research project in year 2 of PCC which focused on students from one class designing their own enquiry questions in KS2 science, developing their creative skills in dialogue and collaboration. In year 3 of PCC, they have spread this approach across the curriculum by developing an initiative called 'One Big Question' in which students across KS2 design a key question based around an area of prior learning which they research and present responses to. This has extended the PCC approach to science, history and geography. They have added to this a maths enrichment day also focused on developing skills in dialogue and collaboration, and a collaborative science project with another of the PCC schools.

Example school 2: Mabe Primary School & Mawnan CofE Primary School

Mabe Primary School's action research project in year 2 focused on developing creative skills through outdoor learning. Their forest school approach has now expanded to include all year groups across KS1 and KS2, with a focus on weaving creative skills through the curriculum in new schemes of work developed by the schools' CC Lead. This has been further supported by additional CPD provided in year 3 of PCC by Alfresco Learning which was shared by those who attended with all staff via a staff meeting.

At Mawnan primary school, PCC Creative Skills and Pedagogies are similarly woven throughout the curriculum: *'Staff are enthusiastic with regards to employing more creative ways of teaching, thinking and learning but also reflective on what we already do. For example, 'dialogue and collaboration' is really embedded through our oracy development. Science is a key focus and staff are really on board to promote the creative skill of empowered action within the science curriculum.' (Evidence Portfolio)*

Assessment for creativity

Assessment emerged as an area that would benefit from further investigation through the Year 2 PCC report (Crickmay, Childs & Chappell, 2024). Exploration took place in Year 3 through discussions with the CC Lead teachers and through a follow-on action research project in one school.

Discussions highlighted the dilemmas that emerge when considering whether creativity should be assessed, how it should be assessed, and how this may integrate with existing assessment practices within a knowledge-heavy curriculum. Some changes to assessment practices were made at the start of year 3 of the project, notably a reduction in assessment points in KS3 to create more time and space in the curriculum for creativity. The action research project then explored two areas of assessment in more detail: firstly, how to assess for creativity at KS4 when assessment is aligned with GCSE assessment objectives and mark schemes; secondly, how to assess creative skills in science.

Key findings were that:

- In English, the PCC Skills could be **integrated with assessment processes**, developing students' skills in honing and developing ideas, through using pedagogies of 'risk, immersion and play' and 'possibilities.' Teacher support was needed for higher level 'what if' question posing.
- PCC skills could be **aligned with KS4 AQA English assessment objectives** in places, but further work was needed, indicating that creativity and exam content remain in tension.
- In science, students were **comfortable with using PCC creative skills language** for informal verbal teacher assessment, individual and collaborative self-assessment, but peer assessment of creative skills was problematic.
- Also in science, informal formative and **informal summative assessment was valued** by teachers; formal assessment of creative skills was not evident or desired.

Following on from the new action research, Penryn College reports that each faculty is developing new assessment language for 2024-2025 incorporating PCC Skills language for learning.

Please see the action research report for full details of findings from this part of the research:

Van Veen, E. Manclark, H. Laing, B. Childs, S. (2024).
What do we learn about assessment from Penryn Creativity Collaborative?
Penryn Creativity Collaborative.
https://penryn-college.cornwall.sch.uk/creativity-collaboratives

Developing creative teachers

Developing teachers' skills in teaching for creativity has been a core focus of PCC which has been addressed through CPD, action research and coaching – thus addressing teachers' needs to understand their teaching creatively as well as building their capacity to develop creativity in others (Jeffrey and Craft, 2004; Cremin, 2015).

Figure 10 Teacher researchers, leaders and members of the Creativity Network Bill Lucas' Creativity Across the Curriculum workshop

Figure 11 Jess Fenton (Kennall Vale Teacher researcher) and Sarah Childs (Penryn CC Lead) using the Penryn CC Data Wheel during lesson observation with Bill Lucas

All of the schools report engagement with CPD including training delivered by the PCC Lead, the University of Exeter, and PCC cultural partners. Every school reports on cascading learning to a wider group of staff via staff meetings and Teaching and Learning briefings. In individual schools, CC Leads have also led their own CPD sessions based on their Action Research reports from Year 2. Refresher training is already planned in some schools for new members of staff from September. Coaching has been used as a model for developing creativity in several schools.

'I look for more creative ideas when I teach.' (teacher)

'And believe that you can teach [creativity], that it is not just innate.' (CC Lead teacher)

'It has given me a new understanding of the meaning of creativity within the classroom and a range of new ideas to try that are not the traditional "creative" options.' (teacher)

At the level of individual teachers, survey data showed that by December 2023 (i.e. before the significant work to embed the project during Year 3 had taken place), 71% of staff had already heard about the project, 47% had attended a CPD session, 18% recognised that they had received coaching in relation to the project, 47% had received information or training relating to the project in a staff meeting, and 60% had read a project report. 38% of teachers reported the level of impact of the project on their own practice at 4 or 5 on a 5-point Likert scale where 5 = a high level of impact. 26% of teachers reported that they had not yet accessed the project by that date. It should be noted that where the project was fully integrated across school systems, staff may not have been aware that training, coaching or curriculum change was related to PCC, so these numbers may not fully capture impact. Findings thus suggest that PCC has **impacted schools' provision of training and support for teaching for creativity**, and that there is still scope to involve more teachers in the project.

A **concern for the future** commented on by teachers, head teachers, parents and symposium attendees addressed the need to continue to **refresh teachers' skills** in teaching for creativity, particularly as staff moved to new schools, and new staff started. Several of these groups voiced the ambition to extend PCC to **initial teacher education** so that newly qualified teachers would be equipped with the skills to teach for creativity.

Figure 12 Action Research CPD Day 1, 22nd June

Example School: Perran-ar-worthal CP School

Perran-ar-worthal School utilised CPD from 'Imagination Firelighters', delivered by Wyl Menmuir and Anne Murphy through The Writers Block, as the basis for their Action Research project in Year 2. All of the SLT at the school attended these CPD sessions. This was followed up in Year 3 with in-school CPD for all of the remaining staff including teachers and Teaching Assistants. This helped as the school developed a new approach to writing across all years, based on the PCC Creative Skills and Pedagogies. It was also spread to other curriculum areas: the science lead delivered their own staff CPD to link the PCC skills to the science curriculum following their involvement in the project. The school now reports increased opportunities for creativity across the curriculum, particularly in English, science and forest school; they observe 'engagement in every writing lesson' and although they consider that it is too early to track the change statistically, they believe they can see an increase in writing attainment across the school.

Collaboration and partnership

PCC has provided a wide range of opportunities for collaboration, as exemplified through the PCC Symposium which brought together primary and secondary schools, teachers, students, parents, researchers, cultural and industry partners, funders and other partners to share practice.

Figure 13 From Imagination Firelighters CPD hosted by Penryn College, February and March 2023

Partnership and collaboration has been the model for how the project has been developed and delivered, and can now be seen embedded in the practice of several of the schools who are for example:

- Collaborating with leaders and schools across the PCC
- Working regularly with high quality visits and visitors to bring learning to life
- Developing resources to support teaching for creativity with cultural partners
- Engaging in CPD with cultural partners
- Connecting PCC work with partnerships with Primary Careers Hub / Cornwall Careers Hubs
- Supporting pathways to the workforce through links with Young and Talented Cornwall, and developing knowledge of post-16 apprenticeships
- Co-developing projects in school with industry partners
- Linking with the local community through arts festivals
- Disseminating practice through existing partnerships such as MATs and the Cornwall Association of Primary Heads and Cornwall Association of Secondary Heads.

One of the cultural partners linked this aspect of PCC directly to the **heritage of Creative Partnerships** which demonstrated both the educational and economic gains of engaging in creative partnership practice (PWC, 2010), thus emphasising the importance of continuing to nurture this dimension of the project.

Example School: Kennall Vale School

Kennall Vale School, a small village school, has utilised collaboration and partnership both within its pedagogy and within its approach to developing teaching for creativity further, making the most of PCC to draw on a broad range of expertise. Developing a 'Learning Friends' project through action research helped students of different ages work together, emphasising skills in dialogue and collaboration and this has subsequently been adopted as a model for learning in every class. As part of a Truro and Penwith Trust, Kennall Vale are currently developing connections between the PCC skills and the MAT Teaching and Learning Rubrics, thus also utilising this collaboration to develop creative teaching. They have also connected with other schools in the PCC partnership to share practice, connected through CPD and conversation with cultural partners, and engaged with the UoE widening participation team on a science week.

Areas for development

'We're not finished.'

'I'd say we're just starting.' (Head Teachers' focus group)

In its third year, PCC is a project which is still developing, and this is seen both in reference to future plans and to ongoing challenges reported throughout this document.

The most widely reported barriers to developing impact from PCC were **time and capacity**. This has been particularly difficult given the small scale of several of the rural primary schools involved, where most staff cover several different roles, many are part time, including senior staff. This impacts staff capacity to develop curriculum change and has led to some staff members feeling overwhelmed with responsibility to effect change for the whole school. Exam-periods, a 'congested' curriculum and staff absence have also impacted staff capacity to focus on teaching for creativity.

As a wider group of staff has become involved, work continues to be required in **developing understanding of creativity**, in changing (negative) pre-conceptions about what creativity is, and in securing commitment from staff, convincing them that the project will have a positive, worthwhile impact on workload and the curriculum. Changes in staffing, including leadership and administrative staff have presented challenges. It is a concern for several schools to consider how to maintain priority with governors, or to further involve governors and parents in the project.

Schools have many **competing priorities**, and particularly in the case of schools that are part of MATs, there has been concern that teaching for creativity is not the first priority, or that it is possible that PCC will be 'diluted' where multiple initiatives are taking place at once. Two of the schools also mention concerns around **costs** associated with the project.

Linking creative skills and careers

The focus on developing creative skills for the future workforce has led to developments in schools' careers education in relation to PCC. In Penryn College, a secondary school, this has comprised development of an existing careers programme (see below).

Figure 14 Penryn Partnership Primary Skills and Careers Fair, February 2023

In several primary schools it has prompted new work in the area of careers, particularly through connections with the Cornwall Careers Hub and Primary Careers Hub, and through engaging with PCC partners in this area. One primary school has engaged with the Accelerated Skills Builder programme to develop this aspect of their work further in 2024-25. Several primary schools note that considering the purpose of careers in the curriculum is an area that needs more consideration moving forwards.

Penryn College
"Achieving through Challenge"

Example School: Penryn College

Penryn College aims to deepen the delivery of careers education throughout the curriculum building on their current offer through Personal Development and Character Skills. They have been exploring with Cornwall Careers Hub how the PCC Toolkit could become integrated as an example of developing Gatsby Benchmark 4 'Linking curriculum learning to careers' (Gatsby, 2024). The 8 Gatsby Benchmarks are the statutory requirement for all schools, forming the foundation for a careers strategy. Some subjects are developing their curriculum especially building on more real-world learning opportunities.

Resources

PCC has impacted the development and use of resources for teaching for creativity, notably through the **PCC Toolkit** (as described in Section A of this report): four of the schools reported sharing and / or utilising the toolkit which suggests there is **scope to extend impact** through this resource. Further resources continue to be produced to add to the toolkit and in addition to this, individual schools have produced in-school resources which support their own teaching for creativity. For example, Kennall Vale Primary School is creating graphic organisers for science with the PCC Skills highlighted, supporting the development of creative skills through science teaching in this school.

Example School: Penryn Primary Academy

Penryn Primary Academy have focused on the creative skill, Dialogue and Collaboration, and through their Action Research they explored how this could be supported through the use of a visualiser as a learning resource in the classroom. They followed this up by securing a visualiser as a resource for each classroom. Classroom observations show that teachers are using visualisers to model learning and suggest that this is helping students to reflect on their own work, and to stay immersed in their learning.

RQ2: How are teachers using PCC resources and experiences to teach for creativity in the PCC?

This question was considered through both quantitative and qualitative data relating to the PCC Creative Pedagogies Framework – a framework based previous empirical studies of creative pedagogy. A summary of the quantitative data is provided, and this is then contextualised through the qualitative data that has been analysed in relation to the Pedagogies Framework.

Quantitative Findings

An overview of teachers' attitudes towards the PCC Creative pedagogies was developed through a survey which was completed by 51 teachers including 22 secondary and 29 primary teachers. This included teachers who had undertaken Action Research last year and also teachers who were new to the project or had not encountered it at all. They indicated their agreement with a series of statements relating to how they used the PCC Creative Pedagogies using a 5 point Likert scale where 1=totally disagree and 5=totally agree. Scores for all statements relating to each pedagogic feature were combined and a mean score calculated. Results are shown in figure 15.

Figure 15 Teacher self-assessment of pedagogic features

Results show that the creative pedagogy teachers report using most is encouraging **empowerment, autonomy and agency**. This is ranked considerably higher than last year, and mirrors attention being given to this approach through action research last year. The one which teachers report using least is facilitating **ethics and trusteeship** – this is in line with last year. These results are mostly mirrored by the quantity of qualitative data provided: here there was most attention on **individual, collaborative and communal activities for change**, but otherwise the quantity of data matches the level at which teachers report that they are using each pedagogy in the survey.

Results were also calculated for individual components of each pedagogic feature which provided a more nuanced understanding. Through this measure, the aspects of teaching for creativity that teachers reported utilising most often were **developing a trusting space in which mistakes were possible; encouraging students to express themselves**, and **encouraging dialogue between people**. The aspects of teaching for creativity that teachers reported using least were **thinking about ethics of creative process and products in teaching; allowing for conflict and irreconcilable difference** and **encouraging students to think about the ethics of their creative processes and products**. The latter perhaps reflects the fact that ethics is not commonly considered within creative pedagogic frameworks and practice and is therefore taking longer to embed than other pedagogies.

Qualitative Findings

It is important to understand the PCC Creative Pedagogies Framework as an integrated model that highlights different aspects of teaching for creativity that may come to the foreground at any one time within a creative approach, rather than seeing it as a set of isolated teaching methods. This was noted in the Year 2 report (Crickmay, Childs & Chappell, 2023b), and continues to be pertinent to understanding teaching for creativity in PCC. Specific overlap was observed in the data this year between pedagogic approaches that foreground 'empowerment, autonomy and agency', and the climate of openness to students' ideas that characterises the pedagogic approach 'generating and exploring ideas'. In terms of the development of the theory (Cremin & Chappell, 2019), the latter has more emphasis on bringing ideas to fruition, whilst the former is more concerned with empowerment in terms of actualising capacities. In practice, there is a lot of overlap, and this can be seen as an example of how the different features of the pedagogic approach blend, layer and work alongside each other in teachers' responsive approaches to teaching for creativity.

Each aspect of the framework is now considered in turn:

Empowerment, autonomy and agency

Teachers continued to express their commitment to supporting student empowerment, autonomy and agency as an aspect of teaching for creativity. They expressed the value of it in terms of the independence it gave for students to think for themselves, and the need to respond to students' own interests rather than focusing exclusively on pre-set knowledge. Teachers discovered that '*to allow our children to be creative, teachers need to give the children a bit more control, which means they're not having as much control themselves*' (head teacher) and the challenge of this was acknowledged.

Examples of teachers using this pedagogy included:

- Students being given more opportunities to '*advocate for themselves*', for instance in an expanded role for 'Learning Ambassadors' in one primary school.
- Students being given opportunities to lead their own learning and take ownership of their learning. An example in one school was students devising their own enquiry questions through the 'One Big Question' project. Another school gave an example of carefully selecting a trigger image and open-ended questioning strategy to support students to take control of a discussion topic in RE.
- Use of practical work as a way to support students to try out their own ideas, for example: '*In STEAM, sir let us create whatever design we liked, no limitations!*' (secondary student).
- Encouraging more independent work through empowered action; '*giving students the knowledge and power to know where answers are so they can focus on applying skills*' (Media teacher)
- Finding opportunities for students to express themselves: secondary students reflected on this in relation to drama, art and English.

Ethics and trusteeship

Although only 11 examples of teachers explicitly considering ethics and trusteeship in their pedagogic approach were given in the data, these were strongly integrated with creative processes, including:

- Considering creative responses to global problems
- Considering the impact of literature on society
- Discussing ethical issues around scientific innovation
- Encouraging students to '*lead on global environmental issues*' (primary school evidence portfolio)
- Utilising the arts to work in a transdisciplinary way on topics including war
- Role playing to consider ethical issues in history
- Making use of sustainable materials in a real-world learning project and discussing the issue of sustainable resource management with students.

Risk, immersion and play

Although there was not quite so much emphasis on this approach compared with PCC in year 2, teaching still regularly provided opportunities for risk, immersion and play, through:

- Drawing directly on CPD from Writers Block which emphasised these approaches, cultivating writers who could be '*a bit freer with their work*' as well as helping some of the more 'reluctant writers' to engage more with writing.
- Open-ended play with materials: one school described a '*fossil lesson*' in which students were given clay to make fossils using their own methods, with videos made afterwards to explain their learning
- Immersing in different environments, for example learning about the local area through '*supervised risk-taking, art and discussion*' (primary), making sand sculptures, visiting local sites.
- Using playful approaches such as learning about heating and cooling through watching a solid change into a liquid and then back again, through cooking Christmas decorations; using role play in PSHE as a way to discuss '*real life situations that can cause conflict*'. Although play is a recognised feature of EYFS provision, it was also being used with older age groups, for example in KS3 science where the teacher described ''playing' with neutralisation' to help understand pH or using '*secret codes to mimic DNA encryption*'.

There was recognition from all participant groups that **taking risks** was an important part of learning; one head teacher articulated this by explaining that '*making mistakes is part of the learning process*' – especially in terms of preparing for the future. There were comments that teachers need to be able to model risk taking: one teacher commented that PCC had '*encouraged me to take more creative risks in front of students.*' Symposium attendees commented that if schools were expected to be innovative and bold, then this also needs to be modelled at government level.

Teachers reported that they found **immersive** and **playful** approaches helped students develop knowledge with more '*stickability*' – giving the example of a lesson where students learned about skeletons by going outside and making a model with found materials, instead of simply labelling a worksheet. The teacher found this helped students retain the information more effectively.

Possibilities

Possibility-rich thinking and spaces were generated in a variety of ways for example:

- Providing a range of activities and modes of working from teacher-led workshops, investigation / research tasks, through to opportunities to develop practical work (example given in KS3 Media)
- Allowing multiple different approaches or responses to a given task, for example, giving choice on '*how to represent scientific phenomena that cannot easily be visualised*' (secondary teacher)
- Students and teachers described approaches which encouraged students to broaden their thinking by considering different perspectives or by using multi-disciplinary approaches.
- Using open-ended tasks, such as open-ended questions in maths, or improvisatory approaches in arts subjects; specifically prompting students to think in an open-ended way through use of a '*challenge logo*' (primary school teacher)
- Using 'what if questions' to support students' own creative responses and also to analyse the creative work of others: 'I *think the question skills that the adults have developed as part of this process to allow the children to be creative has been really, really positive*' (Head teacher).

Generating and exploring ideas

Examples were given across Key Stages of teaching which demonstrated a high level of acceptance of children's ideas, including in art, music, media, science, maths, forest school, English, PE and STEAM.

- Arts subjects provided students with multiple opportunities to create 'original pieces' (secondary student) or to '*let my ideas go free*' (primary student), as did '*free writing*' in English where a student reflected '*my teacher is open to new ideas*' (secondary student).
- STEAM provided students with opportunities to incorporate their own ideas in design and examples were also given of students creating their own equations in maths and designing their own experiments in science.
- Teachers described guided tasks which supported students to subsequently generate their own ideas, for example carefully recreating a magazine cover before working on their own designs once they are familiar with the tools in media.

Teachers gave detailed accounts of their skill in stepping back and stepping in to balance control and freedom, and holding the tension between openness and structure in their work. In early years practice, this was a natural way of working, supporting children through an exploratory and play-based approach. However, it was also shown with older students, for example in a project supporting students to plan and carry out experiments to explore catalysts and the effect they have on chemical reactions in KS3 science. The following example demonstrates this approach in action in a KS3 project in STEAM:

'Students in year 8 are currently focusing on a realistic advertising task that involves electrical and mechanical systems. This project involves a multidisciplinary approach and picks up on concepts from all of the STEM subjects. Students are encouraged to produce creative solutions, however scaffolded examples are provided to support students where needed.... All lessons and units of work allow for adaptability as long as key knowledge and skills are delivered.' (STEAM teacher)

Problem solving

Teachers valued a problem-solving approach as a way to bring different areas of the curriculum together, for being inclusive, and for helping students '*learn about the world... learn about how things work*' (primary teacher) without '*spoon feeding them answers*' (primary teacher).

Teachers often combined problem-solving approaches with practical approaches to learning, including in sailing classes, practical application of maths in forest school, instrument building to investigate properties of sound, and through a '*murder mystery investigation*' in an immersive approach to Y7 history.

Problem solving was also seen in enquiry-oriented learning across KS3 English and Humanities, and students were able to give multiple examples of using enquiry skills or problem-solving skills in science, in STEAM including coding and design projects, and demonstrating a problem-solving attitude towards achieving physical challenges in PE.

In STEAM, the 'pyramid of understanding' developed through the action research project in this area in year 2 continues to be used as a scaffolded approach to problem solving. Students are using it '*for breaking down bigger problems and developing solutions. [It is] used at the start of a design project to analyse and support creating a solution.*' (Evidence portfolio)

Figure 16 Pyramid of understanding

Individual, collaborative, communal activities for change

Mirroring the commitment of multiple schools to focus on the creative skill 'dialogue and collaboration', a wealth of references were made to pedagogical approaches which foregrounded individual, collaborative and communal activities for change. This is consistent with findings in year 2 where collaboration was found to be the most pervasive pedagogic strategy used across the action research projects.

Teachers continue to use collaboration as a core approach for supporting the development of creative skills across all key stages and subjects. Examples included:

- Collaborative approaches to writing, which one teacher described as '*something that's really different for me*,' observing how it helped students develop their work beyond their regular individual efforts.
- Drama – where students were given '*clear guidance on what successful group work looks like and how they can actively listen and respond to each other.*'
- Roll out of the 'learning friends' project developed through the Action Research in one primary school, which is based on a collaborative, playful approach.

Most examples given involved collaborations between students, but in some cases the role of the teacher was made more explicit, demonstrating a co-constructed approach to learning. For instance, to support collaboration in an early years context, the teacher noted that '*Supportive adults will be on hand to enhance resource provision for [collaboration], to suggest ways to navigate any conflict, and to ask questions to encourage the children to develop their ideas further.*' Students also made a number of references to teachers helping them to develop understanding. This could be seen as simply good teaching practice, but could also be linked to Beghetto and Kaufman's (2007) conception of mini-c creativity which is concerned with the creativity involved in constructing personal knowledge and understanding.

Engagement with community was mentioned by two of the primary schools as an aspect of their teaching, including at Flushing Primary School where students worked with a local artist to create a school mural.

Dialogue was described most often as a spoken conversation between people – for example 'using discussion across all subjects,' 'working on *'ABC' answers – Agree, Build on and Challenge*' or through multiple references to oracy. This mirrors the quantitative data where the aspect of collaboration most highly rated was encouraging 'dialogue between people.' However, wider conceptions of dialogue were also apparent, for instance pooling ideas in different media, working in a transdisciplinary way supporting dialogue between subjects, linking experience and theory, or students exploring well known artworks by creating their own works in response. One student reported *'my teachers let me link ideas and to develop my understanding of the knowledge.'* This could be as a result of the unique focus on dialogic creativity in the PCC model inspired by UoE research in this area (Chappell et al., 2019).

Teacher creativity and wisdom

As in Year 2, teacher creativity and wisdom is more apparent in the evidence of inventive and reflective teaching practices than it is through direct comments on this topic. Three teachers particularly commented on how PCC had allowed them to become more reflective in their own practice; one talked about how the project had help them consider how creative they were being in their planning, and one explained that it had *'empowered me to explore, create and enhance my delivery ... in a self-reflective, growth mindset.'*

Only one teacher reported sharing their own creative work as a model, and one other teacher described realising that *'some aspects of the scientific process ... are inherently creative ... I just need to bring them front and centre.'* Parents and cultural partners both commented directly on witnessing teacher creativity, observing that PCC was not only about nurturing pupil creativity:

> *I was so moved by the feelings of the teachers. I sat in on the primary school workshop particularly; their feelings, ... of their having [creativity] back in their world was, was important... I feel like this project takes really seriously all ages and all levels and the changes happening not just for the ... students, and I think that's incredible'* (Cultural partner)

RQ3: How are students' creative skills manifesting?

Findings in relation to this question are drawn from both quantitative and qualitative data relating to the PCC Creative Skills Framework. A summary of the quantitative data is provided, and this is then contextualised through the qualitative data that has been analysed in relation to the Skills Framework.

Quantitative Findings

Perceptions of students' creative skills have been tracked through two surveys: 51 participating teachers were asked to assess the skills of a selected class, utilising a 5 point Likert scale where 1=poor and 5=excellent. 155 Students from KS2-KS4 were then asked to self-assess their own level of skill in each area by indicating level of agreement with a series of statements relating to each skill which were prepared in age-appropriate language. Students used ratings 'a little bit', 'some' or 'lots' which were given numeric scores during analysis, and mean values were calculated.

Results are shown in figures 17-19.

Figure 17 Teacher assessment of students' creative skills, scale 1-5

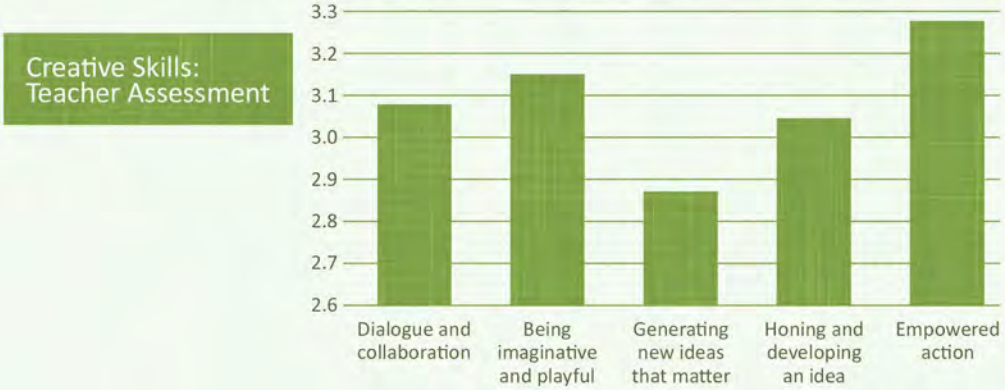


Figure 18 Student self-assessment of level of creative skill, scale 1-3

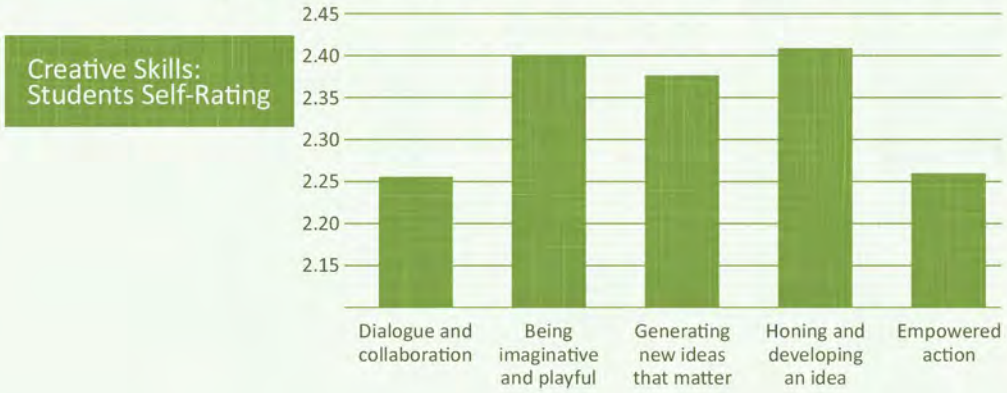
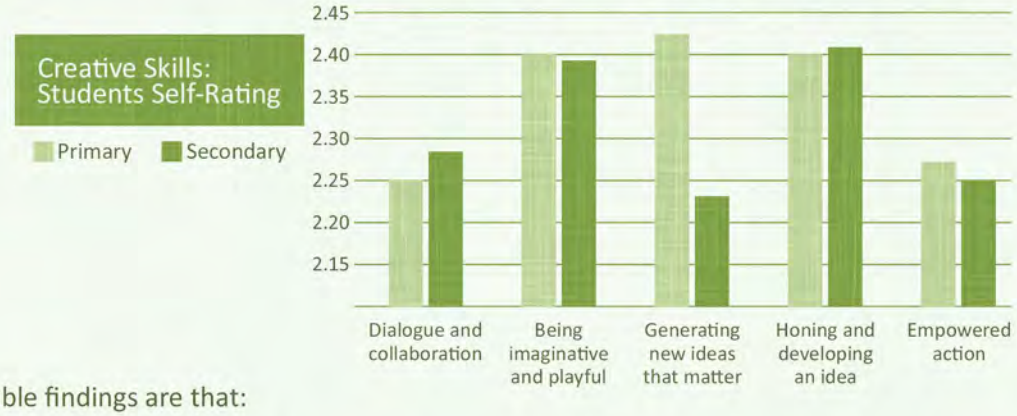


Figure 19 Primary and secondary student responses compared



Notable findings are that:

- Responses are quite clustered: a large scale has been used to help visualise the findings in the charts above, but the range of responses is small in both teacher and student responses, displaying only small differences between perceived level of ability across the different creative skills.

- There are notably different patterns amongst student and staff responses: Teachers rate students most highly for 'empowered action', whilst students rate themselves almost lowest in this area. Teachers rate students least high in 'generating new ideas that matter,' but students rate themselves higher in this area. Further insight into these differences is provided through the qualitative data, below.

- Comparing primary and secondary results shows that it is the primary students who are giving higher self-ratings of 'generating new ideas that matter,' raising the overall mean result for students for this skill. In the qualitative data, younger children were happy to describe everyday activities in terms of innovation, so it may be that this skill seems more unobtainable as students get older, perhaps explaining the lower level of assessment in this area from teachers as well.

- Other skills are self-assessed at a more consistent level across primary and secondary students: it is worth noting this in relation to patterns in the qualitative data where for instance comments on ' imagination and play' are less prevalent in relation to older students, perhaps indicating less attention rather than less skill in this area.

Results were also calculated for detailed components of each creative skill which showed a slightly wider range of responses. Here students rated themselves most highly in the areas of understanding diverse values, using imagination, and persisting. They rate themselves lowest in the areas of working communally, taking risks and asking questions.

Teachers by contrast rated students most highly in the areas of immersion, considering possibilities and asking and responding to questions individually. They rated students lowest in the areas of considering ethical consequences, working communally and understanding diverse values.

The diversity of responses here would merit further consideration.

Qualitative Findings

Dialogue and Collaboration

Mirroring the overall curriculum focus on developing students' skills in dialogue and collaboration, and in common with the dialogic model of creativity being used, this was the largest set of data in relation to students' skills. As noted in RQ1, some of this data related to speaking and listening, to oracy, or to working collaboratively in general, and the link to specifically creative skills in this area was not always clear.

There were a wealth of examples of students utilising their skills in **working collaboratively**, as exemplified by one KS2 student, *'we do millions and millions and gallions of working together.'* Students gave examples of using creative collaboration both in and out of school, including in sport, playtime, carpet time, reading, table talk, maths, STEAM, science, English and socialising. Some students also described limitations in their collaborative skills, including lacking confidence to engage fully in collaborative learning and finding it hard to *'explain my thought process to other people'* (KS4 student). Students valued the development of collaborative skills for making learning more enjoyable, helping them concentrate, broadening their views, developing their subject-related ability and developing skills for the future; some students would welcome more focus on collaboration at school, in relation to the last of these points in particular.

Teachers observed students' creative skills in collaborating across a wide range of different contexts. For example, in science a teacher observed:

> *'They asked and answered questions in their groups without any adult prompting. They then discussed and voted on how they were going to classify the animals and compared their answers with other groups.'* (Year 3 teacher)

Teachers were able to make individual observations of student progression in relation to collaboration. Examples included students: increasing in their understanding that sharing ideas is important; increasing emotional regulation leading to more ability to listen to other students' views; moving from an analytical but inflexible mind-set to an enthusiasm for working collaboratively; moving from primarily listening and not sharing ideas to taking on the role of a facilitator.

Students described the challenges and pleasures of learning to **negotiate difference and respond appropriately**: In KS1, an example was given of the playground challenge of different children joining a game and how that can *'change what you're doing,'* not always for the better: a similar sentiment was expressed by a student at KS4 about collaborating in the classroom. However, other students described how collaborating with each other was more rewarding than simply receiving a good mark from a teacher:

> *'I like the fact that, 'cause we have different ideas that we can make one, like, better idea and have... 'cause we've got, like, different points of view. It makes you think of things differently.'* (KS3 student)

Teachers were able to notice progression, for instance observing students' skills in mediation and managing classroom dynamics.

> *'Student 1 has had a really positive two terms, she is more resilient and receptive to change and new things.'* (Primary school evidence portfolio)

Students developed their skills in **question posing and responding** in a variety of different ways. A strong example of this was provided by Mylor Bridge Primary School, whose students worked on developing enquiry questions in science:

Students and teachers also reported developing student skills in **problem solving**, with specific examples given in forest school (fire building; sculpture making), KS3 science, media, geography, Chemistry and STEAM.

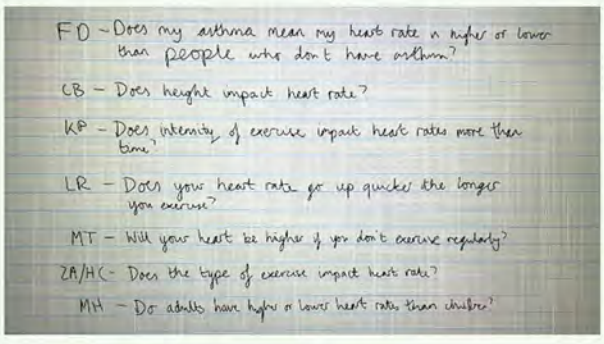


Figure 20
Mylor Bridge Primary School Enquiry Questions

Being Imaginative and Playful

There is a notable bias in the data relating to being imaginative and playful towards examples given in English, art, drama and media and towards the younger age groups. Examples in science and at secondary school were given, but they were less common. When students were asked about which creative skills they used **outside of school**, their examples most commonly related to being imaginative and playful (44% of responses), whilst students in the KS3 focus group were not sure that there was time to be imaginative and playful at school, or that it was appropriate for students who were aiming for the higher grades.

Although there were a range of examples of pedagogies that supported **possibility thinking**, not much data was collected which related to students' skills in this area. Discussion of pedagogic approach show that teachers value students' ability to take things in '*multiple different directions*' (drama teacher) or '*finding ways to do [things] differently*' (KS4 student). It is thus likely students may be developing these skills but more evidence is needed to explore this further.

Key stage 1 students were able to think of several different times they developed their skills in **imagination**, including playing with soft toys at home, trying to imagine stories that were being read, and using imagination in drawing. Secondary students also recognised imagination was important in relation to Media, combining this with group work and knowledge. Teachers observing progress in this area connected increased imagination with developing resilience for overcoming challenges.

Teachers observed that children in the early years immersed themselves in self-directed **play** on a daily basis; other examples of developing skills in play almost all related to English. In relation to an 'Imagination Firelighters' session, one teacher noticed that his students were strong at generating new ideas, but less strong in improvising or playing with those original ideas: '*I think this reluctance to improvise was because the metaphors were very clear to the children and, therefore, struggled to deviate from the initial idea*' (primary teacher). Other teachers noticed how developing playfulness had helped their students with their writing skills; one commented on the playful qualities of their students' writing, highlighting imagery such as describing mountains as '*soaring-high giants looking down from high above connecting the earth to the sapphire-blue sky*' (Example writing, KS2 student).

Generating new ideas that matter

There were a good number of examples of students from KS1 through to KS4 generating new ideas that matter, with the focus of skill development in this area being primarily on **innovation and idea generation**.

KS1 students spoke confidently about their ability to innovate both at home and at school, fluently understanding this skill in terms of their everyday experiences of gaming, crafting, understanding questions and working across disciplines in school: '*I come up with ideas, like, when I've been asked a question. I come up with lots of ideas and sometimes it's not actually the answer. But it could actually work.*' (KS1 student)

Teachers and students both felt confident that this skill was being nurtured in English at different levels; one of the KS2 students commented '*In English……obviously you get praise if you do good…you know, if you, like, have good ideas.*'

Students in the KS3 focus group were not convinced that there were many opportunities to generate new ideas at school: they felt that on the whole, '*let's say in science, you're told what experiment to do, you do that experiment*'. In more extended discussion, the KS3 group could in fact provide examples of lessons in which they had developed skills in innovation including in 'music enrichment,' creative writing, art, some science lessons, and in STEAM. The KS4 student focus group also felt that the scope to generate new ideas was limited at school, in their view because of the lack of opportunities to spend long enough on projects or activities where you create your own ideas.

There were differences between individual students: some found the innovation stage easy, and struggled more with '*figuring out how to execute it.*' Others found '*I just find it hard trying to start, like, a project with a new idea that I have to come up with. Once I have that idea I can go with it.*' (KS4 student). Examples were given in English, media and art that supported these different stages of the creative process.

There were few responses that related to the skill of **understanding ethical consequences** – examples were given of writing that took in an environmental context, of thinking about materials used in house design, and of students' ability to engage with ethical issues such as understanding global problems and raising ethical questions around the dropping of the atom bomb.

There were likewise few examples given of students demonstrating that they could **understand diverse values**: all of the examples except one related to RE, suggesting that it may be useful to provide further input on what this skill might look like in other subjects in order to help teachers identify and support it.

Honing and developing an idea

This was the creative skill that students self-assessed themselves mostly highly in through the survey. KS4 students attributed this to having some hesitancy in taking initial steps in being creative, but having more confidence to develop ideas once they were initiated. Teachers were able to identify students showing their skills in this area in subjects such as BTEC music, KS3 science, in developing collaborative ideas in drama and through analysing the steps needed to realise a creative idea, using the example of creating a film from an existing book.

One primary school gave detailed examples of students developing their **reflective** learning skills over the course of the year, modelling tasks to support students' subsequent independent reflection. This linked closely to the metacognitive strategies that one of the KS2 students explained during a focus group – utilising a process of plan, monitor and evaluate to help them with their reflection. Parents expressed concern that there was not enough time to reflect and redraft work in school compared to in a real-life scenario, and some students expressed their reluctance to engage in reflection or revision.

Time was mentioned again in relation to **persistence**: '*So for each topic we do it always seems like we're rushed and we've got lots of things to fit in*' (KS3 student). Feedback from others indicated that the level of challenge and perceived success had to be just right to nurture students' persistence – too easy and the students were reluctant to spend time improving it, too hard and they may give up. However other students described their skills and enthusiasm for making things better, both in and out of school: '*in art, even if you mess up and you don't know...you don't like how it looks, you always keep going and find a way to make it look better.*' (KS2 student)

There were few examples found of the creative skill **understanding rules and consequences** and this is an area that could be explored further.

Empowered action

This was the skill that students self-assessed lowest in the surveys: in discussion, KS4 students suggested that this was to do with many things in school being '*safe*' or '*the same*', as well as an overemphasis on being told '*what we can't do*'. Interestingly, this view was reinforced by parents who suggested that there was too much focus on learning '*certain ways to answer certain questions for exams.*' It was echoed in the KS1 focus group where some students reflected in relation to '*doing things my own way*' that '*we barely do it*', with the exception of playtime. Qualitative data was notably lacking in relation to the skill **taking action**.

However, in other areas of the data, other perspectives were put forward. According to the survey data, teachers rated students' skills in **empowered action** most highly amongst the creative skills and observed increases in this skill evidenced by an increase in a '*can do attitude*' and willingness to trial and test ideas. KS2 students described art as a subject where there is a lots of freedom for empowered action, saying '*art can be anything*'. One school observed a tension between on the one hand children becoming enthusiastic and taking ownership of their learning and on the other children veering away from curriculum objectives. It may be this tension that can lead participants to have opposing views on opportunities for developing these skills – perspectives may be very different.

Teachers described careful interventions to support students to **take risks**, scaffolding the confidence of individual students to help them share their ideas. One teacher noticed that their class who had taken part in the Action Research project last year based on Imagination Firelighters, '*really understand the idea of like risk taking and using these skills really well*'.

Immersion continued to be a focus skill in some classes, including KS3 humanities and those continuing with the 'Imagination Firelighters' approach to writing. The issue of time continued to be raised in relation to immersion: '*in school you're normally really busy with other subjects and your mind is normally full to the brim with questions*' (KS2 student), but subjects such as art that students found more '*mindful*' provided a contrast to this.

RQ4: How does teaching for creativity prepare young people for a changing workforce?

Three main themes were evident in the data addressing this question, which were Aspiration and the Cornish workforce, Creativity and positive engagement with a changing workforce, and Pathways to success. Links with PCC are emergent in this data which reinforce the PCC creative skills and pedagogies as a positive basis for preparing young people for a changing workforce, whilst further developments and avenues for exploration are also suggested.

Theme 1: Aspiration and the Cornish workforce

A lack of aspiration and low aspirations are repeatedly cited as issues impacting the readiness of young people for Cornwall's changing workforce by participants in this project. It therefore became a priority to understand this issue through the particular lens of PCC. Data in this theme explores the issue of aspiration in relation to PCC and highlights areas where it is being addressed in relation to **life experience and cultural capital, role models and mentors, developing awareness and understanding of local opportunities, learning to leave (and stories of staying)**, and **nurturing self-belief and confidence**. Aspiration remains a core area for development.

Life experience and cultural capital are seen as key to aspiration, as lacking in many children and young people, and as challenging to develop within the geographical context of Cornwall where there is limited access to large cultural centres.

> *'It's very difficult to be aspirational if you have no sense of what else might be happening in the world.'* (Industry/ cultural partner)

These are aspects of workforce readiness that cultural organisations engage with directly in their work with schools and communities, including through PCC. Schools observe the importance of developing cultural capital in relation to place, understanding the history and culture of Cornwall. Cultural partners also consider that this is important in supporting students' sense that their aspirations may be achievable rather than something 'removed' from their everyday lives.

Role models and mentors are seen as important in supporting aspiration, and experiences during PCC which have included students experiencing the work of creative professionals whether in science or writing have been seen as valuable in this respect. The importance of having an adult to champion you is seen as particularly important for students attending schools in rural and coastal areas, some of whom come from the most deprived 20% of the demographic nationally and may not have family expectations of success in science, engineering or other creative careers.

> *'If you surround yourself with the people that have had those experiences, you can learn a lot from them.'* (Industry / cultural partner)

It was noted that when teachers were able to utilise their own creativity then they could be powerful role models for students: concern was expressed by some participants that this potential was not well supported by the current context for teaching on a national level. Further exploration of the role of mentors would be valuable.

Developing awareness and understanding of local opportunities was commented on by industry partners and schools as important for aspiration. It is an area in which PCC has made some impact through its links with local industries, and through providing real-world learning opportunities. However, the concern prevails that more needs to be done to make the quality and diversity of local opportunities visible, emphasising areas in which Cornwall is at the cutting edge of development and also raising awareness of the diversity of roles that are available within any one industry. The seasonal nature of much work in Cornwall was acknowledged as an ongoing challenge. Building awareness of self-employment and remote working as significant models for work in Cornwall was also noted.

Learning to leave, or the 'story of leaving' (cultural partner) was a phrase used to describe the lack of aspiration around local opportunities, and associated emphasis on young people leaving the area in order to progress with their careers. Countering this were comments from industry and cultural partners in particular about the importance of the Cornish workforce being both locally driven and outward looking, globally oriented, having aspirations beyond the borders. Connecting culturally with expertise from outside the area was seen as something that could play a role within 'stories of staying' – enriching local culture by siting it in a broader context:

> *'What came up for me ... is the wanting to open people up to the world but also wanting people to know that they can do what they do in Cornwall, and what that relationship looks like.'*
> (Industry/cultural partner)

The importance of ***nurturing self-belief and confidence*** were commented on by all participant groups in terms of developing students' aspirations and also their readiness to work independently in the workplace. One of the teachers noted that this was linked to attainment, and industry partners commented that it was important for children to see themselves as creators, initiators and inventors in order to develop their self-belief.

There were multiple observations by teachers of students developing their confidence both in and through creative skills, for example:

> 'All pupils made progress towards feeling more confident in their own abilities.'
> (Primary School Evidence Portfolio)

> 'This could be so powerful because not only are we joining, you know, primary secondary, but it is that getting ready for work and ensuring that children have got that opportunity to be more confident.'
> (Head Teacher)

Theme 2: Creativity and positive engagement with a changing workforce

This theme brings together the PCC definition of creativity (imaginatively generating and developing new ideas, processes and products that matter, through empowered action, dialogue and collaboration, see page xxx) with the concept of resilience in the workplace (Hartmann et al, 2019). Together, these have helped to interpret data representing participants' views on positive engagements that are possible within a changing workforce, and the role of PCC Skills and Pedagogies in relation to this. Key areas considered are **resilience, empowerment, collaboration and communication**, and **wellbeing**. Comparing this to the Year 1 PCC Literature Review (Crickmay, Childs & Chappell, 2023a) it is notable that mentions of the climate emergency and issues of sustainability do not appear in this data and this is an area that would benefit from further consideration.

Resilience was widely seen as an important attribute for young people to develop in order to thrive in their diverse future pathways. Parents linked resilience particularly to the ability to reflect, being open to feedback and building on mistakes. Industry and cultural partners similarly described it in terms of the ability to persist, accepting failure and learning from it, and recognizing that success will take time and stamina. Teachers also perceived this as an important skill, seeing it as important to give students the time and space to fail and build on that. Reflection, persistence and risk taking are integrated into the PCC Creative Skills and Pedagogies frameworks so these discussions reinforced the design of these frameworks in relation to workforce readiness.

Another factor in resilience as seen by parents, cultural and industry partners and teachers, was positivity. They related this both to positive self-regard, and to having a positive attitude towards engaging in the process, not just focusing on successful outcomes. A need for adaptability was also widely commented on. This took in the context of Cornwall itself changing, workplaces going through ongoing and unpredictable changes driven by technology and the growth of AI, and the likelihood of young people engaging in multiple careers over the course of their working lives. Industry partners urged young people to recognize that they did not only need to adapt, but also be empowered to influence the changes happening.

Each of these aspects of resilience – reflection, persistence, positivity and adaptability – was linked by participants to problem solving, seen as a core skill for a future workforce by students, teachers and employers alike. For instance, asked about how they might use their creative skills in the future, students responded:

> *'Thinking about what to do in difficult situations'* (student)

> *'I need to be able to prepare myself for problems and how to counter or seek help about them.'* (student)

Teachers were able to provide multiple examples of problem-solving skills being cultivated through PCC at primary and secondary level, as seen in the findings relating to RQ3.

Empowerment was seen as an important dimension of engaging positively in a changing workforce. It was described in relation to student agency, having a sense of purpose, having confidence, and the ability to be independent and self-motivated.

Teachers expressed concern that students needed more opportunities to develop their own sense of agency through risk taking and engaging in real-world scenarios, including taking action. Others provided evidence that these skills were being developed in students, particularly in the core groups who had participated in the PCC Action Research projects.

Having a sense of purpose was described by one of the industry partners as being fundamental to success in the workplace and linked to 'staying true to what excites and inspires you' (cultural partner). Teachers and cultural partners both described it in terms of students finding the 'thing they're passionate about' and suggested that this was another area in which experiencing a variety of role models was important.

Overlapping with comments above on aspirations, developing confidence was seen as important in relation to a sense of empowerment. Both students and teachers connected this to the ability to act independently. This included a need for self-discipline, being self-motivated, and being able to bring their own ideas forward, including in a team context:

> *'To be confident enough to be proud of your work and push forward to develop your possibilities.'* (Student comment on developing creative skills for the future)

Collaboration and communication are considered to be core aspects of resilience in the workplace (Hartmann et al, 2019), and are thus positioned here as a dimension of engaging positively with a changing workforce. Industry partners emphasized the importance of these skills within the workplace, from interviews through to many different work scenarios. Teachers were able to describe how they were building these skills through utilising the PCC Creative Pedagogies, as described in full in the findings relating to RQ2.

> *'There are many opportunities where children can work collaboratively. Classes are set up so that children can sit together in groups to share their learning, ideas, pose questions and work together to solve problems.'* (Primary School Evidence Portfolio)

Wellbeing, which has been a priority in one of the participating schools in PCC, was also linked to resilience in the workplace and positively linked with creative skills by students. Parents note wellbeing is a more important issue in a post-COVID context, especially with the associated increase in home-working. Cultural partners commented that workplaces were slowly becoming more concerned with issues of wellbeing and that young people with more awareness in this area may be able to drive positive change.

Theme 3: Pathways to success

Understanding pathways into the workforce was seen as a crucial part of preparing young people for the changing workforce of the future. This was an area in which the evidence suggests that as PCC starts to embed into schools, it is beginning to make a contribution through real world learning opportunities, increased links to and awareness of different industries, and through PCC Skills scaffolding workforce readiness.

Diversity was emphasized: the need to provide creative pathways for the local community recognizing its diversity in terms of socio-economic status, ethnicity and neurodivergence. Parents commented that the accessibility of the current educational offer needed to be considered further in terms of diversity, as did the accessibility of workplaces. Industry partners emphasized the value of a diverse workforce which they actively sought out in order to broaden the perspectives from which they are able to innovate and address problems: '*Developing a product, you need diverse group of people to look at it.*' (Industry partner, sofa debate)

Real-world learning opportunities have taken the form of curriculum projects, exploration of post-16 pathways including apprenticeships, and connections with local industry and cultural partners. This has led teachers to comment that students now have a much better understanding of the way what they do at school can link with local industry, and that they are linking the PCC Creative Skills with future careers. Industry and cultural partners continued to comment on role models being important guides, providing real-world models of pathways to success.

Particular industries that have been emphasized through PCC include the creative industries and STEM industries: these are the industries that were most extensively linked with the PCC Creative Skills by participants including teachers, cultural and industry partners, and students. Students linked the PCC Creative Skills most readily to careers in the creative sector – of 39 references to different future jobs in the student surveys, 14 related to jobs in creative industries, whilst the second most common response was teaching. Teachers made most references to future work in STEM. For example, Flushing CE Primary School planned a science week aiming for all students to have experience of the ways scientific innovation impacts on our daily lives, with the explicit intention that students should be able to '*correlate the importance of collaborative approaches and dialogic thinking with future careers*' (Evidence Portfolio).

PCC Skills scaffolding the pathway: Developing '*greater understanding of the creative skills and their importance in industry*' (Evidence Portfolio) was reported as an area in which PCC was contributing to workforce readiness, and this was reinforced by evidence of students, teachers and industry and cultural partners all being able to participate fluently in conversation about connections between the skills and workforce readiness.

Students most readily connected dialogue and collaboration (50% of responses) and generating new ideas that matter (25% of responses) with skills they would need in the future. They saw dialogue and collaboration as important in terms of teamwork, communication, working with others, helping others and listening. They saw generating new ideas mostly in terms of innovation and entrepreneurship.

Amongst the different adult participants, dialogue and collaboration still dominated discussion relating specific skills for workforce readiness (46% of comments), but by contrast to the young people, there were few comments on generating new ideas, whilst empowered action (21% of comments) was the second most commented on skill directly linked to workforce readiness.

Discussions and Implications

In the final section of the report we draw together the core successes and outstanding questions from the findings section into a series of successes and provocations which reflect the ongoing enquiry-oriented approach of PCC. We conclude with a series of four recommendations for the future.

Successes and provocations

PCC has been implemented in a way that is **bespoke** to individual schools, teachers and students, leading to a programme which is diverse, has a high level of local ownership, and is in many cases deeply integrated into teaching and learning.

Question: How can this diversity be celebrated and sustained, whilst also tracking the impact of the work on students going forwards?

PCC has developed a **PCC Creative Skills and Pedagogies** model and **Progression Framework**. These have been honed through this three year pilot to generate a new model for creativity, teaching for creativity and progression which are now widely accessible for use in other schools locally, nationally and internationally as appropriate. This new model and framework incorporates bespoke consultancy with teachers, leaders, students and industry/cultural partners, thus linking directly to the core PCC question of workforce readiness. It also draws in a new wave of dialogic, embodied, posthuman and collaborative creativity research which has emerged since 2015, and combines it with educational and arts-based thinking and wider curriculum applications. It thus draws on a rich heritage of creativity research, and stands in contrast to some more individualised, cognitive approaches that are currently gaining traction in the field.

Question: How can PCC maintain and develop the PCC Creative Skills, Pedagogies and Progression framework within and beyond PCC after the pilot phase?

Question: How are the PCC Creative Skills and Pedagogies frameworks transferable to other learning contexts beyond Cornwall?

Data in relation to the PCC Creative Skills and Pedagogies remains a patchwork with some skills and pedagogies explored more extensively than others. The skills areas that would benefit from more exploration are: possibility thinking, understanding ethical consequences, understanding diverse values, understanding rules and consequences of different kinds of creative action, and taking action. In terms of the pedagogies, 'Ethics and trusteeship' received the least attention in the data during year 3, but compared to year 2, understanding is increasing; further work could be done to develop this.

Question: How can a more consistent picture of PCC Creative Skills and Pedagogies be established moving forward?

Teachers' skills and understanding of teaching for creativity has developed considerably across the three years of the PCC pilot phase. The core team of **CC Leads for each school represent a powerful resource of experience** and enthusiasm, and this is in the process of rolling out more widely.

Question: How can the ongoing development and renewal of staff skills in teaching for creativity be supported in the long term, including across changes in staffing and leadership within and beyond PCC?

Question: What does a progression in teacher capability to Teach for Creativity look like, using the PCC Creative Pedagogies Framework?

A message repeated from the Year 2 report has been the **need for time** in the curriculum to teach for creativity. This has been related to staff time / capacity to develop practice in the context of small rural schools, and also to lesson time in the ongoing context of a knowledge heavy curriculum.

Question: Can this need for time continue to be acknowledged, and are there further innovations, such as the reduction in assessment points which was trialled at Penryn College this year, that can help to create time and space for creativity at school?

Teachers are increasingly **able to observe progress** in relation to all areas of the PCC Creative Skills framework – in Year 2, observations were often made in relation to students utilising skills, whereas this year teachers were able to comment on *progress in developing skills, in almost all areas*.

Question: How can this growing understanding of progression be harnessed to further develop teaching for creativity in PCC?

Teachers came to understand that in order to offer **students empowerment and agency, they needed to let go of control** to a certain extent and exercise their own agency differently. This is strongly related to the notion of teacher creativity within the PCC Pedagogies.

Question: How can teachers' own developing creativity and wisdom continue to be supported to offer appropriate balance between student and teacher agency?

A learning point for the research was that schools became **overloaded with data collection** during year 3 from multiple strands of research, local and national, occurring concurrently. This led to insufficient data being collected in the second survey which reduced the potential for reporting on impact.

Question: How can the research going forward be streamlined to minimize the impact on participants and maximise the strength of the data collected?

The **link between creative skills and readiness for the changing future workforce** is beginning to emerge in relation to three key areas: aspiration, engaging positively with change, and understanding pathways into the workforce. The pilot project has helped to develop understanding of the role of creative skills in relation to these areas.

Question: How can PCC build on the strong partnerships established and grow understanding to actively develop students' readiness for their future in a changing workforce in relation to creative skills?

What next?

PCC can conclude that teaching for creativity makes a valuable contribution to preparing young people for their future in a changing workforce. The themes identified through the research suggest core avenues to pursue moving forward are: developing aspiration in relation to the Cornish workforce; engaging positively with change; linking creative skills closely with pathways to success. It is recommended that the following aspects of PCC are extended and developed in order to extend this ambition:

1. REINFORCE AND DISSEMINATE THE NEW PCC MODEL Having been piloted and tested over three years, the PCC Creative Skills and Pedagogies model and Progression Framework are now ready for deeper embedding and wider dissemination locally, nationally and internationally as appropriate by;

- Sharing this new model beyond PCC to benefit other schools, MATs and educational communities as a priority.
- Maintaining momentum through **CPD, coaching and action research** by providing opportunities for the PCC team to top up, deepen and share their skills
- Working with individual PCC schools to understand how they interpret and apply the model.
- Extending the roll out of the programme to the wider staff team in each school, including new members of staff, utilising a 'train-the-trainer' model to cascade learning.
- Find connections to developing policy and curriculum agendas such as between the new focus on oracy and communication skills in schools and the PCC creative skill of 'dialogue and collaboration' and the creative pedagogy 'Working individually, collaboratively and as part of a community.'
- Connect to other creative learning programs nationally and internationally to share and learn.

2. DEVELOP AND EXTEND COLLABORATION AND PARTNERSHIP These have been fundamental to PCC. It is recommended that this core aspect of the project is reinforced and extended by:

- Maintaining the role of the Penryn Partnership to nurture and sustain creative practice sharing and support, recognising the pivotal role of the CC Lead in each school in driving this forward.
- Continuing to recognise the expertise of industry and cultural partners, providing a direct link into the changing workforce of the future. It is suggested that these partnerships are now extended in order to:
    - Build young people's cultural and life experience, awareness of local opportunities and pathways, and their own creative agency within this community.
    - Provide young people with positive role models, building awareness of successful 'stories of staying'.
    - Develop real-life learning opportunities in school
- Cementing the genuine integration of teachers' professional knowledge with existing creativity research and through developing a sustainable model for action research as an essential next step for PCC. This involves:
    - Recognising the nuanced, evolving contribution that the UoE team make as academic researchers within PCC
    - Disseminating and scaling up the PCC action research model beyond this Creativity Collaborative.

3. CELEBRATE DIVERSITY Diversity has been a core strength of PCC, with a focus on integrating teaching for creativity into a diverse array of schools, across equally diverse subject areas. It is recommended that this diversity is celebrated and extended by:

- Reinforcing and developing the language of creativity that speaks to teachers, students, staff and industry across this diversity, and continuing to encourage them to make it their own through practice.
- Interrogating and developing the equality, diversity and inclusion elements of PCC as it moves beyond the pilot phase including issues of student wellbeing and personal development.

4. ENCOURAGE CREATIVE, DISPERSED LEADERSHIP Strong leadership has allowed the programme to flourish, enabling changes to take place at strategic level and leading to a strong integration of teaching for creativity across the curriculum. Moving forward, it is important that creativity remains on the agenda for school leaders by:

- Celebrating the role of the PCC Lead as essential to driving the project forward, working at senior management level across all of the schools
- Develop the capacity of school leaders to become effective advocates for teaching for creativity.
- Engaging governors and parents going forward
- Extending the partnership with MATs in order to share learning and to support the development of the project within schools that are part of MATs.

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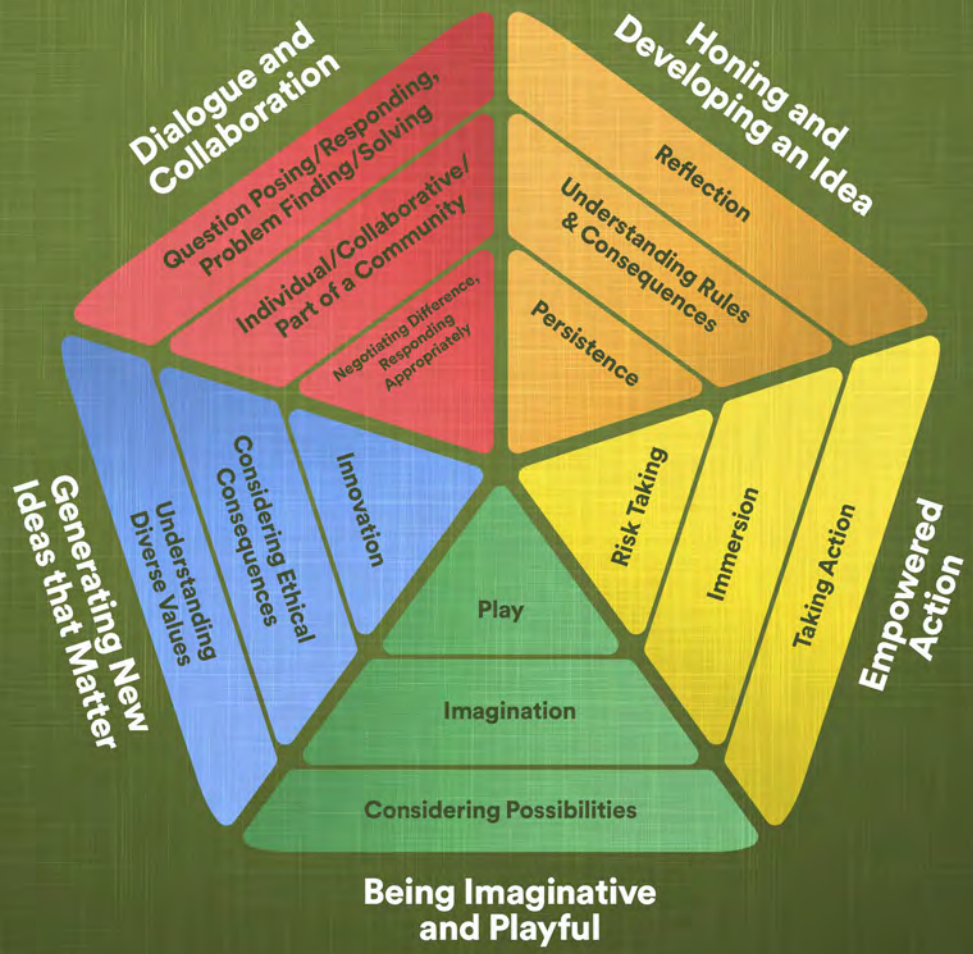
Creative Skills
PENRYN PARTNERSHIP

"How does teaching creativity across the curriculum lead to young people who are better prepared for their future in a changing workforce?"



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