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

# Penryn Partnership Creativity Collaboratives

## Preparing for a Creative Future

### Year Two Report: Build and Test

**Funded by:**
Arts Council England

**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

Penryn College "Achieving through Challenge"
University of Exeter
Supported using public funding by ARTS COUNCIL ENGLAND
Freelands Foundation

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| Glossary of Terms | |
|---|---|
| PP | Penryn Partnership |
| PC | Penryn College |
| UoE | University of Exeter |
| CC | Creativity Collaborative |
| PCC | Penryn Creativity Collaborative |
| ACE | Arts Council England |
| T&L | Teaching and Learning |
| RQ | Research Question |
| AR | Action Research |
| CPD | Continuing Professional Development |
| KS1, KS2 | Key Stage 1 (age 5-7), Key Stage 2 (age 7-11) |
| KS3, KS4 | Key Stage 3 (age 11-14), Key Stage 4 (age 14-16) |

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# 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 Two 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 work of the research team at Durham University led by Dr Helen Cramman and Vic Menzies and the local expertise of Professor Alex Thornton at the University of Exeter.

To cite the report please use:

**Crickmay, U. Childs, S. Chappell, K. (2023),** *Preparing for a Creative Future: Year Two Report Build and Test*
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. The programme is funded by Arts Council England with support from the Freelands Foundation and launched in October 2021. Creativity Collaboratives: Penryn Partnership is the South-West pilot for the programme, and over the course of three years is focussed on exploring one central question:

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

This document reports on the research and findings from Year 2 of Penryn Creativity Collaboratives (PCC). Further detail from our Year 1 journey can be found in our first 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

PCC is led by Penryn College, an 11-16 school on the south Cornish coast, and incorporates the existing Penryn Partnership (the College, its eight feeder primary schools and two Area Resource Base units), a Creativity Collaboratives Network that comprises industry and cultural partners, and research partner, the University of Exeter (UoE). In Year 2 the aim was to respond to research in Year 1 and to 'Build and Test'. This was achieved through three intertwined strands:

- A programme of Action Research with mentoring and training provided by the UoE team;
- The integration of CPD and classroom activities in close collaboration with Industry and Cultural Partners;
- Overarching synthesis research led by the UoE team

The Year 2 research questions were:

RQ1. How do creative pedagogies manifest in the Penryn Partnership?
RQ2. How do students' creative skills progress?

## What happened in Year 2

A network of teacher researchers was established to lead collaborative action research projects modelled after the Creativity Action Research Awards (2006-8). They often worked in partnership with an industry or cultural partner and were trained and mentored by UoE staff. The programme of activities during Year 2 focused at different times on Action Research training and mentoring, overarching data collection, staff CPD and learning community expansion. It was vitally important that these three strands fed each other and allowed for a coherent 'Build and Test' of the PCC creative skills and pedagogies. Both data from the teacher researchers' studies and feedback from other Year 2 Build and Test Activities have been collated and woven into the overarching synthesis research led by UoE, alongside pre and post questionnaire data.

## The Research

### Methodology – action research

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. Data collection used varied tools which were triangulated, including: observations, interviews, focus groups, surveys, reflective journals / diaries, vlogs, photographs, video, students' work, and a 'Preparing for a Creative Future: Creative Skills' wheel. Data analysis was conducted by the teacher researchers using systematic coding of words and visual data, alongside descriptive statistics. This provided the basis for teachers to write their research reports.

### Methodology – research synthesis

A mixed-methods approach was used including a questionnaire developed by the university researchers to collect data in direct response to the research questions, and a synthesised analysis of the action research data.

Ethical permission was gained from the University of Exeter Ethics Committee, and processes have been based on the British Educational Research Association (2018) Research Ethics Guidelines. All data in relation to students has been anonymised and pseudonyms are used throughout.

## Action research findings

**Childs, A. (2023).** *How does working on real-world projects lead to learners being powerful in their understanding?* Penryn Creativity Collaboratives.
**(Year 10)**

**Churcher, E. (2023).** *How can children utilise creative skills to show empowered action in the Key Stage One science curriculum?* Penryn Creativity Collaboratives.
**(Years 1 & 2)**

**Collinge, M. (2023).** *How can children make use of creative skills (supported by dialogic and collaborative metacognitive thinking) to design their own scientific enquiry questions?* Penryn Creativity Collaboratives.
**(Year 6)**

**Fenton, J. (2023).** *How might collaborative 'learning friends' empower children to take risks and empowered action in their learning?* Penryn Creativity Collaboratives.
**(Years 1 & 5)**

**French, H. (2023).** *How do stories influence play for children in their early years?* Penryn Creativity Collaboratives.
**(Early Years)**

**Herring, B. (2023).** *How might immersive 'real-world' experiences influence empowered action in teenagers?* Penryn Creativity Collaboratives.
**(Year 9)**

**Joyce, K. (2023).** *How do you develop children's independence through the use of reflective and self-regulation strategies?* Penryn Creativity Collaboratives.
**(Year 6)**

**Kent, C. (2023).** *How do we encourage creativity through outdoor learning?* Penryn Creativity Collaboratives.
**(Years 3 & 4)**

**Manclark, H. (2023).** *How do risk, immersion and play influence creativity in a Key Stage 3 English classroom?* Penryn Creativity Collaboratives.
**(Year 8)**

**Mitchell, C. (2023).** *Which approaches to real world learning lead to students demonstrating great ownership through empowered action?* Penryn Creativity Collaboratives.
**(Year 10)**

**Teasdale, B. (2023).** *How can teaching writing through embodied immersion impact innovation, imagination and playfulness?* Penryn Creativity Collaboratives.
**(Year 5)**

**Van-Veen, E. (2023).** *How can we harness creative skills when thinking like a scientist?* Penryn Creativity Collaboratives.
**(Year 8)**

**Westhead, L . (2023).** *How do creative pedagogies in the geography classroom lead to deeper understanding of geomorphic processes?* Penryn Creativity Collaboratives.
**(Year 9)**

## Research synthesis findings

***Research Question 1: How do creative pedagogies manifest in the Penryn Partnership?***

Figure 1 shows on average the level to which teachers perceived themselves to be using different features of teaching for creativity prior to and following the Action Research projects. The chart shows the mean score for each aspect of the pedagogic framework utilised, using a 5 point Likert scale.

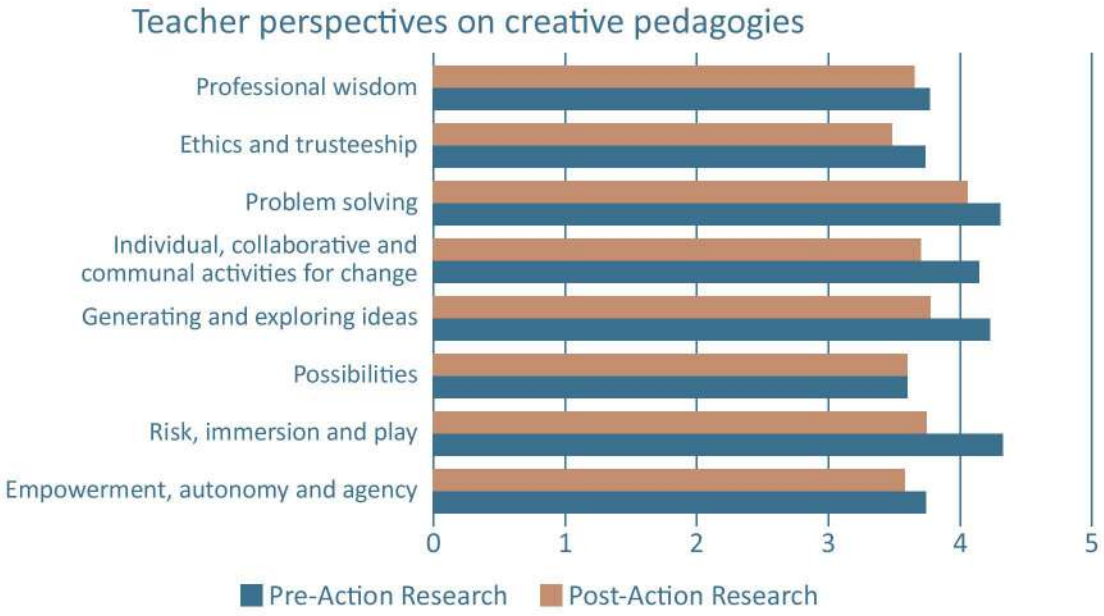



Figure 1: Summarised reporting of pedagogic features

These results show that prior to the action research, teachers considered that the creative pedagogy they used the most was 'problem solving' and the one they reported using least was 'ethics and trusteeship'. After the action research, the creative pedagogy that teachers reported using most was 'risk, immersion and play' whilst 'possibilities' scored the lowest. The overall difference in teachers' perception of how much they used creative pedagogies prior to the action research and after showed a modest increase of 0.3 on the 5-point Likert scale.

The qualitative data showed that whilst the pedagogic framework splits down pedagogies in order to foreground or highlight different aspects of practice, none of these features exists in isolation, and that a creative pedagogy can only be understood as a multi-dimensional practice. Figure 1 shows that there was considerably more data for some parts of the pedagogic framework compared with others; this was anticipated given the open-ended brief and the small scale of the research.

| Pedagogic Feature | Amount of data |
|---|---|
| Risk, immersion and play | 80 |
| Empowerment, autonomy and agency | 46 |
| Individual, collaborative, communal activities for change | 16 |
| Problem solving | 15 |
| Professional wisdom | 13 |
| Generating and exploring ideas | 12 |
| Possibilities | 10 |
| Ethics and trusteeship | 2 |

Table 1: Amount of data relating to different pedagogic features

*Empowerment, autonomy and agency*

Teacher researchers particularly commented on the freedom they had to take their own risks in their practice during the action research process, which they experienced as an increase in autonomy and agency compared with usual practice. There was an interesting oscillation between discussion of teacher autonomy and student empowerment in some of the data, pointing towards an interrelation of these two. For some teacher researchers, opportunities for student / teacher empowerment were described as needing to be balanced with, or as existing in conflict with, the demands of a knowledge and skills-based curriculum.

*Risk, immersion and play*

This was the most widely represented and discussed pedagogy in the data, likely due to it providing the focus for a number of the individual action research projects. The various understandings of 'immersion' adopted in the AR projects include the sense of being absorbed in activity and also the experience of being flooded with a particular type of activity, as well as activity grounded in the senses and in the body. There were a number of challenges to this pedagogy, including students' fear of failure, success criteria and curriculum coverage inhibiting risk-taking, freedom itself being overwhelming, students' low self esteem, students' perception of what constitutes learning, overhang attitudes from the pandemic. Time was the most widely cited pre-requisite for facilitating processes of risk, immersion and play, as well as teachers themselves being able to take risks.

*Possibilities*

There were relatively few examples of teacher researchers explicitly discussing facilitation of possibilities, however, many of the approaches described above in terms of empowerment, autonomy and agency could also be considered as nurturing possibility thinking.

*Generating and exploring ideas*

There was strong evidence among the primary school groups of students generating and exploring their own ideas. Although not restricted to the secondary school groups, it was at this level that the need to balance openness and structure, control and freedom, came slightly more to the fore.

*Individual, collaborative and communal activities for change*

Although there was not extensive discussion of this aspect of pedagogy, it is notable that every action research project involved some aspect of collaboration, so it could thus be seen as the most pervasive pedagogic strategy when teaching for creativity. The collaborations that are discussed often have a 'real-world' character to them, often dovetailing with a 'problem-solving' approach. Similarly, dialogue is not often specifically commented on, but it can be inferred from the projects described to be a background presence in many of them. There were no comments about working communally and few comments about working individually.

*Problem solving*

A number of the action research projects utilised a problem-solving approach which, as described in the pedagogic framework, often used real problems to motivate and engage learners, and sometimes had a transdisciplinary character.

*Ethics and trusteeship*

There was hardly any mention of issues relating to ethics or trusteeship in the data. This is an area which could be explored further in the future.

*Professional wisdom*

Teacher creativity could be witnessed in action through the diversity of different ideas that were developed for the action research projects but was only commented on specifically by one teacher researcher. Educational tensions of accountability / assessment, and time pressures were widely discussed as has already emerged in other parts of the discussion above. There was interesting discussion on how best to record and assess creative skills, which could be further developed. It is worth reflecting here on the data from the questionnaire that suggested that teacher researchers' rating of their own level of agency declined over the course of the action research, which could suggest that these tensions came into sharper focus through participating in the action research process.

***Research Question 2: How do students' creative skills progress?***

Figures 2 and 3 show how teachers rated different dimensions of their students' creative skills pre- and post the Action research, based on the Penryn Partnership Creative Skills Framework. The Figures show mean responses on a 5-point Likert scale.


Figure 2: Mean scores for Creative Skills prior to the action research

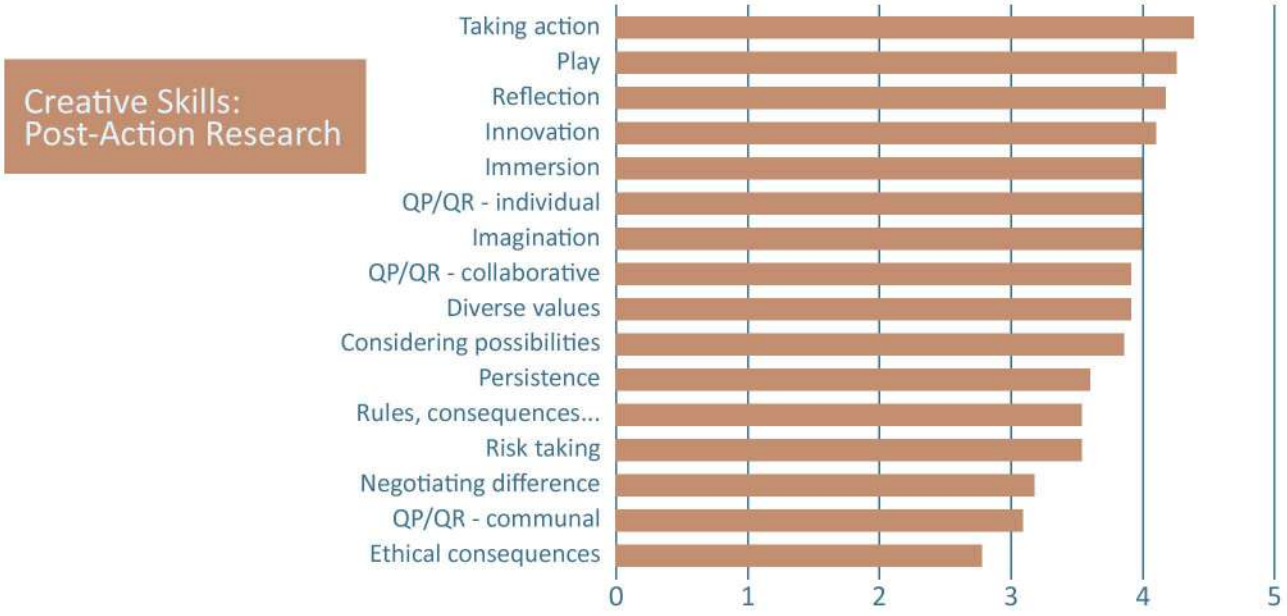



Figure 3: Mean scores for Creative Skills after the action research

Although the numbers participating are too small to draw significant statistical findings, the results suggest teachers' perceived that students' creative skills increased on average by 1.3 points.

Prior to the action research, the areas of creativity in which students' skills were rated most highly were: Innovation, play, taking action, immersion and reflection. The areas in which they were rated least highly were in considering the ethical consequences of creative ideas and actions, and working to pose and respond to questions, including finding and solving problems *as part of a community*.

After the action research, the areas of creativity in which students' skills were rated most highly were immersion and innovation, whilst the lowest rated were considering the ethical consequences of creative ideas and actions and understanding diverse values and how they matter differently. The skills which showed the largest change in teachers' ratings were immersion and risk taking. The skills which showed the least change in teachers' ratings were understanding diverse values, and ethical consequences.

Similarly to the creative pedagogies data, data on students' creative skills was unevenly spread as shown in table 2 (some data referred to the skills as a whole, hence the discrepancy in the aggregated numbers):

| Creative Skill | Amount of data |
|---|---|
| **Dialogue and collaboration** | **61** |
| Question posing/responding. problem finding/solving | 19 |
| Working individually, collaboratively and within a community | 32 |
| Negotiating difference, responding appropriately | 5 |
| **Empowered action** | **58** |
| Risk Taking | 25 |
| Immersion | 11 |
| Taking action | 14 |
| **Honing and developing an idea** | **38** |
| Reflection | 13 |
| Understanding rules and consequences | 12 |
| Persistence | 13 |
| **Being imaginative and playful** | **34** |
| Play | 10 |
| Imagination | 13 |
| Considering possibilities | 7 |
| **Generating new ideas that matter** | **25** |
| Innovation | 11 |
| Considering ethical consequences | 4 |
| Understanding diverse values | 9 |

Table 2: Amount of data relating to different creative skills

The overall patterns of data mirror the findings on creative pedagogies, with the most data in the area of dialogue and collaboration which reflects this being demonstrated to be a pervasive pedagogical approach. The second most data is in the area of 'empowered action' which incorporates themes of student agency, risk taking and immersion, areas in which there was extensive pedagogical commentary. The skills of considering ethical consequences, negotiating difference, understanding diverse values and considering possibilities have received little attention, again mirroring the lack of pedagogical attention in these areas.

*Dialogue and collaboration*

There was a wealth of data providing examples of children actively and ably engaging in dialogue and collaboration, particularly in the areas of collaborative working and question posing and responding/problem finding and solving. Dialogue is most often understood as a verbal exchange between people, and there is scope to extend this to reflect more extensively on a broader sense of verbal or embodied dialogue between people, ideas and disciplines which is perhaps not currently clearly enough articulated in the skills framework.

*Honing and Developing an Idea*

There was strong evidence of reflecting, analysing and evaluating in KS2 through to KS4; it was not mentioned in the early years or KS1 projects. There was evidence of students developing the discipline specific techniques they needed for their creative work and understanding the rules and consequences of different kinds of creative action across all of the secondary school projects, as well as being observed as a feature of students' work in the KS2 English project. The age group bias towards the older students in this data is worth noting. There was mixed evidence of students showing persistence in crafting and improving their work.

*Empowered Action*

A large amount of the data fell into this area of the skills framework, and a number of action research projects reported on developing Empowered Action as an overall area of skills. Examples were given of risk-taking evidencing the breadth of different ways in which students can take risks in their learning, alongside a range of different examples of students being immersed in creative action. The data on 'taking action' was mixed.

*Being Imaginative and Playful*

Being imaginative and playful was reported on more extensively in the early years and primary school projects and was noted very little in the areas of Science and Engineering across all of the age groups, although there were examples of students in these discipline considering possibilities. The most detailed commentary on children's play came from the early years project where the teacher researcher observed children developing their play by drawing on language. Imagination was not restricted to the early years, with students across key stages evidencing it. There was limited data on considering possibilities, which mirrored limited data in this area pedagogically.

*Generating New Ideas that Matter*

This skill was represented least in the data. There was only one example given of a student considering ethical consequences. There were examples across English, Media and Learning Friends projects of students showing understanding of diverse values.

***Wider impact of PCC year 2***

*Continuing Professional Development (CPD)*

- Teacher researchers reflected CPD enabled them to keep the Penryn CC Creatives Skills at the forefront of their mind when redesigning curriculums and lesson planning.
- Teacher researchers increasingly noted they were 'allowing more time' for creative thinking in daily lesson plans and that using the Creative Skills language more frequently in class was leading to greater student understanding across the PCCC.
- Teacher researchers commented that CPD inspired them, gave confidence and practical tips and techniques to evolve a new way of looking at creative pedagogy.
- Opportunities for cultural partners to deliver CPD strengthened networks and frequently built into further interactions between partners, leading to teacher researchers developing other teachers in their teams.
- Teacher researchers repeatedly recognized the importance of their own agency and risk taking.
- School coaching programmes supported opportunities to bring additional teachers, teaching assistants and leaders into the Action Research project, and led to a breadth of learning conversations.
- Teachers and leaders attending CPD and meetings together allowed for professional dialogue to flourish, building greater understanding and capacity to cascade the learning
- Teacher researchers talked about the need for CPD in Year 3 to develop teaching for creativity
- Potential impact was noted regarding findings extending into teacher training and networks of primary and secondary head teachers across Cornwall.

*Creative Collaboratives Network partners*

- Some teacher researchers worked closely with partners.
- Lack of engagement with partners was often a result of partners not being appropriate for teachers' Action Research plans or a lack of time and capacity to include them in the classroom activities.
- Opportunities for professional dialogue between teacher researchers and partners developed a richness of reciprocal learning.
- Partners were able to model the creative process to teacher researchers and students, and often could identify links within the curriculum for skills needed for future careers.
- Opportunities to spend time with industry partners in the workplace improved awareness of the modern workplace as well as professional dialogue with experts.

*Action Research*

- Action Research staff survey at the end of Year 2 showed that the Action Research process itself scored the greatest impact
- This correlates with the teacher researchers' attendance and engagement at Action Research CPD which was a compulsory part of the programme for teachers and was thus higher than at the Creativity Network partners wider CPD offer.

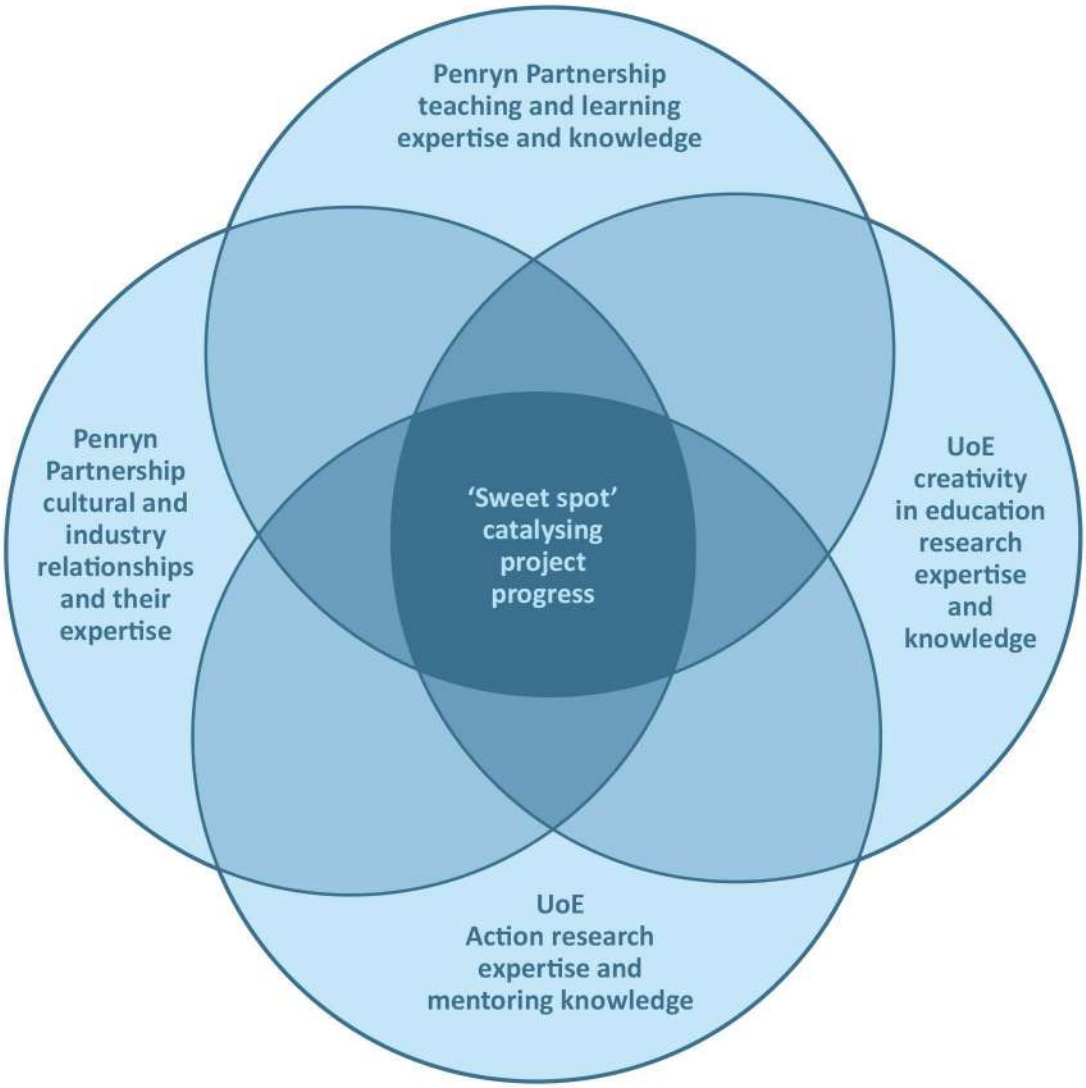



Figure 4: Penryn Creativity Collaboratives Partnership Model

The core team have come to understand that it is this combination of partnership heritage and partner expertise that has enabled us to catalyse PCC's rapid progress, on relatively little research resource in particular. This included establishing the Penryn College-University of Exeter partnership at the centre, which was time intensive and was not anticipated. This is an area for future consideration. Likewise, opportunities for interactions between the University of Exeter research team and overarching CC research were underdeveloped during Year 2 and leave opportunities for working together in more depth during Year 3. Networking issues for cultural and industry partners were also experienced and there were concerns as to future school partnerships' capacity to broker network relationships in the absence of Bridge Organisations and associated funding.

## Discussion and Implications

Whilst definitions of creative pedagogies and creative skills have been represented and utilised as two separate multi-part frameworks in this project, they would both be better represented as an interconnected web, with each of the skills and pedagogies enmeshed and dependent on the others. Individual parts of each framework come to the fore at different times, but should not therefore be seen in isolation. Key discussion and implication points around this include:

- Tensions emerged between the requirements of assessment, a restricted and congested existing curriculum, and the development of creative skills.
- Teacher researchers perceived their own level of agency was lower at the end of Year 2 than the beginning. This was thought to be because student agency had increased, and teachers had gained awareness of the overall limits of their agency in everyday practice.
- The need for time was repeatedly noted in order for creativity to flourish, with implications for lesson, curriculum and assessment planning.
- The need to balance structure and openness, control and freedom, was repeatedly noted in relation to different aspects of pedagogy,
- Amongst the pedagogies, notions of 'risk, immersion and play' were widely discussed, and there was extensive commentary on students' skills in 'empowered action' which incorporates the skills of risk and immersion.
- Collaboration was the most pervasive pedagogical approach, being present in every action research project. Mirroring the dominance of this as a pedagogical strategy, 'dialogue and collaboration' was the skill most frequently commented on,
- Working individually received much less attention – perhaps due to the perception noted above that creativity was primarily a collaborative skill. Working communally received almost no comments as either a pedagogical strategy or a skill.
- Problem solving skills and addressing 'real-world' problems were included across a range of different action research projects, with teacher researchers noticing how this increased student motivation and impacted on empowerment.
- Attention to ethical dimensions of creative pedagogies, skills and processes received almost no attention.
- The Creative Pedagogies Framework was utilised effectively to describe teaching for creativity across the different projects, and there were multiple examples of how the pedagogies *manifested differently* in different subject areas. This will provide the basis for the Year 3 toolkit.
- There were trends in terms of age group and subject area in the reporting of different creative skills which can be used as the basis for work on the progression framework, especially in specific subjects in Year 3.
- Evidence for *progression* of the creative skills was mixed. Skills in which there was some commentary on progress or evidence of progress included: Question posing and responding, problem finding and solving, reflection, understanding rules and consequences, persistence, empowered action including in risk taking and taking action, play (but only at early years), possibilities, understanding diverse values and some very limited commentary on progression of imagination.
- Data on other skills tended to present the concepts more as an attribute of either the student or the activity, and thus there was less sense of progression offered in these areas which included: Dialogue and collaboration – particularly working collaboratively; negotiating difference and responding appropriately; immersion; innovation; and considering ethical consequences.

***Emergent issues***

- Opportunities have been identified to explore assessment across the primary and secondary curriculum which could allow greater capacity to record and celebrate the creative skills.
- Student well-being received limited comments and wellbeing is an area that could be addressed in future research.
- The PCC partnership model is recognised as catalysing particularly rapid progress which is worthy of note for the wider dissemination and roll-out of the project.
- Scope has also been noted for development around research and partnership resourcing to maximise their potential.
- There were few comments from teacher researchers on the impact of teaching for creativity on young people's workforce readiness, the overall theme of Penryn Creativity Collaborative. This reflects a step back from this question in year 2 of the project when the focus has been more directly on classroom practice. It will be a priority for year 3 to bring together the progress in teaching for creativity made this year with the overall research question: How does teaching for creativity across the curriculum lead to young people who are better prepared for their future in a changing workforce?

# 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 with generous support from the Freelands Foundation and launched in October 2021. Creativity Collaboratives: Penryn Partnership is the South-West pilot for the programme, and over the course of three years is focussed on exploring one central question:

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

This document reports on the research and findings from Year 2 of the Creativity Collaboratives programme in Penryn. Moving forward into Year 3 the ambition is to develop our sharing to answer 'How does teaching creativity across the curriculum lead to young people who are better prepared for their future in a changing workforce?' We anticipate this will provide a wider breadth and platform for us to disseminate our learning. Further detail from our Year 1 journey can be found in our first report;

To cite the report please use:

**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

## Penryn Creativity Collaboratives Learning Community

The Penryn Creativity Collaboratives (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 Lead Practitioner. Sarah leads the Teaching and Learning team at Penryn College with responsibility for whole school CPD and coaching. Her expertise as a Specialist Leader of Education (SLE) has led her to deliver training and Continued Professional Development (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 [ARB] units for Special Educational Needs and Disabilities [SEND] provision in Penryn College and Penryn Primary Academy.

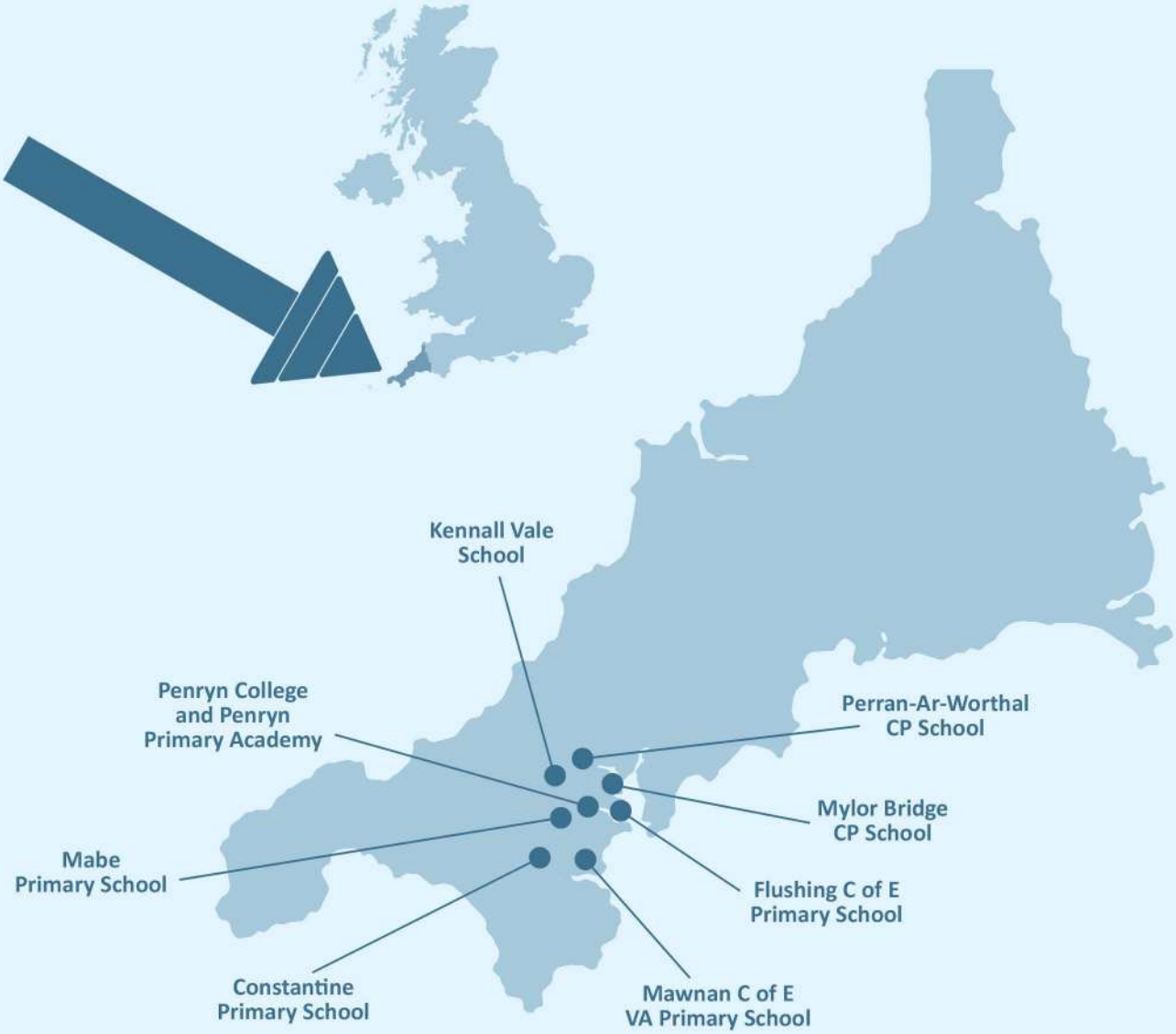



Figure 5: Penryn Partnership Learning Community

The Creativity Collaboratives Network comprises representatives from local industries, including the cultural industries. During Year 2 this learning community expanded, broadening our network of expertise, knowledge and experience. Partners from across our community contributed their time directly supporting 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 include Allen and Heath, Pendennis A&P, Cornish Lithium, KEAP (Kernow Education Arts Partnership) - The Writers' Block and Story Republic, CAST, Hall for Cornwall, Real Ideas Organisation, Watson Marlow – Fluid Technology Group, IET – Faraday Challenge, Cultivator Cornwall, Leach Pottery, Cornwall Careers Hub, Skills Builder and Cornwall Association of Primary Heads (CAPH). The involvement of the Creativity Collaboratives Network has been designed to keep the Creativity Collaborative in Penryn focused on understanding what skills schools need to help their students be better prepared for the changing workforce. 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 6: Our Learning Community Poster

The University of Exeter is the Penryn Partnership research partner and has been involved since the conceptualisation phase of the Creativity Collaboratives bid which underpins the project. The UOE team comprises Associate Professor Kerry Chappell, Ursula Crickmay and Professor Alex Thornton. Chappell and Crickmay work within the UoE School of Education, where Chappell leads the Creativity and Emergent Educational Futures Network. The Penryn Partnership research falls within the remit of this network to challenge the status quo in education through creativity. Thornton is based in the Centre for Ecology and Conservation on the UoE Penryn Campus where he has a role in developing and coordinating outreach activities with local schools and community groups. 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.

During Year 1 of the Penryn Partnership Creative Collaboratives research, two frameworks were developed which have been utilised throughout the Year 2 research and this document. The first is the Penryn Partnership Model of Creative Skills and the second is the Creative Pedagogies Framework (see figures 7 and 8 below)

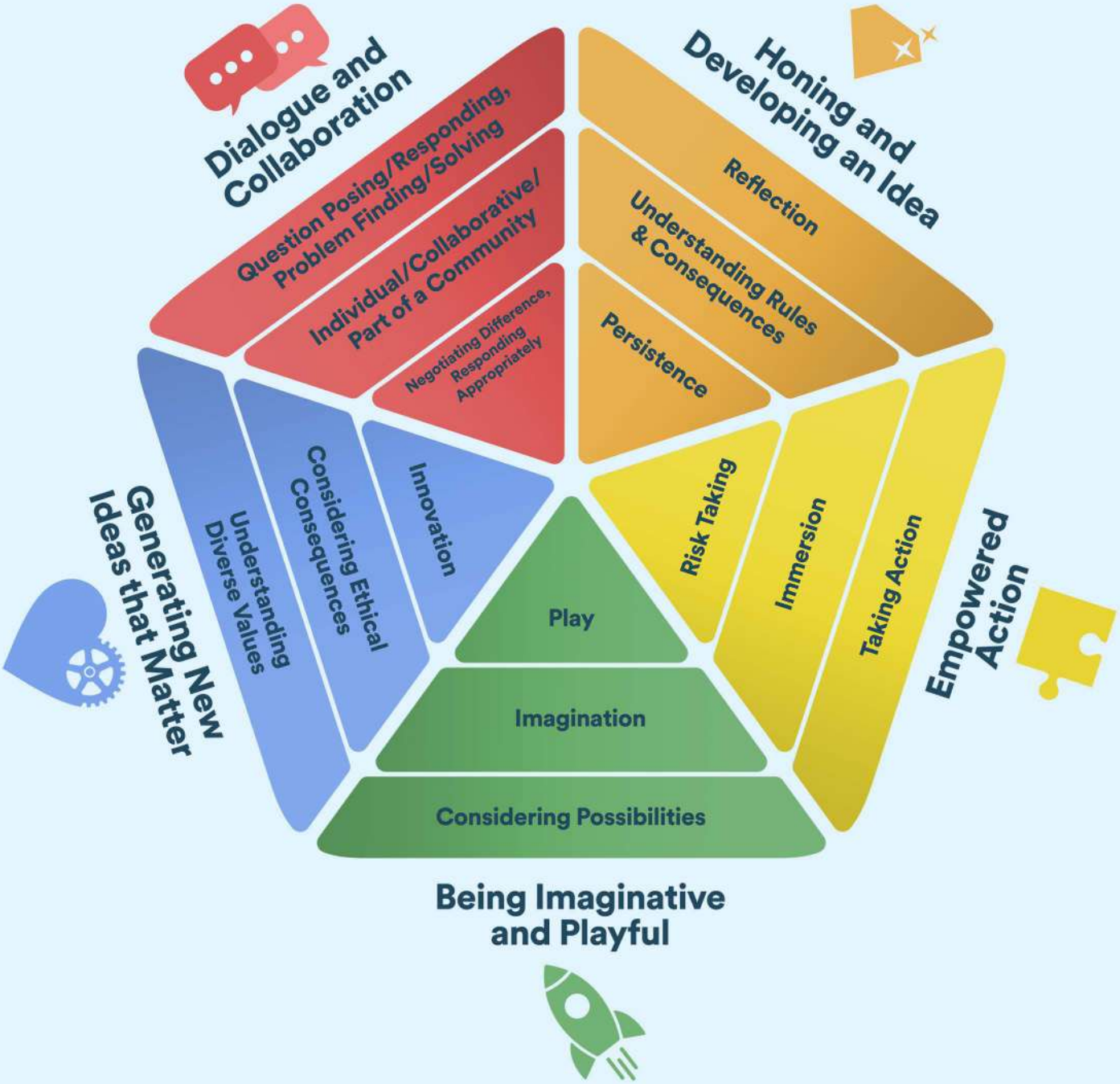



Figure 7: Penryn Partnership Model of Creative Skills

## Features of Creative Pedagogies
### How Do We Best Prepare Teachers for Teaching for Creativity?

We developed a framework for teaching for creativity which was synthesized from two prior creative pedagogies reviews:

***Empowerment, Autonomy and Agency:***
- Learners and teachers both have a sense of agency and are allowed to express themselves.
- Students are empowered to act independently and with agency (exerting power), developing and trying out their own ideas.

***Risk, Immersion and Play:***
- Teaching/ facilitation creates space for these three processes to occur.
- A trusting space is developed in which mistakes are possible and failure can be accepted.

***Possibilities:***
- Multiple possibilities are allowed both in terms of thinking and spaces.
- 'What if' questions are used to narrow or broaden these possibilities.

***Generating and Exploring Ideas:***
- There is a climate of openness – a high degree of acceptance of children's ideas.
- Tensions between openness and structure – a need to balance openness with structure to support learning.
- A sense of both stepping back and stepping in, to balance control and freedom.

***Individual, Collaborative and Communal Activities for Change:***
- Co-constructing teaching and learning in relationships.
- Group work and collaborating (recognised as real life skill).
- Dialogue – between people, disciplines, creativity and identity, and ideas; acknowledging embodiment and difference and allowing for conflict and irreconcilable difference.

***Problem Solving***
- Using real problems to motivate and engage learners.
- Transdisciplinarity – responding to real-world problems by integrating different ways of thinking, including knowing that (propositional knowledge), knowing how (practical knowledge) and knowing this (aesthetic or felt knowledge).

***Ethics and Trusteeship:***
- Learners and teachers consider the ethics of their creative processes and products.
- They are guided in their decision-making by what matters to them as a community, acting as 'trustees' of that decision-making and its outcomes.

***Professional Wisdom:***
- Teacher creativity – as background presence, model and source of authenticity, or strong force, underpinning both teaching creatively and teaching for creativity.
- Common educational tensions and dilemmas of accountability/assessment, marketisation and resource/time pressures are acknowledged and navigated creatively.

Figure 8: Creative Pedagogies Framework

## Introducing Year 2

In Year 2 the aim was to respond to research in Year 1 and to 'Build and Test'. This was achieved through three intertwined strands:

- A programme of Action Research with mentoring and training provided by the UoE team;
- The integration of CPD and classroom activities in close collaboration with industry and cultural partners;
- Overarching synthesis research led by the UoE team

Through these three strands, the Creativity Collaboratives Network expanded the learning community, working together to explore and test strategies to change classroom practice across the partnership. We aimed to share our Penryn Creative Skills language across the team of teachers leading the Action Research, whilst establishing a model for developing pedagogy across a partnership of schools. We sought to develop leaders and teachers who were confident in promoting and implementing change for the teaching of creativity leading forward to cascade practice in Year 3. Aims for Year 2 were to:

- **Identify** practice for the teaching of creativity across the partnership through classroom-based Action Research which tests, develops and evaluates the impact on teaching and learning from EYFS (aged 4-5) to KS4 (aged 14-16).
- Consider the ability to **evaluate** impact across all partners ensuring the foundations to cascade across schools and wider moving into Year 3.
- Develop classroom practice through **Action Research** which leads to school-led improvement in Year 3
- We had originally intended to **monitor** the progression of Creative Skills against the 'Preparing for a Creative Future' Framework draft from Year 1 which linked to our potential third research question. During the Year 2 we decided this would be more appropriate to explore in greater depth during Year 3 as we 'Embed and Grow'. We offer insights into progress in this area in the discussion section of this report.

The research questions we addressed in Year 2 were:

RQ1. How do creative pedagogies manifest in the Penryn Partnership?
RQ2. How do students creative skills progress?

We had originally intended to also consider whether there was an observable relationship between developing creativity pedagogy and the progression of creative skills. Given the time and resources necessary to offer professional development and co-research the above two questions, it was decided that there was insufficient resource to fully respond to this third question. We offer insights into progress in this area in the Discussion section of this report; this focus will be woven, as appropriate, into Year 3 and legacy activities.

This report provides details on all three strands of activity from Year 2 and is divided into two sections:

**Section A: What Happened in Year 2.** This part of the report includes details of the action research process and continuing professional development events including work with the creative and industry partners.

**Section B: The Research.** This part of the report provides the research methodology and findings in detail, including the individual action research reports and the overarching research synthesis.

# Section A: What Happened In Year 2?

## The Action Research Model

Across the Penryn Partnership a network of teacher researchers was established to lead action research projects. Action research ...

> *'... refers to research undertaken in a school environment in order to address a problem, answer a question or make a significant impact on an area of school improvement at a whole school or classroom level'* (Jones K, Macpherson R. 2021, p.26)

The action research being applied in the PCC uses a collaborative action research model honed in the Creativity Action Research Awards (CARA[1]). This is grounded in the principles of the reflective practitioner and the notion of the 'art' of being a teacher (Schon, 1983; Stehnhouse, 1983). The model developed in the CARA 2 programme was unique in that it recognised the importance of the three-way relationship between the action researching teacher, the creative partners supporting their development and the mentoring role of an experienced academic researcher (Chappell, 2008). It provided resources to support single three-way partnerships as well as those functioning in networks with a shared aim. It is this latter CARA2 network approach to the development of action research that has been adapted here in the PCC. Whilst this project has similarities to creative partnerships and clearly aims to build on its heritage, the embedding of the creative partners intrinsically into classroom practice and research is not as strongly defined as in creative partnerships. It should therefore be noted that whilst within PCC for each teacher researcher there was a relationship with an industry or cultural partner, there were not the resources for those partners to co-research alongside the teacher. The PCC relationship might therefore be described as somewhat 'looser' than in CARA. The use of this model is important as a key to the PCC way of working which contributes to characterising the projects' outcomes and successes.

Within this model, each teacher researcher was asked to:

- Develop a research question identifying Creative Skills and/or Pedagogy
- Consider the aims of their project and participants who will take part
- Select and use methods and data collection applicable to their research questions and core activities
- Analyse their data and write up their research findings

Each teacher researcher was asked to work in collaboration to:

- Work as part of the Penryn Creativity Collaboratives learning community
- Work alongside other T&L leads and coaches in partner schools and with an industry and cultural partner
- Engage with CPD and mentoring with our research partners at the University of Exeter
- Share the research and finding within their own schools and across the Penryn Partnership in a variety of formats (eg staff meetings, CPD, governors, etc.)

[1] This programme ran between 2006 and 2008, was pioneered by CAPEUK and was affiliated to the Creative Partnerships scheme (an English 2002 – 2011 scheme which funded creative practitioners to work with schools to impact creative teaching, learning and school development)

Across the year, the model was structured to include three in person contact days between the teacher researchers and the UoE trainers/mentors and PCC Lead. These days focused on teaching the teachers core action research skills, supporting them to hone their own research questions and to design their data collection and analysis and to embed the research into their wider school context. See the Year 2 Build and Test overview for full details of each one day event. In line with the adapted CARA model a series of online mentoring sessions and face-to-face in-school visits were built into the AR cycle in between these in person contact days. Mentoring fostered small clusters of teachers together, working across the key stages linked together through similar research questions and challenges to explore. In-school teaching and learning (T&L) visits led by the Penryn CC Lead fostered the opportunity to work alongside the teacher researchers in the classroom developing understanding and knowledge in teaching for creativity as well as supporting data collection. Head teachers were included in the in-school visits as part of cultivating leaders understanding in teaching for creativity across the Penryn Partnership.

Both data from the teacher researchers' studies and feedback from other Year 2 Build and Test activities have been collated and woven into the overarching synthesis research being led on by the University of Exeter researchers, alongside pre and post questionnaire data. The action research reports and the synthesis research form the main focus of the Findings section of this report.

## Year 2 Build and Test

This section offers full details of the activities which allowed for the three intertwined strands described above. The programme of activities focuses at different times on action research training and mentoring, overarching data collection, staff CPD and learning community expansion. It was vitally important that these three strands fed into each other and allowed for a coherent 'Build and Test' of the PCC creative skills and pedagogies across the year.


| | |
|---|---|
| **Action Research CPD Day 1:** Introduction to AR | **Jun 22** |
| **Action Research staff pre-activity survey** | **Sep 22** |
| **Action Research CPD Day 2:** Focused on securing understanding of creative skills and pedagogy, exploring AR RQs and data collection methods sharing the Durham Toolkit and Paul Hamlyn Evaluation Resources Pack (2009) | **Sep 22** |
| **Creativity Network and Action Research:** Focus on building the learning community by sharing language around creative skills and ambitions for action research. | **Nov 23** |
| **Launched Penryn CC Year 1 Report:** Disseminated across the Penryn CC, regionally and nationally. Shared a full report, an executive summary, Penryn CC Creative Skills and Penryn CC Better Prepared for a Creative Future Framework. Included subsequent webinar hosted by Real Ideas.<br>Year 1 - Penryn College | **Jan 23** |
| **Action Research Teaching and Learning Visits:** Focus on developing creative pedagogy in the classroom and initial steps in changing classroom practice | **Jan 23** |
| **Creativity across the Curriculum workshop with Bill Lucas:** Opportunity for colleagues and partners across the Penryn Partnership | **Feb 23** |
| **Imagination Firelighters:** Hosted by Story Republic, delivered by Wyl Menmuir and Anna Murphy two CPD sessions exploring where creative ideas come from and how to develop creative ideas | **Feb & Mar 23** |
| **Action Research CPD Day 3:** Focused on how to analyse data and preparing to disseminate learning | **Mar 23** |
| **Arts Council England Visit:** Focus to explore how the Penryn Creativity Collaborative to developing creative pedagogy across classrooms | **Mar 23** |
| **Action Research CPD Day 4 (online):** Focused on how to write your written report | **Apr 23** |
| **CPD Staff Meeting:** At Penryn College Creative Skills Across the Curriculum, exploring how the PCC creative skills manifest across the curriculum at Penryn College and what inhibits the development of creative skills in our young people. CPD Staff Meetings across Mawnan Primary, Mylor Bridge, Penryn Primary and Perran-ar-Worthal began to share initial insights into Creative Pedagogy from Action Research classrooms | **May 23** |
| **Action Research staff post-activity survey** | **May 23** |
| **Action Research CPD Day 5:** Action research and Creativity Collaboratives Network: Celebrating learning, considering implications and ambitions looking forward into Year 3 | **Jul 23** |

Table 3: Action Research and CPD programme during Penryn CC Year 2 Build and Test

## Action Research CPD Day 2: Creativity Collaboratives Penryn Partnership September 2023

The teacher researchers came together for the second time as a team at the start of Year 2, the first CPD Day having taken place at the end of Year 1. The team included 7 secondary staff and 8 primary staff, who would be leading projects in their own classrooms during Year 2. These staff had been selected during Year 1 following an expression of interest process across the partnership and discussions with Head teachers. Each of the action research CPD days was delivered by the University of Exeter team, Kerry Chappell and Ursula Crickmay, and the Penryn Creativity Collaboratives Lead, Sarah Childs.

The focus of CPD Day 2 was to refine research questions and to introduce data collection methods. The day included an introduction to the Year 1 findings, including developing understanding of the Penryn Creative Skills and Creative Pedagogies Frameworks which had been produced through the Year 1 research. Action Research staff then refined their research question (RQ) relating it to these frameworks as well as basing their research in an area they were both passionate about and related to the teaching and learning in their classrooms. This often had a correlation with the whole school improvement plan following conversations prior with leaders in school.

A range of qualitative and quantitative data collection methods were introduced and resources for data collection were signposted including The Durham Evaluation Toolkit (2021) and Paul Hamlyn Evaluation Resources Pack (2009). Practical issues were also considered so that a plan for data collection could be developed such as numbers of participants; frequency of data collection; data management and involving others such as teaching assistants in data collection. Research ethics and ethical protocols were also introduced.

Figure 9: Action Research Teachers and Research partners from UOE at CPD Day 2, September 2022

## Online Mentoring with Research Partners UOE
## November 2022 to May 2023

Continued support was given to all teacher researchers between the CPD days with University of Exeter researchers Kerry Chappell and Ursula Crickmay delivering 45 minute online mentoring sessions for the teacher researchers in small groups every half term. This allowed opportunities for teacher researchers to receive support with the detail of their research planning and practice. Teacher researchers were grouped for mentoring according to their research questions, which facilitated research practice sharing between the different schools as well. The PCC Creative Skills Data Wheel (full description in methodology section) was also introduced through mentoring, which then fed into the subsequent plans for the in-school T&L visits during the start of the Spring Term.

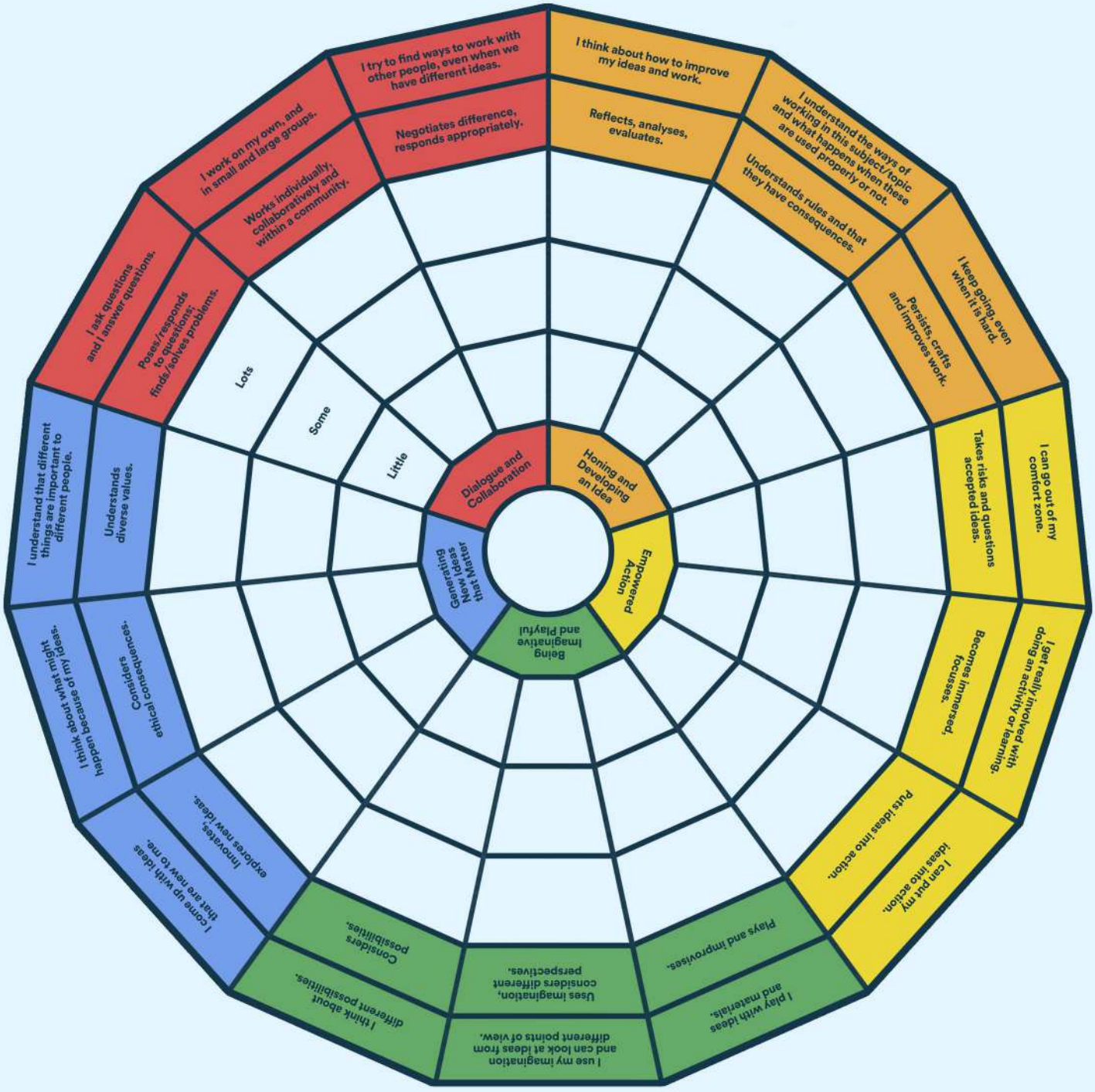



Figure 10: Penryn Creative Skills Data Wheel

## Creativity Network and Action Research: Developing a shared language
## 21 November 2022

The involvement of the Creativity Collaboratives Network has been designed to keep the Creativity Collaborative in Penryn focused on understanding what skills schools need to help their students be better prepared for the changing workforce. Utilising the expertise of the wider learning community was essential in developing understanding and vocabulary around the Penryn Creative Skills as the action research colleagues. The first Creativity Collaboratives Network meeting for Year 2 hosted by Penryn Creativity Collaboratives lead included colleagues from across the action research team working together with our industry and cultural partners to develop our shared language. An overview of the findings from Year 1 was presented. Staff were encouraged to discuss how the Penryn CC Creative skills manifest in a modern workforce. Taking each of the Penryn Creative Skills in teachers, industry leaders and cultural partners expanded the language around each skill.

| | | | | | |
|---|---|---|---|---|---|
| **Dialogue and collaboration** | • Question posing/responding<br>• Problem finding/solving<br>• Individual/collaborative/ part of a community<br>• Negotiating differences, responding appropriately | Explaining<br>Sharing<br>Discussing<br>Debate | Critique<br>Consult<br>Publish<br>Questioning | Modelling<br>Building<br>Communicating<br>Planning | Listening<br>Articulating<br>Sharing |
| **Honing and developing** | • Reflection<br>• Understanding rules and consequences<br>• Persistence | Reflecting<br>Improving<br>Modify<br>Persevering | Challenge<br>Review<br>Repeat<br>Planning | Testing<br>Monitoring<br>Empathising<br>Evaluating | Compromising<br>Interrogating<br>Hypothesising<br>Redefining |
| **Empowered action** | • Risk taking<br>• Immersion<br>• Taking action | Creative Courage (not risk taking)<br>Self-Aware | Fail better<br>Struggle<br>Resilience<br>Leading | Pro-active<br>Motivated<br>Owning<br>Adventurous | |
| **Being imaginative and playful** | • Play<br>• Imagination<br>• Considering possibilities | Create<br>Connect<br>Combine<br>Experiment | Understand<br>Evaluating<br>Role-playing<br>Collaborating | Responding<br>Visualising<br>Thinking 'out of the box' | Enabling<br>Instigating<br>Acting |
| **Generating new ideas that matter** | • Innovation<br>• Considering ethical consequences<br>• Understanding diverse values | Refining<br>Crafting<br>Developing<br>Applying<br>Evaluating | | | |

Table 4: Developing a Shared Language – action research and Creativity Collaboratives Network colleagues working together to develop a shared language around the Penryn CC Creative Skills

Figure 11: Teacher Researchers sharing Aims and Ambitions at the Penryn Creativity Network Meeting with Industry and Cultural Partners

## Action Research Teaching and Learning Visits
## January 2023

Most of the teacher researchers began their data collection during the Spring term which was supported with T&L in-school visits by Sarah Childs, PCC lead, with coaching and feedback. Each visit included an opportunity for some initial data collection whether modelling the use of the PCC Data Collection Wheel or sharing broader observations from the visit. Subsequent professional dialogue focused on reflection against their individual action research teachers RQ, things they might like to try moving forward around creative pedagogy and then links to further reading or websites, often using blogs from the Creativity Exchange. These in-school visits often supported the teacher researchers to get started on their action research journey with those initial steps in changing classroom practice. Most visits included the Headteacher from each school with opportunities to discuss pedagogy and developing creative leadership.

## Creativity across the Curriculum Workshop with Bill Lucas
## February 2023

The workshop with teachers, leaders and members of the Creativity Network explored the teaching of creativity across the curriculum nationally and internationally. Learning walks took place in both primary and secondary lessons and there were opportunities to meet with staff across the partnership to discuss how to progress our CC work moving forward and the relationship between teaching for creativity and assessment.

Figure 12: Teacher researchers, leaders and members of the Creativity Network Bill Lucas' Creativity Across the Curriculum workshop

Figure 13: Jess Fenton (Kennall Vale Teacher researcher) and Sarah Childs (Penryn CC Lead) using the Penryn CC Data Wheel during lesson observation with Bill Lucas

## Action Research CPD Day 3: Creativity Collaboratives Penryn Partnership 10 March 2023

The third day of Action Research CPD focused on data analysis. Analysis methods were introduced for word-based data, image-based data and quantitative data and resources were offered for having recorded data transcribed. Techniques for coding data using a two-step process of low-level and higher-level coding were introduced, guiding teacher researchers through a process of breaking down data into meaningful units and looking for recurring features. A resource was shared to support them in grouping their coded data into themes, triangulating with any quantitative data, and synthesising the themes into findings. Further details of the analysis undertaken by teacher researchers can be found in the methodology section.


Figure 14: Teacher researchers and University researchers from UoE at CPD Day 3, March 2023

## Penryn Creativity Collaboratives Arts Council Visit March 2023

Sir Nick Serota (Chair of Arts Council England), Anne Applebaum, Amanda Rigler and Jenny Wood from ACE spent time meeting students and staff from across the Penryn Partnership. They joined Year 8 scientists with Dr Elly van Veen and Miss Imogen Kempton who were working with a team from Leach Pottery in St Ives, exploring the chemistry behind glazing and how to calculate glaze recipes. They visited Perran-ar-Worthal Primary school joining their Year 5 class during a lesson exploring creative writing with Mr Ben Teasdale. They also met with Senior Leaders, teacher researchers, University researchers and members of the Creativity Collaboratives Network College to discuss the ambitions for the Penryn Creativity Collaboratives journey ahead.


Figure 15: Sir Nick Serota's visit in March 2023

## Action Research CPD DAY 4: Creativity Collaboratives Penryn Partnership
## April 2023

This online training session focused on 'How to Write your Written Report' aiming to build confidence in report writing, based closely on the analysis synthesis document produced by each teacher researcher at the end of the analysis phase. UoE introduced a written report template and discussed how to narrate the action research journey for a range of readers. Whilst it was intentional to avoid sharing a modelled example of a completed action research report, the team signposted examples written on previous projects exemplifying the different approaches and styles to report writing.

## CPD Staff Meetings across the Penryn Partnership
## May 2023

During the Summer Term staff Meetings across Mawnan Primary, Mylor Bridge, Penryn Primary and Perran-ar-Worthal took CPD opportunities to share initial insights into Creative Pedagogy from action research classrooms. Highlighting and sharing practice from the teacher researchers allowed some insight into ambitions moving in Year 3 of the Creativity Collaboratives programme.

At Penryn College the May staff meeting included teaching staff including middle and senior leaders and support staff. It was delivered by the Penryn CC lead alongside members of the action research team at Penryn College. The session included an update on the Penryn CC Creative Skills and the work taking place across the partnership. Taking each of the Creative Skills across the curriculum, each subject area discussed how the PCC Creative Skills manifest across the curriculum at Penryn College and what inhibits the development of creative skills in our young people.

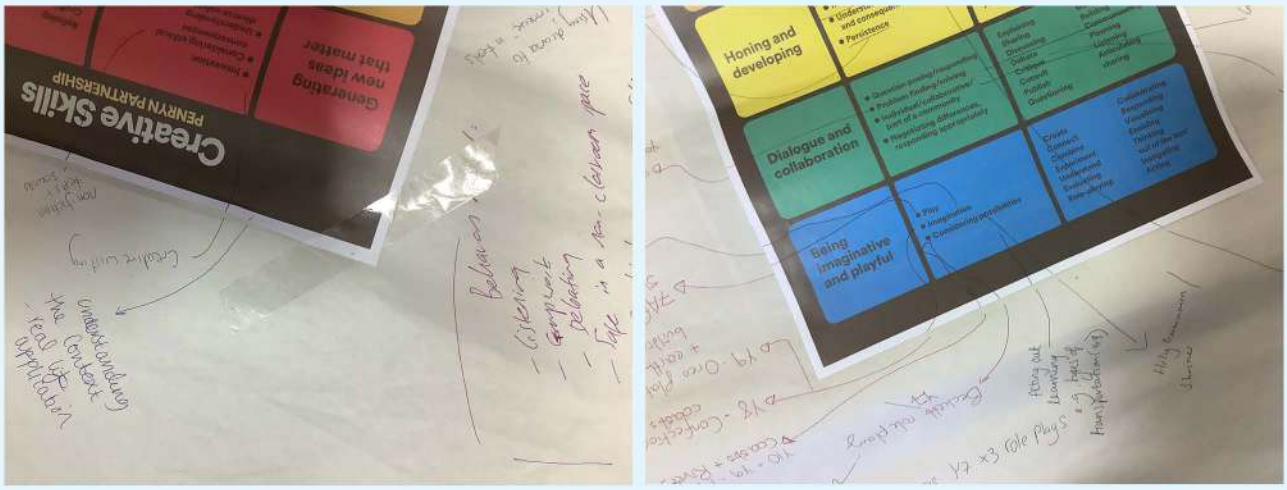



Figure 16: Example of Subject Specific Annotation against the Penryn CC Creative Skills

The session considered 'What behaviours do we need to teach to allow these skills (PCC Creative Skills) to flourish?' Whilst reflecting the implications from the Year 1 report this focused on preparing for Year 3. Teacher researchers gave a snapshot of their learning so far and worked alongside staff in subject teams to consider how current learners learn.

| | |
|---|---|
| **Independence** | Empowerment |
| **Listening** | Individual, Collaborative and Communal Activities for Change |
| **Respect** | Generating and Exploring Ideas |
| **Collaboration** | Individual, Collaborative and Communal Activities for Change |
| **Empathy** | Ethics and Trusteeship |
| **Responsibility** | Empowerment, Autonomy and Agency |
| **Resilience** | Risk, Immersion and Play |
| **Engagement/Motivation** | Empowerment , Autonomy and Agency |

Table 5: What behaviours do we need to teach to allow these skills (PCC Creative Skills) to flourish? Listed in order of most frequent responses below and aligned with the Penryn Creative pedagogies

### Action Research CPD DAY 5: Creativity Collaboratives Penryn Partnership July 2023

The final Year 2 CPD day brought together the teacher researchers and Creativity Collaboratives Network members alongside research partners UoE to celebrate learning, considering implications and ambitions looking forward into Year 3. Teacher researchers had opportunities to share their initial ideas and discuss with UoE the implications on their classroom focused work moving forward for their school. Seizing the opportunity to utilise a range of expertise the teacher researchers and Creativity Collaboratives Network partners then together explored the potential for wider dissemination in Year 3, the potential of a Penryn CC Toolkit, a bringing together from across Cornwall and beyond at the Penryn CC Symposium as well as how we continue to work together as a reciprocal learning community into Year 3.

Figure 17: Teacher researchers sharing with Creativity Collaboratives Network partners the potential opportunities for Year 3 and designing a Penryn CC Toolkit

### Penryn Creativity Collaborative Learning Community in Year 2

The Penryn Creativity Collaborative Learning Community expanded during Year 2 and a varied range of opportunities and experiences developed during the year. Expansion introduced a broader range of staff CPD and activities for teachers and young people across the partnership to participate in creative activity. The PCC aims to share knowledge, skills and learning across the partnership whilst moving to a model for cascading practice and wider dissemination. Through the established Penryn Partnership model, leaders and colleagues share and develop teaching and learning across the curriculum. Through termly Heads and network meetings leaders and teachers learn together across the Penryn Partnership;

- Sharing existing best practice across the curriculum through learning walks and professional dialogue
- Exploring together a shared definition about what we in the Penryn Partnership understand creativity to be, securing a language for learning leading to a clarity around teaching for creativity in schools
- Sharing resources and research of teaching and learning across the curriculum developing research-informed approaches

Through the Creativity Collaboratives programme in Year 2 the opportunity for shared professional development and wider curriculum experiences flourished. Developing the understanding of the creative skills and creative pedagogies worked towards raising the awareness around the importance of creative skills and expanded the understanding of creativity as related to learning across the curriculum. Building opportunities to deliver and provide subject specific CPD increased the pathways to share knowledge, skills and learning. These included digital resources and online CPD; *Developing Experts* across KS2 and KS3, The Writers' Block *Curious Writer* across KS2 and developing leaders in curriculum change through the *Curriculum Huh for Leaders* CPD with John Tomsett and Mary Myatt.

## Penryn College ARB

Penryn College includes an Area Resource Base (ARB) for students with Special Education Needs and Disabilities (SEND) development during Year 2 exemplifies the Penryn CC approach to weaving staff CPD across the PCC creative skills and pedagogies across the year. With an aim to foster dialogue and collaboration in teaching English in the ARB KS3 classroom teachers explored approaches to changing pedagogy a range of approaches:

- Visiting partnership schools to learn more about approaches to reading and phonics teaching in KS1 and KS2 classrooms. Taking part in EYFS lessons to experience phonics learning including kinesthetic methods incorporating motion
- Building a broader picture across KS3 English classrooms to consider opportunity for sharing resources, ideas and expertise
- Working with support team staff to consider different opportunities including use of technology and utilising outdoor space
- Participating in Imagination Firelighters CPD with the local authors to explore strategies for developing creative thinking through immersion and play
- Including the teaching assistants (TAs) in student observation using the Creative Skills Data wheel considering the impact on student interactions as well developing confidence to work independently
- ARB students attending Careers and Skills Fair with opportunities to learn more about creative skills and potential career opportunities.

## Imagination Firelighters
## February and March 2023

The ambition during Year 2 was for the Creativity Network to support the CPD programme for the PCC to develop understanding and practice in colleagues in the teaching for creativity across the Penryn Partnership. KEAP (Kernow Education Arts Partnership): The Writers' Block, had been instrumental in helping the collaborative explore the potential of CPD for our Action Research colleagues and beyond. Initially through a digital resource, 'Curious writers' was provided to all schools which was a collection of 'training videos' to develop curiosity in younger writers. *Imagination Firelighters* was led by local writers Anna Murphy and Wyl Menmuir, who created two twilight CPD workshops, exploring where creative ideas come from and how to develop creative ideas, fostering the PCC Creative Skills of:

- Developing new ideas that matter
- Honing and Developing ideas
- Imagination and Play

The workshops encouraged colleagues to build and test a range of strategies in their classroom practice and teacher researchers noted the impact in their reports. Staff were engaged in practical activities and challenged with the notion of 'not trying to have a good idea', considering the potential impact on students trying to meet learning outcomes that they think teachers have in their head and whether this can shut down creative thinking and imaginative ideas during lessons. Strategies shared, echoed with the Penryn Creative Pedagogies of generating and exploring ideas, individual and collaborative activities as well as risk, immersion and play. Staff discussed the importance of starting with low stake activities, for example always starting creative writing ideas with the ordinary, things that are familiar or can be seen. This then could foster greater depth of knowledge, understanding and possibility thinking through imagination and play; 'the ability to utilise imagination, to improvise playfully, and to generate and try out possibilities; as with possibility thinking, it is the ability to go beyond an understanding of 'what is' to consider instead 'what might be' (Crickmay, Childs, Chappell. 2023, p.32).


Figure 18: From Imagination Firelighters CPD hosted at Penryn College, February and March 2023

## Learning Community Further Opportunities

Below we offer details of the range of experiences, scattered across Year 2 which aimed to develop understanding and ideas for teaching for creativity:

The Penryn Partnership hosted a **Primary Skills and Careers Fair**. The ambition was to foster stronger network to post-16 studies and local industries. Developing understanding of the PCC Creative Skills, alongside the essential skills found in the Skills Builder programme, students from Year 5 and 6 (aged 9-11) were invited to a Skills Scavenger Hunt for students to ask curious questions of our visiting partners. Students posed and responded to questions developing skills in dialogue and collaboration. Partners included members of the Industry and Cultural Partners Network for example; A&P, Pendennis and Allen & Heath, with support from the wider careers network at Penryn College including Cornwall Careers Hub.


Figure 19: Penryn Partnership Primary Skills and Careers Fair, February 2023

**Imagination Unleashed:** Hosted by the Hall for Cornwall, the Cornwall & Isles of Scilly Digital Skills Partnership, Screen Cornwall and Cultivator, this flagship event brought together schools, industry and key players to discover, play and dream. Createch is where creativity meets technology, inspiring new ways of telling stories, engaging audiences and develop business growth. The event included interactive workshops, the chance to get hands on and play, and a Q&A panel discussion.


Figure 20: Examples of Interactive Workshops at Imagination Unleashed at HFC, March 2023

A group of 30 Year 9 students had the opportunity to engage with workshops ranging all the way from retro computer gaming to cutting edge AI design, all based around the idea of different ways to tell a story. One of the most remarkable discoveries of the day for many, however, was the fact that this is happening on their doorstep in Cornwall. As one student noted 'It made me realise that you don't have to leave Cornwall if you want a job in tech. I thought that you could start here and then have to move away to keep achieving, but that's not true."

**Light and Shadow Workshop:** Hosted by the Cornubian Arts & Science Trust (CAST) the Light and Shadow Creative Learning Workshop engaged staff and Year 3 students from Constantine Primary in exploring the science of light through shadow play, demonstrating the mechanics of day, night and changing seasons relative to planetary movement. This curriculum related workshop preceded a new scheme of work for the students giving an insight of next steps in their learning journey. The students create their own shadow puppets to take back to school. Students developed the PCC Creative Skills of being imaginative and playful, considering possibilities whilst posing questions linked to subject knowledge.

Figure 21: Examples from Interactive Workshops at CAST, April 2023

**Leach Pottery:** Research across the AR team led to developing opportunities in the classroom. Working with Leach Pottery the focus was developing the curriculum through scientific investigations. The AR project encouraged students to harness their creative skills when investigating scientific phenomena. 'As a registered charity we (Leach Pottery) are an ambassador for pottery, a champion for the handmade, and an open door for communities to access creativity. In class workshops with Year 8 (aged 12-13) students worked on ceramics exploring the creative process of developing ideas and knowledge with the materials and pots then, through trial and error, investigating.

Figure 22: Examples from the in-class workshops led by Leach Pottery hosted at Penryn College.

**Faraday Challenge:** As an extension of existing work from a teacher researcher, a group of 18 Year 8 students (aged 12-13) were selected to take part in an immersive engineering challenge run by the Institute of Engineering and Technology (IET). The Faraday Challenge was a 1-day event with students designing a brief and pitching their ideas as a prototype model. Working alongside a local secondary school, Penryn College students had to design, model and pitch engineered solutions to a 'real world problem' set out in a launch video.

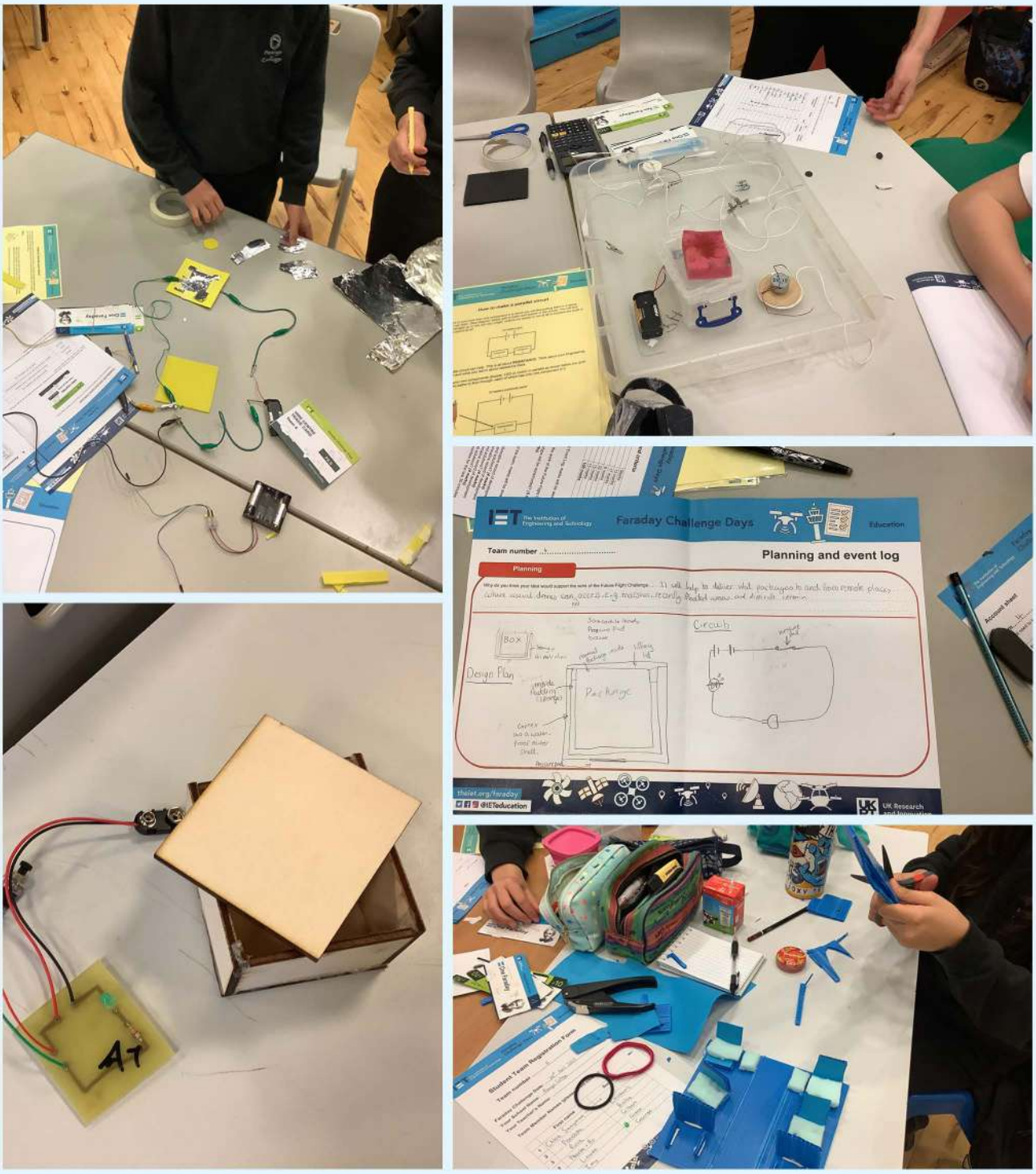



Figure 23: Examples from the Faraday Challenge one day event led by the Institute of Engineering and Technology (IET)

**KEAP:** Experience for staff and students at The Writers' Block – an immersive creative writing space in Redruth. Students in Year 5 from Perran-ar-Worthal had an amazing visit to The Writers' Block. The children were guided by an author through a creative writing session based on vocabulary development within narrative. The environment allowed the children to immerse themselves in a different world and the level of engagement and enjoyment shown from the children was amazing and inspirational to watch.


Figure 24: The Writers' Block

The Penryn Partnership hosted the annual **Year 5 Activity Day** with over 200 students from across the partnership schools. This year's theme was 'Imagine If' based on the late Sir Ken Robinson's Imagine If and the subsequent global campaign and provocation to continue the work his work. Students were asked to spark their imagination, creativity and collaboratively through a range of workshops hosted across the STEAM, Creative Arts and Careers team.

# Section B: The Research

In Year 2 we set out to 'Build and Test', working towards creating a 'Preparing for a Creative Future' framework. Through classroom-based action research across the Penryn Partnership and overarching research conducted by the University of Exeter, we addressed two main questions:

RQ1. How do creative pedagogies manifest in the Penryn Partnership?
RQ2. How do students creative skills progress?

In this part of the report we will introduce the methodology for both the action research and the overarching research synthesis and then present our findings for both these aspects of the research. Teacher researchers' perceptions of the outcomes of the CPD, partnerships and action research process itself are summarised. The discussion and implications section at the end draws together the different strands of the work in Year 2, reflecting both on the research and the wider project process for Year 2 of Penryn Creativity Collaboratives.

## Methodology

### Action research methodology

Each teacher researcher developed their own line of enquiry which related to the overarching research questions for the year but was specific to their own teaching and learning context. With support from the University research team as detailed in the first part of this report, these were each developed into a separate research question. The teacher researchers chose to explore a diversity of different practices, which included 'practice as usual' as well as bespoke projects including scientific enquiries, engineering projects, learning friends' projects, immersive writing projects, creative geography projects and more.

Each teacher researcher was free to develop their own model of partnership with an industry/ cultural partner from the Creativity Collaboratives Network in relation to their research question and these varied from participation in the CPD sessions described above, conversations with partners to help hone existing ideas; co-developing project plans; visits to school from partners to deliver creative workshops; student visits to cultural projects; and staff visits to industry sites.

The majority of the data collection took place in the spring term and data collection methods included: observations; interviews; focus groups; surveys; reflective journals/diaries (both students and teachers); vlogs; photographs; video and examples of students' work. Each teacher researcher utilised a number of the above methods so findings on each project were triangulated from multiple data sources.

A data collection tool designed by the university researchers was the 'Preparing for a Creative Future: Creative Skills' wheel. Based on the Creative Skills Framework, the wheel was split into the 5 identified 'creative skills' areas and within each of these areas, a series of simplified statements was designed to support teachers to observe each of the creative skills in action and to support students to self-reflect on them.

For example, one of the three defined areas of overall creative skill 'Empowered action' is:
**'Risk taking – challenging assumptions, making mistakes, delivering surprising ideas'**

For teachers, this was adapted to a simplified, active statement:

- 'Takes risks and questions accepted ideas'

For students, it was simplified further to:

- 'I can go out of my comfort zone'

These statements appeared around the edge of the wheel and inside the wheel, teachers or students could mark whether they noticed each of the skills being used a little, some, or lots.

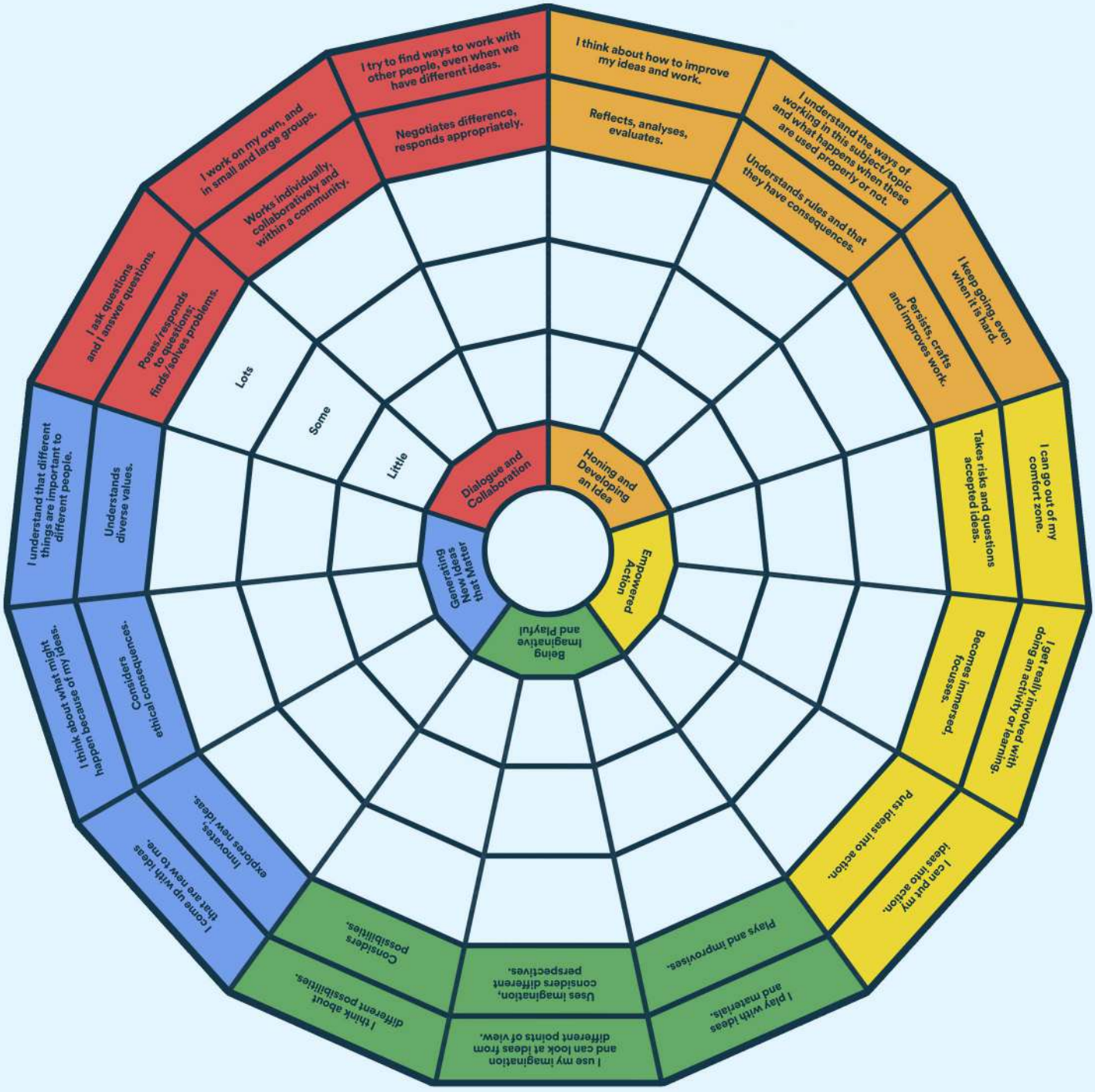



Figure 25: Penryn Creative Skills Data Wheel

This was not designed as a validated quantitative scale, but rather as a guide to help support teacher researchers to focus their observations and interviews, and to support students in a variety of self-reflection activities.

**Data analysis** was conducted by the teacher researchers utilising four main approaches:

- Written data, including journal entries, observation notes and transcribed interviews, videos and vlogs were analysed using systematic coding from low level through to higher level coding leading to a thematic analysis. A deductive approach was used utilising the Penryn Creative Skills and Creative Pedagogies Frameworks, with some emergent codes also being identified in relation to specific research questions and in some cases to refine the existing frameworks through further sub-categories
- Visual data and in some cases, videos were coded using the See, Think, Wonder technique from Project Zero, Harvard Graduate School of Education (2022). This was then incorporated into the thematic analysis
- Students' work was analysed in some cases using a See, Think, Wonder approach and in other cases teachers wrote their own reflective commentary on the work that was incorporated into the thematic analysis
- Quantitative data was analysed using descriptive statistics

Data was synthesised into thematic areas using a pro-forma data analysis synthesis document provided by the university researchers, and short summaries were made of the data relating to each theme. This provided the basis for the research reports.

## Research synthesis methodology

A mixed-methods approach has been taken to bring the strands of the action research together to address the overall research questions for Year 2. This has included a questionnaire developed by the University researchers to collect data in direct response to the research questions and a synthesised analysis of the action research data as follows:

*Quantitative data: questionnaire*

A questionnaire was developed to measure attitudes of teachers participating in the action research towards creative skills and creative pedagogies at the start of the year and again at the end of the year: 13 teachers in total completed both questionnaires. A combination of closed questions utilising a 5-point Likert scale and open-ended questions were included. Closed questions were analysed by calculating and comparing mean values across all of the teachers' responses. Further statistical tests were not conducted due to the small sample size, which also means that only tentative findings can be drawn from this quantitative data. Qualitative data was integrated into the overall thematic analysis (see below).

***Qualitative data***

A draft version of each of the action research reports has been treated as a piece of qualitative data to help answer the overall research questions for year 2, best understood as pieces of 'secondary data'. The reports include descriptions of practice in action, selected pieces of data from each individual action research project, as well as the teacher researchers' interpretive comments and conclusions: each of these aspects of the reports has been included in the analysis. The limitation of using this approach is that the data presented is very partial, since each teacher researcher has selected only a few examples of the data from a much larger data set to illuminate their findings for their readers. The strength of using this approach is that the subjective lens and the expertise of the teacher researchers is a key driver in understanding both research questions posed this year, so drawing teachers' own interpretations into the data helps to foreground this aspect of the research. It has also been a practical necessity given the resources available and the scale of the total action research data collected. Extensive work with each teacher researcher on their analysis and writing has helped to ensure that the reports themselves are robust and therefore a reliable source of data in relation to the work conducted this year.

This secondary data has been supplemented with qualitative data from the open-ended questions included in the questionnaire. The data has been analysed in relation to the two research questions, utilising the Penryn Partnership Creative Skills and Creative Pedagogies frameworks as an initial thematic framework.[2]

This has been refined through identifying emergent codes and categories within each of the thematic areas and developed further through discussion between the University research team. Findings are presented in response to each research question in relation to the frameworks and sub-categories are incorporated into the narrative discussion.

### *Ethics*

Ethical permission was gained from the University of Exeter Ethics Committee, and ethical processes have been based on the British Educational Research Association (2018) Research Ethics Guidelines. Participation in the research was informed and voluntary. For the action research, students 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. All data in relation to participating students has been anonymised and pseudonyms are used throughout.

## Findings, Action Research

The findings of the action research projects are presented in a series of individual reports, each of which can be accessed via the links given in the findings summary table below:

| | | | |
|---|---|---|---|
| **Participant Group** | Early Years | **School** | Flushing C of E |
| **Teacher researcher** | Helen French | **Subject** | Play and Stories |
| **Research Question** | How do stories influence play for children in their early years? | | |
| **Link to report and summary** | Full report can be accessed here. The project explored how a series of story sessions influenced children's subsequent play, with a particular focus on language. The research found that there were strong links between story and play, that an author visit in particular inspired creative responses and that the research helped to raise the profile of creativity throughout the school, providing a framework to recognise and reward creativity. | | |
| **Participant Group** | Year 1 and 2 | **School** | Mawnan C of E Primary |
| **Teacher researcher** | Ellen Churcher | **Subject** | Science |
| **Research Question** | How can children utilise creative skills to show empowered action in the Key Stage One science curriculum? | | |
| **Link to report and summary** | Full report can be accessed here. The project explored how children are engaged with their learning and activities within science, how they immerse themselves in activities, if they take risks and if they can act upon their own ideas. The research found that in order to empower the children to act upon their ideas, teachers needed to stand back and give children opportunities to put their scientific and enquiry approach skills into action. | | |
| **Participant Group** | Years 3 and 4 | **School** | Mabe Primary |
| **Teacher researcher** | Cassie Kent | **Subject** | Transdisciplinary, outdoor learning |
| **Research Question** | How do we encourage creativity through outdoor learning? | | |
| **Link to report and summary** | Full report can be accessed here. The project explored approaches to developing creativity through outdoor learning in creative writing, art, maths and science. The research found that creative skills were developed through outdoor learning, particular in the areas of dialogue and collaboration, risk taking, use of imagination and problem solving. The creative outdoor learning tasks were found to be engaging and motivating. | | |

[2] Both frameworks were developed during Year 1 of the Penryn Creativity Collaboratives programme (Crickmay, Childs & Chappell, 2023). The Penryn Partnership Pedagogies Framework was a synthesis of two prior reviews of creative pedagogies: Cremin & Chappell's (2019) systematic literature review of 30 years of empirical research on this topic, which identified a series of seven features characteristic of creative pedagogies, and Chappell et al.'s (2016) review which identified a series of eight features of creative transdisciplinary science and arts teaching. The Penryn Partnership Creative Skills Framework was developed through a review of the literature and refined through focus gr ups with students and staff across the Penryn Partnership, as well as with industry and cultural partners, with a focus on identifying creative skills for a changing workforce.

| | | | |
|---|---|---|---|
| **Participant Group** | Year 1 and 5 | **School** | Kennall Vale |
| **Teacher researcher** | Jess Fenton | **Subject** | Transdisciplinary, learning friends |
| **Research Question** | How might collaborative 'learning friends' empower children to take risks and empowered action in their learning? | | |
| **Link to report and summary** | Full report can be accessed here. The project was child-led, pairing Y1 and Y5 students to to plan their own outdoor, enjoyable sessions. The research found that the children's ownership of the project allowed them to feel empowered and gave them time and space to express themselves. The element of play was pivotal in enabling the children to test, explore and take risks. | | |
| **Participant Group** | Year 5 | **School** | Perran-ar-Worthal CP |
| **Teacher researcher** | Ben Teasdale | **Subject** | English |
| **Research Question** | How can teaching writing through embodied immersion impact innovation, imagination and playfulness? | | |
| **Link to report and summary** | Full report can be accessed here. Project exploring how immersive writing sessions could be used to develop innovation and risk-taking in writing. The research found that over the course of six weeks, participating children perceived that they could generate a wider range of ideas, were more willing to take creative risks and had developed their imaginative processes. | | |
| **Participant Group** | Year 6 | **School** | Penryn Primary Academy |
| **Teacher researcher** | Kim Joyce | **Subject** | Transdisciplinary |
| **Research Question** | How do you develop children's independence through the use of reflective and self-regulation strategies? | | |
| **Link to report and summary** | Full report can be accessed here. The project explored how children's independence can be developed through the use of reflective and self-regulation strategies. The research found that through the use of these strategies, children needed less scaffolding throughout the year, mastering concepts more quickly. | | |
| **Participant Group** | Year 6 | **School** | Mylor Bridge Community Primary |
| **Teacher researcher** | Matt Collinge | **Subject** | Science |
| **Research Question** | How can children make use of creative skills (supported by dialogic and collaborative metacognitive thinking) to design their own scientific enquiry questions? | | |
| **Link to report and summary** | Full report can be accessed here. The project explored how children could be creative within the science curriculum. The research found that 'dialogue and collaboration' was a pivotal skill in this area, and that time to formulate, discuss and work on ideas prior to starting encouraged children to take risks and put their ideas into action. | | |
| **Participant Group** | Year 8 | **School** | Penryn College |
| **Teacher researcher** | Holly Manclark | **Subject** | English |
| **Research Question** | How do risk, immersion and play influence creativity in a Key Stage 3 English classroom. | | |
| **Link to report and summary** | Full report can be accessed here. The project focused on how space can be made in the classroom for creative skills to flourish, increasing originality in the writing of a high achieving Y8 class. The research found that the pressure of the curriculum can be in tension with developing creativity, and that students valued 'time' in particular for facilitating creativity. Immersive experiences and play, including open-ended tasks, were valued for developing creativity. | | |

| | | | |
|---|---|---|---|
| **Participant Group** | Year 8 | **School** | Penryn College |
| **Teacher researcher** | Elly Van-Veen | **Subject** | Science |
| **Research Question** | How can we harness creative skills when thinking like a scientist? | | |
| **Link to report and summary** | Full report can be accessed here. A project exploring how we can harness creative skills to encourage students to think like a scientist when designing and planning a scientific investigation, based on students' own ideas. Research found that all areas of creative skills as defined by the Penryn Creativity Collaborative were equally essential for scientific research and can be actively utilised to help students develop their scientific inquiries. The need for prior knowledge, skills and understanding, plus attention to safety was identified. | | |
| **Participant Group** | Year 9 | **School** | Penryn College |
| **Teacher researcher** | Liz Westhead | **Subject** | Geography |
| **Research Question** | How do creative pedagogies in the geography classroom lead to deeper understanding of geomorphic processes? | | |
| **Link to report and summary** | Full report can be accessed here. The project explored the use of imagination and playful experimentation within physical geography lessons to develop creative skills and deeper understanding whilst embedding knowledge in geography. The research found that it was possible to make time and space in a busy curriculum for creativity to flourish, and that in doing so students developed creative skills, developed deeper understanding of geography, engaged in more memorable learning and were better behaved, and more focused and immersed in their learning. | | |
| **Participant Group** | Year 9 | **School** | Penryn College |
| **Teacher researcher** | Beth Herring | **Subject** | English |
| **Research Question** | How might immersive 'real-world' experiences influence empowered action in teenagers? | | |
| **Link to report and summary** | Full report can be accessed here. Project exploring how space can be made within a crowded curriculum for collaborative, immersive real-world experiences in the classroom, and how this might affect teenagers' responses in English. Research found that making time and space for creativity in the secondary classroom is vital to equip teenagers with skills for the future and reflects on tensions between empowerment and assessment. | | |
| **Participant Group** | Year 10 | **School** | Penryn College |
| **Teacher researcher** | Charlotte Mitchell | **Subject** | Media |
| **Research Question** | Which approaches to real world learning led to students demonstrating greater ownership through empowered action. | | |
| **Link to report and summary** | Full report can be accessed here. Project focused on assessed element of a BTEC Creative Media Production course, looking at how students might be motivated by acting with greater agency and independence. Research found that it was important for students to understand the context and purpose of tasks, that collaboration helped with the development of ideas, that a practical focus was important and that time was needed for development and for students to take risks, be allowed to fail and to develop their work. | | |
| **Participant Group** | Year 10 | **School** | Penryn College |
| **Teacher researcher** | Alex Childs | **Subject** | Engineering/STEAM |
| **Research Question** | How does working on real-world projects lead to learners being powerful in their understanding? | | |
| **Link to report and summary** | Full report can be accessed here. Project in STEAM department exploring empowered action through two real-world learning opportunities. The research found that participating students developed skills in empowered action when they had knowledge, experience and skills in similar areas to the problem they were addressing, that familiarity with a method for problem solving was also important and that agency has to come from the task itself: students were more likely to value the solution when they cared about the problem. | | |



Table 6: Action Research project findings summary

## Findings, Research Synthesis

## Research Question 1:
## How do creative pedagogies manifest in the Penryn Partnership?

## Findings from the Questionnaires

Teachers were asked to indicate their level of agreement with a series of statements that related to the definition of creative pedagogies developed for the Penryn Creativity Collaboratives project, using a 5 point Likert scale where 1=totally disagree and 5=totally agree. The identical statements were given to teachers to rate prior to the action research and again following it. A mean response was calculated for each of the given statements and the change in this over the course of the action research was also calculated. Since the sample size is very small (13), the results do not have statistical significance but nevertheless an overall picture of the perceptions of participating teachers is suggested.

Figure 26 shows the mean score for each of the sections of the pedagogic framework – showing on average the level to which teachers perceived themselves to be using each of these approaches to teaching for creativity.

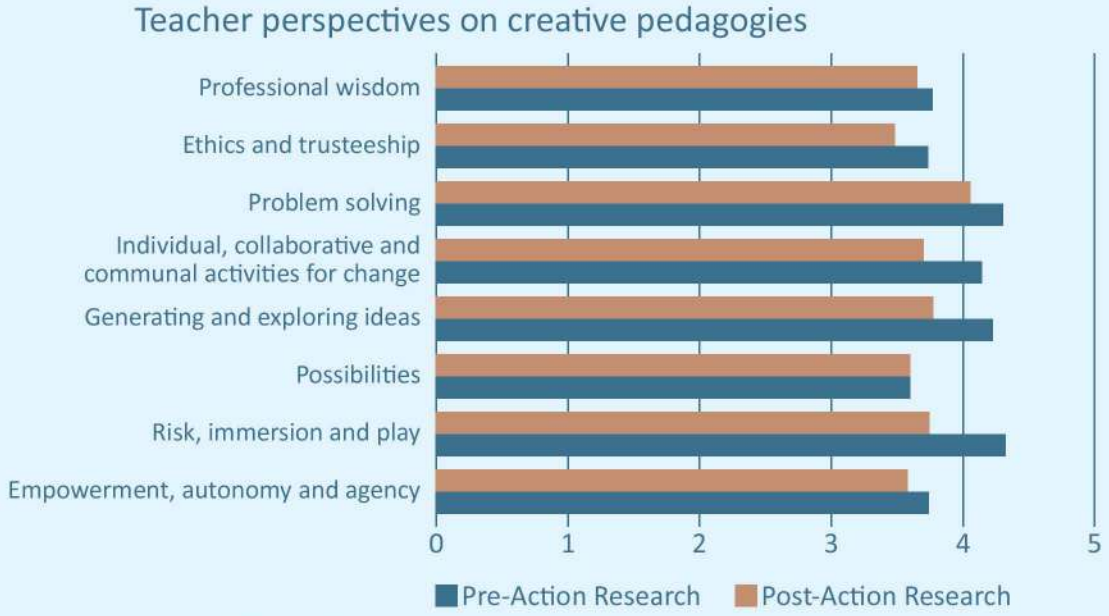



Figure 26: Summarised reporting of pedagogic features

These results show that **prior to the action research**, teachers considered that the creative pedagogy they used the **most was a problem solving approach** which includes using real world problems and a transdisciplinary approach. The creative pedagogy they reported using **least was 'ethics and trusteeship'** which is about teachers and learners considering the ethics of their creative processes and products and being guided by a sense of 'trusteeship' of what matters to them as a community.

**After the action research**, the creative pedagogy that teachers reported using **most was one involving processes of risk, immersion and play** – this also was the individual pedagogy that showed the highest change in rating over the course of the action research. Problem solving was a close second to this in the post-action research results. Whilst ethics and trusteeship was still given a low rating, following the action research it was the pedagogy **'possibilities' that scored the lowest**, which is about allowing multiple possibilities in terms of thinking and spaces, and nurturing this by using 'what if' questions. 'Possibilities' was the only pedagogic approach that showed no change between the before and after measures.

**The overall difference in teachers' perception of how much they used creative pedagogies prior to the action research and after showed a modest increase of 0.3 on the 5-point Likert scale.**

To explore these results in more detail, a fuller account of the individual scores is given in Table 4, in which the full pedagogic framework is included together with each of the corresponding questionnaire statements which has been reduced here to the concept it was designed to represent.

| | Level of agreement with concepts on a scale of 1-5 | | |
|---|---|---|---|
| | Pre-Action Research | Post-Action Research | Change in Scores |
| **Empowerment, autonomy and agency:** | | | |
| *Learners and teachers both have a sense of agency and are allowed to express themselves.* | | | |
| Encourages students to express themselves | 3.8 | 4.5 | 0.6 |
| Teacher has agency - able to use own ideas | 3.5 | 2.8 | -0.7 |
| Teacher able to express themselves in teaching | 3.8 | 4.2 | 0.3 |
| *Students are empowered to act independently and with agency (exerting power), developing and trying out their own ideas* | | | |
| Provides opportunities for student agency | 3.5 | 4.2 | 0.7 |
| Provides time for students to try their own ideas | 3.2 | 3.1 | -0.1 |
| **Risk, immersion and play:** | | | |
| *Teaching/ facilitation creates space for these three processes to occur* | | | |
| Creates space for students to take risks | 3.8 | 4.4 | 0.6 |
| Creates space for students to get immersed in their learning | 3.7 | 4.4 | 0.7 |
| Creates space for students to play | 3.2 | 3.8 | 0.7 |
| *A trusting space is developed in which mistakes are possible and failure can be accepted* | | | |
| Develops a trusting space in lessons in which mistakes are possible | 4.3 | 4.7 | 0.4 |
| **Possibilities:** | | | |
| *Multiple possibilities are allowed both in terms of thinking and spaces* | | | |
| Encourages students to explore multiple possibilities | 3.8 | 3.5 | -0.3 |
| *'What if' questions are used to narrow or broaden these possibilities* | | | |
| Uses 'what if' questions to narrow or broaden possibilities | 3.4 | 3.7 | 0.3 |
| **Generating and exploring ideas:** | | | |
| *There is a climate of openness – a high degree of acceptance of children's ideas* | | | |
| Accepts children's ideas | 4.2 | 4.4 | 0.7 |
| Tensions between openness and structure – a need to balance openness with structure to support learning | | | |
| Thinks about the need to balance openness and structure to support learning | 3.9 | 4.3 | 0.4 |
| *A sense of both stepping back and stepping in, to balance control and freedom* | | | |
| Balances control and freedom | 3.2 | 3.5 | 0.3 |
| **Individual, collaborative and communal activities for change:** | | | |
| *Co-constructing teaching and learning in relationship* | | | |
| Sees teaching and learning as co-constructed with students | 3.7 | 3.8 | 0.2 |
| *Group work and collaborating (recognised as real life skill)* | | | |
| Develops a trusting space in lessons in which mistakes are | 4.3 | 4.8 | 0.5 |
| *Dialogue – between people, disciplines, creativity and identity, and ideas; acknowledging embodiment and difference and allowing for conflict and irreconcilable difference* | | | |
| Encourages dialogue between students | 4.5 | 5.0 | 0.5 |
| Allows for conflict and irreconcilable difference | 2.3 | 2.9 | 0.6 |
| **Problem solving:** | | | |
| *Using real problems to motivate and engage learners* | | | |
| Uses real problems | 3.9 | 4.2 | 0.2 |
| *Transdisciplinarity – responding to real-world problems by integrating different ways of thinking, including knowing that (propositional knowledge), knowing how (practical knowledge) and knowing this (aesthetic or felt knowledge)* | | | |
| Works in a transdisciplinary way | 4.2 | 4.5 | 0.3 |

| | | | |
|---|---|---|---|
| **Ethics and trusteeship:** | | | |
| *Learners and teachers consider the ethics of their creative processes and products* | | | |
| Considers ethics of creative processes and products relevant for teaching | 4.0 | 4.1 | 0.1 |
| Encourages students to think about the ethics of their creative processes and products | 2.8 | 3.3 | 0.5 |
| *They are guided in their decision-making by what matters to them as a community, acting as 'trustees' of that decision-making and its outcomes.* | | | |
| Helps students to think about what matters to them as a community | 2.7 | 3.8 | 0.2 |
| **Professional wisdom:** | | | |
| *Teacher creativity – as background presence, model and source of authenticity, or strong force, underpinning both teaching creatively and teaching for creativity* | | | |
| Uses own creativity in teaching | 4.4 | 4.7 | 0.3 |
| *Common educational tensions and dilemmas of accountability/ assessment, marketisation and resource / time pressures are acknowledged and navigated creatively* | | | |
| Perceives tensions | 3.6 | 3.8 | 0.2 |
| Able to navigate these tensions | 2.9 | 2.8 | -0.1 |

Table 7: Detailed Reporting of Pedagogic Features

Notable within these detailed results is:

Prior to the action research, the **pedagogic approach teachers reported using most was encouraging dialogue between students and this was the same after the action research.** Considering this in the light of the qualitative data, it is clear several teachers brought a collaborative problem solving approach to their action research projects, so these results are consistent with each other, and with the qualitative data.

Prior to the action research, the pedagogic approach teachers reported using **least was allowing for conflict and irreconcilable difference.** However, after the action research, the **lowest rated pedagogic approach** is the concept that **teachers have agency and are able to use their own ideas,** and the ability to **navigate common educational tensions and dilemmas of accountability/assessment** etc. The first of these statements showed a negative shift between teachers' perceptions prior to and following the action research and is indicative of a more mixed pattern that can be seen amongst the pedagogies as a whole when the detail is considered, with progression in some areas and regression in others.

## Findings from the qualitative data

Using the Penryn Partnership Creative Pedagogies Framework as an analytic frame, the following findings were identified in relation to how these creative pedagogies manifest in the Penryn Partnership:

### An integrated framework

One of the most immediate features of the qualitative data that emerged in relation to the Creative Pedagogies Framework was that often a single example of teaching or a single comment from a teacher researcher or student may be related to multiple different creative pedagogic features. This suggests an initial finding, which is that whilst the pedagogic framework splits down the pedagogies to foreground or highlight different aspects of practice, none of these exists in isolation and a creative pedagogy can only be understood as a multi-dimensional practice. It may be particularly characterized by one, or a small cluster, of the identified pedagogic features at any one moment but is likely to draw on many or all of them in a dynamic and responsive process over time. To address this during the analysis, the same data was often coded to multiple individual codes to reflect this complexity and to build a richer picture of how each of the interrelated pedagogic features manifest within the Penryn Partnership.

## A patchwork of data

The second overall feature of the data that should be noted is that there was considerably more data in relation to some parts of the pedagogic framework compared with others. This was an anticipated finding reflecting the relatively small scale of the research and the open-ended brief given to the teacher researchers to explore an area of creative practice that was particularly interesting to them. Although the number of 'pieces of data' is an approximate measure which might easily reflect the length of discussion rather than the actual prevalence of each pedagogy, the following counts nevertheless give a useful indication of the aspects of pedagogy that have been of most interest to teacher researchers this year and the areas in which further investigation could be beneficial.

| Pedagogic Feature | Amount of data |
|---|---|
| Risk, immersion and play | 80 |
| Empowerment, autonomy and agency | 46 |
| Individual, collaborative, communal activities for change | 16 |
| Problem solving | 15 |
| Professional wisdom | 13 |
| Generating and exploring ideas | 12 |
| Possibilities | 10 |
| Ethics and trusteeship | 2 |

Table 8: Amount of data relating to different pedagogic features

## The Creative Pedagogies

### *Empowerment, autonomy and agency*

Teacher researchers reflected on aspects of empowerment, autonomy and agency in their pedagogies both for students and for themselves. Three of the teacher researchers particularly commented on the freedom they had to take their own risks in their practice during the action research process, which they experienced as an increase in autonomy and agency compared with usual practice. There was an interesting oscillation between discussion of teacher autonomy and student empowerment in some of the data, pointing towards an interrelation of these two. For some teacher researchers, opportunities for student/teacher empowerment were described as needing to be balanced with, or as existing in conflict with, the demands of a knowledge and skills-based curriculum. Perspectives on this were varied: for some this was a challenge to be addressed in their teaching, whilst for others it was more directly problematic, for instance in KS3 English where there was a perception that a knowledge heavy, exam driven curriculum and regular inclusion of approaches such as the use of 'success criteria' (which are assessment oriented) restricted the agency of both teachers and students. Meanwhile, other teacher researchers commented on the importance of building knowledge and giving frameworks for problem-solving to develop students' confidence, independence and feelings of empowerment so there was not a straightforward hierarchy between a focus on developing knowledge and developing empowerment/agency but the two could be seen to be in relationship with each other.

Examples of pedagogic approaches which foregrounded student empowerment, autonomy and agency included:

- KS3-4 STEAM project, described in further detail in 'problem-solving' below, was focused on how sudents can feel powerful through achieving success in their problem-solving approach
- Using a collaborative approach to develop writing addressed to a real-world audience in KS3 English to develop student understanding and use of rhetorical devices used in non-fiction
- A creative, outdoors science project for KS2, experimenting in groups with mirrors around the school grounds
- Providing students with time and freedom in the use of various materials to express how a waterfall forms a gorge over time in KS3 Geography
- Exploring how children ask questions and what questions they ask to tailor the environment towards their needs in KS1 Science

Some of the aspects of these projects and others that foregrounded student empowerment, autonomy and agency were:

- Allowing time for practical experimentation rather than focussing on written skills
- Allowing students to take the lead (strongly linked to generating and exploring ideas, below); allowing students to make choices in terms of the area of focus for their work, in how they respond to tasks or the format for their work; giving students ownership; standing back and allowing students to put their ideas into action; addressing problems that students care about; allowing students to reach their own conclusions – as expressed by one teacher researcher who explained that allowing children to design their own scientific questions allowed them to 'encounter outcomes that might not be expected and allow them to think about what this could mean' (KS2 teacher researcher)
- Making space for self-expression
- Allowing students freedom and taking an open-ended approach – comments here also link strongly to the pedagogic feature 'possibilities'
- Building confidence – sometimes mentioned generally as a precursor to being an empowered learner and sometimes linked to specific strategies to develop confidence such as building experience; providing models to work from rather than starting with a blank page; helping students to gain the experience of being successful; working collaboratively and utilising peer support

  > *"As I know what I'm able to do and can adapt it to work better or for a new problem."*
  > (Year 10 student, STEAM)

- Involving real-world problems - an overlap is noted here to the pedagogic feature 'problem solving'

***Risk, immersion and play***

Risk, immersion and play was the pedagogic approach that was most widely represented and discussed in the data. This was likely due to this pedagogy providing the focus for several of the individual action research projects, whilst other projects that were more skills focused chose to consider the skill of 'empowered action' incorporating risk taking and immersion and thus also generating a wealth of pedagogic data in this area.

There is a slight lack of clarity within some of this data which may have been the result of a diversity of different understandings of the concept 'immersion' being adopted: the term is included but not spelt out in the creative pedagogies and skills frameworks, potentially leading to confusion. Its use in the frameworks can be traced back to the work of Craft et al (2013) on Possibility Thinking, where it is described as 'concentration, absorption' (p. 547), and also used in the sense of being 'immersed in awe and wonder' (p. 549). The various understandings adopted in the AR projects include this sense of being absorbed in activity and also the experience of being flooded with a particular type of activity.

An OECD (Paniagua & Istance, 2018) definition is used in one project, summarised by the teacher researcher as 'pedagogical approaches that focus on the non-mental factors involved in learning' and a definition is also developed based on Chappell et al. (2016b) which is interpreted by the teacher primarily as being 'grounded in the body' (p. 21). These latter understandings led to a number of teacher researchers describing work that had a focus on sensory engagement as utilising immersion. These ideas are all complementary but providing further definition around this term may help focus the work in this area in the future and build further on the embodied dimension which the focus on the senses has helped teacher researchers to engage with during this year.

*Examples of pedagogic approaches which foregrounded risk, immersion and play included:*

- A KS2 forest school project which explored all these concepts in different relationships across English, maths and science, encouraging students to become immersed in their learning in the outdoor environment through a series of open-ended collaborative activities

- A Year 1/Year 5 learning friends project in which children working in mixed age pairs were given a series of one-hour sessions to play together outdoors, with a brief for the Year 5 children to plan a session the Year 1 children would enjoy

*Risk taking*

- 'Free writing' lessons in KS3 English where students were given an image as a stimulus and 'simply told to write and not to overthink it'

*Immersion*

- Exploring the idea of 'embodied immersion' in KS2 English through a multi-sensory inhabiting of different environments and using different 'objects with narrative potential' (KS2 teacher researcher) as starting points for writing
- Immersing reception class children in stories and observing how these were the impetus for multi modal play

*Play*

- Arriving at a question of how an early years approach which allows children to explore and learn through play could be encouraged throughout primary school, in particular to facilitate children putting their scientific and enquiry approach skills into action
- Exploring imagination and playful experimentation within physical geography lessons including students modelling with Oreo cookies to explore different types of plate boundaries and using mini-whiteboards, pens and Play-Doh to illustrate or model their understanding of river processes

  > *"I overheard a comment that stayed with me from a bright and conscientious pupil, 'When I was little, playing with Play-Doh wasn't this hard.' This made me curious about their reflections on the experience – was it hard because they were worried about taking risks vs. 'getting it right' or because they were thinking hard and learning critical skills?"* (KS3 geography teacher researcher)

- Using role play or cartoon strips in KS3 English to encourage students to think about a text differently or to deepen their understanding

*Challenges and barriers for pedagogies utilising risk, immersion and play:*

There were a number of challenges that had to be overcome in order for teacher researchers to successfully utilise pedagogies of risk, immersion and play. Some of these related to the perceptions and readiness of the learners themselves, others related to the context for learning. They included:

- Students' fear of failure, fear of judgement and of not getting things right – these comments for students acknowledge this as a barrier but also demonstrate it is one that can be overcome:

  > "*We are able to voice our opinions without being judged so it isn't like there is one correct answer – we can take the risk with lots of different answers.*" (KS3 English student)

  > *"Because I never used to take risks. 'Cause I always used to think I was going to make a mistake. But now that we've been doing imagination firelighters, it's helped me a lot."* (KS2 English student)

- Related to the previous point, one teacher researcher reflected in detail through her research on how lists of success criteria and specific technical devices to employ inhibited students' ability to take risks, play and become immersed (Link to Holly report). Another teacher researcher concluded similarly that the detailed planning for curriculum coverage and progression expectations at primary level restricted opportunities for child led learning that may be more playful and immersive
- Conversely, one teacher researcher reported on students initially feeling overwhelmed by the level of freedom they were offered
- Students' low self-esteem
- Students' perceptions of what constitutes learning - 'Justifying to the children that these sessions [Y1/5 learning friends] have been filled with worthwhile, important learning'
  (Year 5 teacher researcher)
- An early years teacher researcher observed that the pandemic and lockdown had also had an impact on children's willingness to take risks and that this was a quality of children's development that staff were aware of working regularly to reinstate

*Facilitators for pedagogies utilising risk, immersion and play*

Time was most the widely cited pre-requisite for facilitating processes of risk, immersion and play – there were 23 mentions of this in the data. It was described as a necessity for these pedagogical approaches and elaborated as time for practice, development, failure and review (KS4 Media), time for trying different methods (KS2 Science), and time to explore ideas. For example, one student explained:

> *"I've got kind of creating and developing ideas and making sure that they're unique but also realistic, and then eventually we end up producing a piece of sort of material work based off of the ideas you* came up with. You need time to do this though." (KS3 English student)

One of the teacher researchers reflected on the risk that teachers themselves need to take if they are to give time and space for exploring ideas in the context of a clear set of aims that must be achieved in a short amount of time. The prevalence of a lack of time to facilitate risk, immersion and play in the curriculum was widely commented on by both teacher researchers and students from KS1-KS4, for example: 'Yeah, teachers kind of give you, like, five minutes and then they're like, "Right, I want the answers. If you haven't got them all written down, just write them down."' (KS4 Engineering student)

Ideas for creating more time in the curriculum included recommending fewer assessment points to increase the time and space for developing creative skills within each topic and one teacher researcher gave an extended example of how taking time at the start of an English lesson to explore and discuss ideas led to a student producing a thoughtful short narrative in a speed writing exercise – i.e. making time and space to immerse in the topic allowed them to risk utilising more introspective thoughts, even within a time-restricted exercise:

> *"The cries of gulls' echoes through the hollow shell. The waves wash over my mind and sharpen my thoughts, clearing out the doubt and worries, replacing them with a calm sense of belonging. Warm beams of sunlight warn my heart. The beach reflected in this beautiful creation of the sea."*
> (KS3 student creative writing, 2-minute writing task)

Other aspects of pedagogy that facilitated risk, immersion and play included:

- As reported in relation to empowerment, in Engineering at KS3/KS4 it was found that building students' experience and building their confidence through previous experiences of success, helped students to take risks in their learning and to seek out the information they needed to bridge any gaps; similar comments were made in relation to KS4 Media
- In KS3 English, one teacher researcher reflected on how clarity on the endpoint students are aiming for can help them 'take risks in their writing rather than 'playing it safe' by regurgitating known sentences and ideas' (KS3 English teacher researcher)
- Meanwhile, another English teacher researcher found that when there was no sense of a 'correct' answer then learners were less inhibited in their willingness to take risks in their work. Bringing these two points together illustrates the need for both structure and openness within creative pedagogies which emerges in a number of comments here and elsewhere in the data
- Fostering a trusting environment in which children were encouraged to take risks and can tolerate aspects of the unknown in their planned activity as demonstrated by one of the students in the 'Learning Friends' Year 1/Year 5 when they accept that their plan did not go according to plan:

  > *"Today went well… But, today would have been better if it actually exploded and bubbled and fizzed but it didn't. I think I went out of my comfort zone. I went out of my comfort zone when all of the blob went out on the table and I didn't really know that was going to happen"*

- Planning an assessment that focuses on the design of an investigation rather than the results, to avoid the focus on 'getting things right' (KS3 Science teacher researcher)
- Allowing time for experimentation that is not assessed
- Engaging in practical learning – for instance by being outside, exploring and running around; carrying out their own scientific enquiries; learning theory through practical work
- Validating the views expressed by learners

***Possibilities***

There were relatively few examples of teacher researchers explicitly discussing the way that they allowed multiple possibilities in terms of thinking and spaces in their pedagogic approach and this is also reflected in the questionnaire results. However, many of the approaches described above in terms of empowerment, autonomy and agency could also be considered as nurturing possibility thinking so the lack of data here should not be overemphasized, except for perhaps in suggesting that this is an area with potential for more explicit attention in the future. Some ways in which teacher researchers describe utilising a pedagogy of 'possibilities':

Providing a wide range of different ways for students to engage with tasks (KS3 Media, KS3 English)

- Creating a *'pick n mix board of creative tasks to pick from'* in relation to a given curriculum area (KS3 English)
- Allowing students to design their own curriculum which they increasingly initiated without adult intervention (KS1/2 Learning Friends project)
- Giving time, space and materials to work with (KS3 Geography)
- Providing equipment to explore with, rather than prescribing a set method (KS2 Science)
- Providing a starting point with an open-ended brief (KS3 English)

***Generating and Exploring Ideas***

There was strong evidence among the primary school groups of students generating and exploring their own ideas. In reception class, examples were given of children's playful ideas being accepted and developed – for instance accepting one child's focused interest in a blade of grass and turning it into a making game. The Learning Friends (Year 1 and Year 5) project foregrounded children generating their own ideas within an extremely open and accepting structure. KS1 and KS2 Science projects and KS2 forest school science activities all focused on children putting their own questioning and enquiries into action – with varying levels of structure provided around this.

Although not restricted to the secondary school groups, it was at this level that the need to balance openness and structure, control and freedom, came slightly more to the fore. At the freer end of the scale, in KS3 Science, students were invited to visit the science prep room for inspiration – the room where the scientific apparatus is stored. They then planned their investigation, presented it to a teacher and technician to check for safety but not viability, before implementing it. Similarly to the primary school projects, this shows a high level of accepting students' ideas although it is also moderated by comments from the teacher researcher suggesting that this is an unusual approach in the context of the knowledge rich current national curriculum at this level where time is very limited (similar comments were made in science projects at primary level). Illustrating the other side of this balance, a finding from the KS4 Engineering project was that 'adaptation of current designs can be as powerful for students' confidence and understanding as coming up with new ideas.' (KS4 STEAM teacher researcher) – demonstrating that generating completely new ideas is not always perceived as the most effective way of developing students' creative skills at this level. Reflecting on this range of approaches one of the KS3 English teacher researchers commented on the need for differentiated levels of structure to be provided for students of differing ability levels, with more scope for freedom, thus more space for generating original new ideas for those at the higher level of the ability spectrum whilst those at the lower level may benefit more from inputs such as writing frames and sentence starters.

***Individual, Collaborative and Communal Activities for Change***

Although there was not extensive discussion of this aspect of pedagogy, it is notable that every action research project involved some aspect of collaboration, so it could be seen as the most pervasive pedagogic strategy used across the action research projects when teaching for creativity. The collaborations that are discussed often have a 'real world' character to them, often dovetailing with a 'problem-solving' approach, for example:

- Developing pressure groups to create campaign material addressed to a real-world audience in KS3 English
- Collaboratively tackling 'real-world' problems in KS3 and KS4 Engineering projects with industry partner input
- Working as a team to make an art sculpture out of natural materials in KS2 forest school

Similarly, dialogue is not often specifically commented on as a pedagogic focus, but it can be inferred from the projects described to be a background presence in many of them. Dialogue in the wider sense of bringing different disciplines together and working dialogically with different ideas and materials was present in some projects, notably the KS2 forest school project and within the early years work. For example, the early years teacher researcher described exploring materials, looking at other people's work, discussion and listening all being utilised as ways to help children get started on a task. Teacher researchers were resistant to the idea of 'allowing for conflict and irreconcilable difference' (it was the aspect of the creative pedagogies framework teacher researchers reported using least in the survey at the outset of the action research) although it emerges occasionally in comments from students. For example, one of the students in the Learning Friends Year 1/Year 5 project described their painting being ruined by another student showing that despite the resistance, conflict and difference are present in the classroom.

There were no comments about working communally and few comments about working individually. One of the KS3 English projects alternated collaborative approaches and individual writing and working independently provided the focus for a KS2 project exploring the use of reflective strategies for self-regulation, specifically use of a visualiser to link learning to 'steps to success'.

***Problem Solving***

A number of the action research projects utilised a problem-solving approach which, as described in the pedagogic framework, often used real problems to motivate and engage learners and sometimes had a transdisciplinary character. These included:

- Creative skills in engineering were understood primarily as combining and applying previous knowledge, experience and skill to solving a novel problem. The research led to the development of a three-part pedagogic model based on problem solving in KS3-4 STEAM which is described as requiring:
    - (1) Knowledge, experience, and expertise in similar areas to the problem they are trying to solve
    - (2) A method of breaking a problem down, identifying its traits and parts, assigning previous knowledge, experience and expertise to these parts and building back a solution that works
    - (3) To believe that being able to solve the problem matters, feeling powerful only happens when a student can do something they care about

This is represented by the teacher researcher in a pyramid of understanding: Watch (knowledge and experience), Try (skills and expertise) and Apply (creative application)

- In KS3 Geography, a problem-solving approach was utilised through tasks such as students being asked to 'think like designers' to design and build a model of an earthquake proof building out of spaghetti and marshmallows
- KS2 forest school activities utilised a transdisciplinary problem-solving approach with students regularly bringing together different ways of thinking in the projects they were given. For example, in the art activity described above, children had to combine their aesthetic intention with experimenting practically with how to make the structure work, also needing to collaborate and persevere with their problem solving

Figure 27: KS2 Forest School Art: Combining Aesthetic and Structural Problem Solving.

### *Ethics and Trusteeship*

There was hardly any mention of issues relating to ethics or trusteeship in the data. The two pieces of data that were coded to this part of the framework were:

- A Y5 student being particularly aware of the impact of their actions on their Y1 'learning friend' – bringing resources from home to support a science activity despite their own lack of interest in science: this could be considered as a student as teacher considering the ethical impact of their own creative process
- A teacher researcher reflecting on the impact of creative pedagogies on students' wellbeing:

> *'students individual and social well-being is supported and developed through the use of creative pedagogies. They appreciate when their thoughts and thinking processes are validated by giving them the time and space to experiment with ideas and show their understanding in creative ways as so many feel disadvantaged when their learning is focused mainly on completing written work.'* (KS3 Geography teacher researcher)

The lack of data in this area suggests that this is an area which could be explored further in the future.

### *Professional Wisdom*

Teacher creativity could be witnessed in action through the diversity of different ideas that were developed for the action research projects but was only commented on specifically in KS3 English where the teacher researcher described her process of assembling objects in a 'writing box', who also mentioned writing alongside the students and by the early years teacher researcher who described utilising her own life long immersion in stories in her teaching approach.

Educational tensions of accountability/assessment and time pressures were widely discussed as has already emerged in other parts of the discussion above. This has included discussion of the pressures of assessment and of a knowledge and skills heavy curriculum resulting in a lack of teacher and pupil agency and a lack of space for imagination, play and inquiry. Teacher researchers' perceptions of these dilemmas vary in terms of how confident they feel in their ability to navigate them within their ongoing practice. Within this area there was an interesting discussion on how best to record and assess creative skills which could be further developed. It is worth reflecting here on the data from the questionnaire that suggested that teacher researchers' rating of their own level of agency declined over the course of the action research, which could suggest that these tensions came into sharper focus through participating in the action research process.

## Research Question 2: How Do Students' Creative Skills Progress?

### Findings from the questionnaires

Teachers were asked to rate students' creative skills as defined by the Penryn Creative Skills Framework considering their whole class using a five-point Likert scale where 1 = poor and 5 = excellent. The questionnaire was issued prior to the action research in September 2022 and again afterwards in May 2023 and identical questions were used. Means have been calculated for each creative skill both prior to and following the action research projects. The summarized results are shown in Figures 23 and 24.

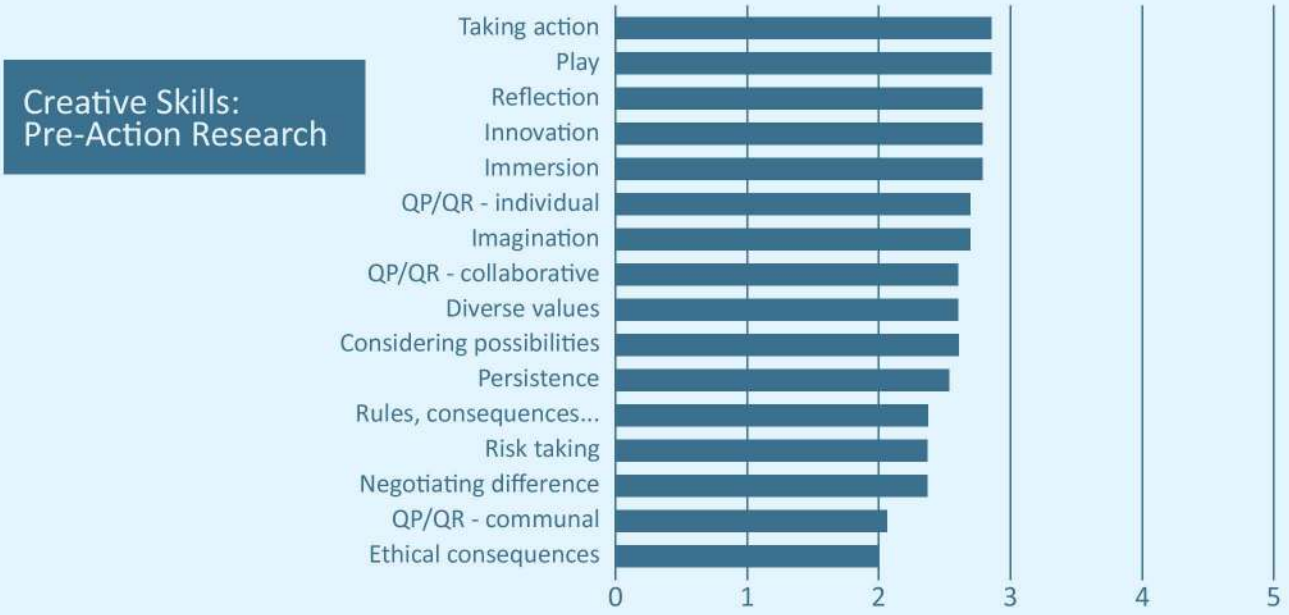



Figure 28: Mean Scores for Creative Skills prior to the Action Research

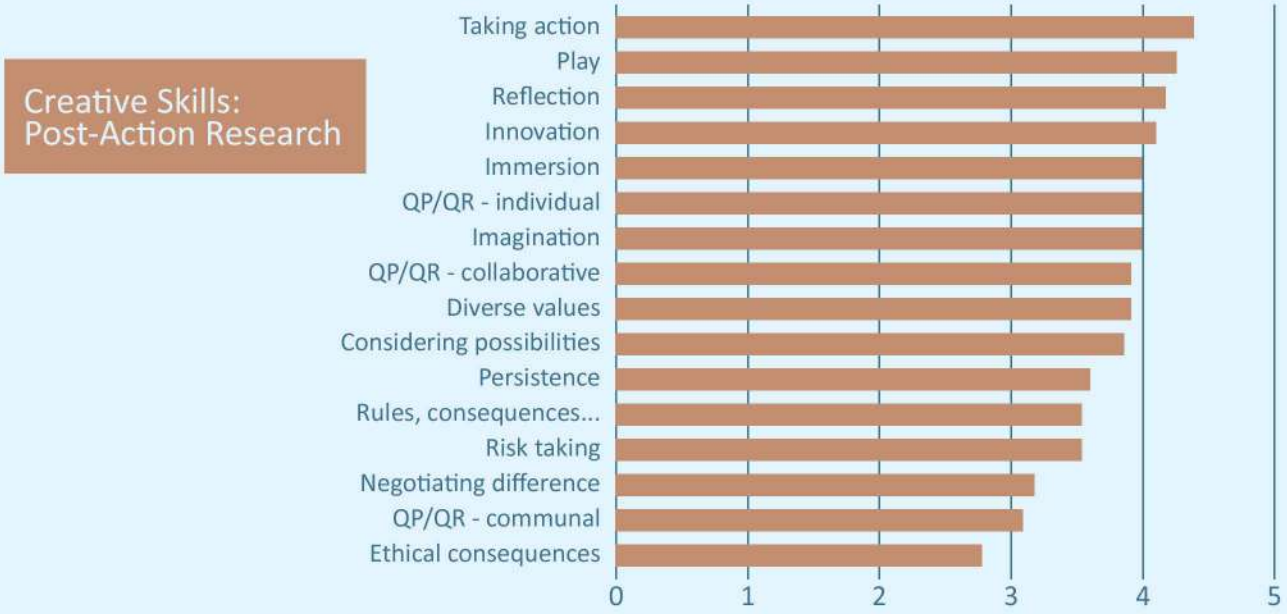



Figure 29: Mean scores for Creative Skills after the Action Research

Although the numbers participating are too small to draw any significant statistical findings, the results suggest an overall picture of teachers' perceptions of the progression of students' creative skills over the course of the action research project.

Notable findings are that:

- Prior to the action research, participating teachers rated their students' creative skills on average at 2.6 on a scale of 1-5
- After the action research, they rated their students' creative skills on average at 3.8 on a scale of 1-5, which is an increase of 1.3 points (rounded to one decimal point)

**Prior to the action research** the areas of creativity in which students' skills were **rated most highly were: innovation, play, taking action, immersion and reflection**. The areas in which they were **rated least high were in considering the ethical consequences of creative ideas and actions and working to pose and respond to questions, including finding and solving problems as part of a community**. The final part of this is emphasized since other dimensions of question posing and responding (i.e. working individually and collaboratively) were rated more highly. **After the action research** the areas of creativity in which students' skills were rated most highly were **immersion and innovation**, whilst the **lowest rated were considering the ethical consequences of creative ideas and actions** and **understanding diverse values and how they matter differently**.

The skills which showed the **largest change** in teachers' ratings were **immersion and risk taking**. This is consistent with the qualitative data which showed extensive commentary on skills around 'empowered action' which incorporates both immersion and risk taking. The qualitative data also suggests that the most pedagogical attention during the action research projects was in the area described as 'risk, immersion and play.'

The skills which showed the **least change** in teachers' ratings were **understanding diverse values and ethical consequences**. Again, this is consistent with the qualitative data: understanding diverse values as an individual skill was only commented on by 4 of the 13 participating teachers and it forms part of the overall category 'generating new ideas that matter' which is the area of the skills framework least represented in the qualitative data. The ethical dimension of creativity was barely commented on at all in terms of either skill or pedagogy in the qualitative data. It could therefore be concluded that teachers observed least progress in the skill areas which were least significant for them in terms of their action research projects.

## Findings from the Qualitative Data

### A patchwork of data

Similarly to the data on creative pedagogies, an initial observation of the data on students' creative skills is that it is unevenly spread across the Penryn Creative Skills Framework, as would be anticipated given the participating teacher researchers' freedom in deciding their own areas of focus for the research. As presented in relation to the pedagogies, the table below shows the number of 'pieces of data' coded to each skill area. An aggregated number is given for each of the five skills in the framework together with the number for each sub-code or skill (some data referred to the skills as a whole, hence the discrepancy in the aggregated numbers):

| Creative Skill | Amount of data |
|---|---|
| **Dialogue and collaboration** | **61** |
| Question posing/responding. problem finding/solving | 19 |
| Working individually, collaboratively and within a community | 32 |
| Negotiating difference, responding appropriately | 5 |
| **Empowered action** | **58** |
| Risk Taking | 25 |
| Immersion | 11 |
| Taking action | 14 |
| **Honing and developing an idea** | **38** |
| Reflection | 13 |
| Understanding rules and consequences | 12 |
| Persistence | 13 |
| **Being imaginative and playful** | **34** |
| Play | 10 |
| Imagination | 13 |
| Considering possibilities | 7 |
| **Generating new ideas that matter** | **25** |
| Innovation | 11 |
| Considering ethical consequences | 4 |
| Understanding diverse values | 9 |

Table 9: Data coded to each creative skill

The overall patterns of data mirror the findings on creative pedagogies, with the most data in the area of dialogue and collaboration which reflects this being demonstrated to be a pervasive pedagogical approach. The second most data is in the area of 'empowered action' which incorporates themes of student agency, risk taking and immersion, areas in which there was extensive pedagogical commentary. The skills of considering ethical consequences, negotiating difference, understanding diverse values and considering possibilities have received little attention, again mirroring the lack of pedagogical attention in these areas.

### The Creative Skills

#### *Dialogue and collaboration*

There was a wealth of data providing examples of children actively and ably engaging in dialogue and collaboration particularly in the areas of collaborative working, question posing and responding/problem finding and solving. There were strong but isolated examples of students negotiating differences and responding appropriately which are discussed below. It is notable within this data that often there are descriptions of students' experiences of collaboration rather than detailed commentary on how dialogue or collaboration has developed or been utilised as a skill. There are some exceptions to this which are featured below but this could be an area for further consideration or development. Dialogue is most often understood as a verbal exchange between people.

There is scope to extend this to reflect more extensively on a broader sense of verbal or embodied dialogue between people, ideas and disciplines perhaps not currently clearly enough articulated in the skills framework. Again, there are exceptions to this, for example:

> *An early years teacher researcher observed students externalising their internal dialogue with the story they had heard through their drawing. The same teacher researcher also commented on when the children had brought their own thoughts and experiences into a dialogue with the story they heard to highlight the word 'kiss' as the most important one in the story – a word that the teacher researcher would not have predicted had such depth of emotion and meaning for them all.*

*Working Individually, Collaboratively and within a Community*

Following the pattern of the pedagogic data there were a multitude of examples of students working collaboratively, with far fewer students showing skills in working individually and no examples of students working as part of a community. Students utilised collaborative skills in an array of different contexts including designing models and pitching their solutions (KS3 Engineering); combining ideas and peer-assessing work (KS2 English); creating practical work (KS4 Media) and using dialogue in class debates (KS3 English). It was, therefore, not surprising that teacher researchers described collaboration as a cross curricular skill and one that was valuable from KS1 through to secondary level and beyond. Several teacher researchers commented on how collaboration linked closely to empowered action, providing a supportive context for students to feel more confident and thus take risks in their learning. They described this in terms of 'safety in numbers' (KS4 Media teacher researcher) and giving 'children confidence in their ideas… activity encouraged by the adults' (Reception teacher researcher).

There were a number of examples of students supporting each other through praising each other's efforts and coaching each other. Collaboration helped students to share and develop their ideas and this was valued by teacher researchers as well as students. There were some discussions of taking on different roles in collaborations, for instance in combining strengths or 'add[ing] in bits that we're better at' (Year 9 student), allocating roles within a team or taking on specifically supportive or nurturing roles (especially in the Year 1/ Year 5 Learning Friends project).

*Question Posing and Responding, Problem Finding and Solving*

There were several examples of students utilising skills in problem solving through engaging with real world problems. In KS4 Engineering this was framed in terms of problem solving as a process of *applying* knowledge and *adapting* from previous experiences. Similarly, in KS4 Media it was described in terms of *applying* knowledge and experience. As observed in the pedagogical data the use of real-world problems (notably in KS4 Engineering and KS3 English) prompted students to draw a range of different skills into their problem-solving approaches. For example, one KS3 English student observed:

> *"If we were doing this in a normal lesson, we'd be looking at the skills separately, so this way seems way more logical if you know what I mean?"*

There were several examples of students utilising dialogue for collaborative problem finding and solving in KS2 forest school activities which also show examples of students responding to materials and environment to problem find and problem solve, for example creating a 'shelter sculpture' when it started raining during a forest school art lesson. In the early years, children showed playful ways of asking and responding to questions, for example through interacting with a suitcase with a variety of objects in it.

Progress was observed in these skills in some projects including the KS3/KS4 Engineering projects where the teacher researcher observed that *'In subsequent lessons it was observed that students came up with more applications for the electronics, that they would not have come up with a solution to before'* – attributing this progress to having gained more experience and to feeling empowered by their previous success. In the KS1 Science project a questionnaire showed that an increased number of children felt confident to ask and to answer questions about science at the end of the action research project. The teacher researcher attributed increase in knowledge as a basis for asking questions together with allowing more time for question posing through discussion.

The KS2 Science project particularly focused on students developing their own questions and provided opportunities to extend this questioning through practical activity. This focus was reflected in a heightened awareness of questioning at the end of the project when one student observed that *'asking and answering questions'* was one of the most important skills needed for a scientist, whilst another commented 'sometimes it is impossible to answer questions... *"sometimes you need to continue in different ways"* (Year 6 student).

*Negotiating Difference, Responding Appropriately*

There were only a few examples identified in the data that showed students utilising skills of negotiating difference and responding appropriately but the examples provided show strong evidence of students utilising these skills effectively across English, Science and Learning Friends projects in KS2 and in Science at KS3. For instance, in KS2 English one of the students reflected that the ability to let go of your own idea and utilise ideas from others was difficult but effective:

> *"It was hard to not just use your idea and use other people's to write a better story but we all did it and it's worked well."* (Year 5 student)

Similarly, a KS3 Science teacher researcher found a number of examples of students negotiating their differences, including in a focus group where students articulate how they had been able to 'figure out a way in between' their different ideas through an extended group dialogue.

**Honing and Developing an idea**

*Reflection*

There was strong evidence of reflecting, analysing and evaluating reported in the action research projects from KS2 through to KS4; the KS1 and early years project considered it too cognitively advanced to be expected amongst the participating children. Reflection was evidenced in self-reflective comments (KS2 English, KS3 Science), through students reviewing work against intended outcomes (KS4 Media) and observed in decision making (KS2 forest school). The reflective comments from the KS3 Geography project in particular illustrate the integration of creative skills with subject knowledge as students reflect on the success of their 'earthquake-proof structures' and demonstrate both their knowledge of structural features and geographical knowledge about earthquake prone parts of the world. Reflection was cultivated successfully when understood through a more metacognitive lens utilising a 'steps to success' approach in KS2 Maths and English and metacognitive strategies were also central to students developing their reflection and review process in KS2 Science.

*Understanding rules and consequences*

There was evidence of students developing the discipline specific techniques they needed for their creative work and understanding the rules and consequences of different kinds of creative action across all the secondary school projects, as well as being observed as a feature of students work in the KS2 English project. The age group bias toward the older students in this data is worth noting. The need to understand the rules in English to underpin creative writing was commented on by students and teacher researchers alike at both KS2 and KS3 levels and similarly the KS4 Media teacher researcher reflected on how students need to develop their media production techniques to respond to the set task. This was a strong feature of the skills developed in KS3 Science where data from both students and teacher researchers demonstrated the way in which students were developing their skills in 'thinking like a scientist' – by introducing elements of control, identifying variables and different possible outcomes and developing a hypothesis.

*Persistence*

There was mixed evidence of students showing persistence in crafting and improving their work. In both KS4 Engineering and KS4 Media it was observed that if tasks were 'too hard' or if failure was likely it was hard for students to have the resilience to engage creatively. In KS3 English the teacher researcher noticed that the contact with 'real people' helped to increase students' persistence with tasks in a project in which students developed campaign material around issues of their choice.

Lots of evidence was found for students showing persistence, including through problem solving; rethinking and dialogue in KS2 forest school projects; in refining work in KS3 English creative writing and persevering in the face of difficult decision making in KS3 Geography. Limited evidence for persistence was found in KS2 English and in the early years project and in the KS3 Science project students did not self-assess as having persistence although the teacher researcher observed them showing persistence through problem solving in a practical investigation.

***Empowered action***

A large amount of the data fell into this area of the skills framework and a number of action research projects reported on developing empowered action as an overall area of skills. These included KS4 Engineering and the Y1/Y5 learning friends project in which teacher researchers observed that students' sense of empowerment increased as they gained more confidence and experienced success. Across KS3 English, KS2 forest school and KS4 Media projects teacher researchers observed that as students had more freedom to choose the direction of their learning and experienced more feelings of ownership and independence, their capacity for empowered action increased.

*Risk taking*

Examples were given of risk taking evidencing the breadth of different ways in which students can take risks in their learning, for example: in using self-selected meaningful objects as the impetus for writing in KS2 English; in KS2 forest school where the teacher researcher described risk taking related to the dilemma 'will it hold/will my sculpture collapse?'; in learning new things in KS1 Science; in trying out ideas in KS2 Science and through free writing producing immersive and impactful writing at KS3 English. Collaborative work was seen as both a support and a context for risk taking, for instance one of the KS2 English students reflected that sharing ideas with a group entailed risk taking:

> *"We had to take risks with sharing our ideas and if we wanted our idea to be heard we had to be brave to do it. Then everyone wanted to listen to the idea."* (Year 5 English student)

In three of the projects (KS1 Science, KS2 English, KS3 English), students themselves commented on how they had progressed in terms of taking risks, for instance:

> *"I think that I…during imagination firelighters I've also become a bit…it's kind of risk-taking but almost less scared to use new ideas, instead of, like, using the same language over and over again."* (Year 5 English student)

*Immersion*

A range of different examples were given of students being immersed in creative action, including reception children becoming immersed in glitter painting a slide; KS1 children being immersed in listening to scientists giving information and also in applying their knowledge to a task or experiment; Y1 and Y5 students immersed in doing handwriting together and KS3 students being immersed in the flow of free writing. Several teacher researchers commented on other skills being developed through an 'immersive' approach, for example, in KS2 English the teacher researcher noted that through taking an immersive approach his students had been able to take more creative risks, evolve imaginatively and more reluctant writers had become engaged. In KS2 forest school the teacher researcher also felt that the immersive quality of the experience had helped to engage students in their learning which had a positive impact on behaviour. Through use of the Creative Skills Wheel students were observed as being immersed but descriptions of this in the data tended to focus on immersion as a quality of the activity rather than a skill in itself and there were no comments on progression in this skill area, despite teacher researchers reporting through the questionnaire that this was the area of most progression.

*Taking action*

The data on 'taking action' was mixed. There were a number of projects in which children were observed putting their own ideas into action, for example: in Y10 Engineering the teacher researcher observed how taking action could be in small incremental steps when adapting given designs rather than starting with a blank page; the KS2 Science teacher researcher observed students putting their ideas into action and gaining confidence and enthusiasm from this; students produced original work in KS3 English and the early years teacher researcher recognised that the children's success in putting ideas into action was not dependent on words, children were able to demonstrate this skill multi modally during her action research. There were some limitations in developing this skill: in KS1 Science a standout observation for the teacher researcher was 'there are not enough opportunities for children to put their ideas into action and the one example where children were able to put their idea into action was when at home.' Empowering children to act upon their ideas has therefore become a focus for future exploration for this teacher researcher. In some cases, students lacked self-belief in putting their ideas into action. For instance, in the Y1/Y5 Learning Friends project they self-reported low confidence in this despite consistently implementing their own ideas in practice.

***Being imaginative and playful***

Being imaginative and playful was reported on more extensively in the early years and primary school projects and was noted very little in the areas of science and engineering across all the age groups, although there were examples of students in these discipline considering possibilities.

*Play*

Perhaps not surprisingly, the most detailed commentary on children's play came from the early years project where the teacher researcher observed children developing their play by drawing on language from stories and extending their play through mimicking emotions, feelings and behaviour from stories. However, children were also observed utilising play as a skill in KS2 and KS3 English in the sense of playing with ideas, improvising whilst writing, considering different perspectives and working in an open-ended way. The approach taken in KS3 Geography was described as 'a response to the need for students to play and socialise as part of their learning' (KS3 Geography teacher researcher) following the COVID-19 pandemic and examples of students' work show playful qualities.

*Imagination*

Imagination in early years was closely connected to play by teacher researchers and children where children were observed responding imaginatively to stories through their play in role play, movement and music. However, imagination was not restricted to the early years: students self-assessed that 'being imaginative and playful' was the creative skill they had used most in KS3 Geography and there was also clear data for being imaginative in KS3 Science. Using imagination by taking on different roles and therefore understanding different perspectives was mentioned in KS4 Media (e.g. a student showing understanding of production decisions by understanding the role of director); in KS1 Science where children were reported to have changed their viewpoint of science by 'seeing themselves as a scientist' (KS1 Science teacher researcher); and in KS2 English, students described the process of imaginative perspective through taking on different points of view:

> *"I think now I kind of look at my ideas from a different point of view, like from a reader or from another person, like another character in the story. And then think what might happen because that's happening, what might they do, what could this lead to for the rest of the story."* (Year 5 student).

In KS2 English, in the context of forest school, the teacher researcher reported multiple examples of children using their imaginations describing how acting out stories in the forest had helped the children bring more imagination and detail into their writing. Some examples of the resulting texts are provided:

> *'We became tangled in branches and brambles.'*
> *'Brambles hung from above like spiders' webs.'*
> *'The wind was whistling through the forest.'*
> (Year 3 creative writing)

The only comment specifically on progress in imagination was in KS2 English where the teacher researcher observed that students' imaginative processes had evolved because of their increased willingness to take creative risks. There was an interesting comment from one of the Y5 students in the learning friends project who reflected that they had had to take a significant risk by joining in with an imaginative activity (drinking a 'potion of death') initiated by one of the Y1 students – the imaginative play being more challenging here for the older students.

*Possibilities*

There was limited data on considering possibilities which mirrored limited data in this area pedagogically. Despite this, clear examples of students exploring multiple possibilities were given across five of the action research projects and progression was observed in this area in KS3/4 Engineering and in KS2 English where one of the students noticed that after the action research they were able to 'think about all the different ideas' rather than just sticking with the first one they have (Y5 student).

***Generating new ideas that matter***

This was the part of the skills framework that was represented least in the data. The early years teacher researcher observed that while innovation was present amongst her children she had found less/no evidence of the children considering ethical issues or understanding diverse values. This matches the way this skill is described at EYFS in the Penryn Creativity Collaboratives Draft Progression Framework but is also mirrored to an extent by the findings across the other age groups. This could suggest either that this is an area of creative skills that could be developed further through teaching and learning or that it is an area of the framework where further exploration would help to provide a fuller picture.

*Innovation*

Examples were given of students innovating in Y1/Y5 learning friends by coming up with their own activities by generating original campaigning materials in KS3 English and through coming up with a novel design using CAD [Computer Aided Design] in engineering. It was seen in incremental steps in a problem-solving approach in KS4 Engineering and in KS2 forest school which is a good illustration that 'innovation' in students' work relates to what is new to the student and does not have to involve big leaps of innovation. Progression in innovation was commented on in relation to KS2 students' creative writing and through gradually drawing the Y1 students into making suggestions during the course of the learning friends project.

*Considering ethical consequences*

As reported in the pedagogical data, the only example given of a student considering ethical consequences was in the learning friends project where the Y5 students were careful to meet the needs of their Y1 partners. A 'sense of equality and collaborative practice during creative lessons' was noted by the KS3 Geography teacher researcher which implies some awareness of the ethics of creative practice amongst this group.

*Understanding diverse values*

There were examples across English, Media and Learning Friends projects of students showing understanding of diverse values, particularly through considering the use of different language and humour for difference audiences (KS2 English); understanding the impact of different language (KS4 Media); through making use of multiple points of view (KS2 English) and accepting multiple interpretations of a given text (KS3 English). The learning friends project provided examples of Y5 students understanding that different activities are enjoyable/of value for the younger children.

## Wider Impact of PCC Year 2

Continued Professional Development (CPD) during Year 2 developed teaching and learning (T&L) strategies for staff to implement within the classroom. Teacher researchers reflected CPD enabled them to keep the Penryn Creativity Collaboratives skills at the forefront of their mind when redesigning curriculums and lesson planning. Teacher researchers increasingly noted they were 'allowing more time' for creative thinking in their daily lesson plans and using the creative skills language more frequently in class was leading to greater student understanding across the PCC. As a result of teacher researchers increasing their use of the language of Creative Skills during their lessons, their young people in the classroom also began to demonstrate understanding and depth of the skills through their own reflections and discussions.

Teacher researchers commented that CPD inspired them, gave confidence and practical tips of how to create creative spaces in the classroom and techniques to evolve a new way of looking at creative pedagogy. Opportunities for cultural partners to deliver CPD strengthened networks and frequently built into further interactions between partners leading to teacher researchers developing other teachers in their teams. For example, teachers attending the 'Imagination Firelighters' CPD experienced the wealth of expertise and experience from two local authors not only in the craft of creative writing and developing creative ideas but also the skills of developing creative thinking in the classroom.

> *"The CPD sessions allowed me to rediscover how to spark a child's imagination and to give time and space allowing for more freedom"* (Teacher researcher, 2023)

Teacher researchers taking their own journey in **professional development** in teaching for creativity often commented repeatedly about teacher agency and risk taking.

> *"If we want students to be able to see the value in this, then we ought to be brave enough to take those steps ourselves as practitioners"* (Teacher researcher, 2023).

> *"The experience of this project has certainly convinced me not only of the value, but also the moral imperative of embedding creative pedagogy and skills into my own classroom practice"*
> (Teacher researcher, 2023).

There were several teacher researchers who discussed the impact of their **school coaching program** as a supportive addition to their professional development over the year. Opportunities to bring additional teachers, teaching assistants and leaders into the action research project led to a breadth of learning conversations. These often focused on the responses of students to a range of creative pedagogies with staff using the Creative Skills Data Wheel to collate observations and record reflections. Coaching also allowed an opportunity for colleagues outside the action research project to have insight into the 'Building and Testing' approach for the Year 2 CC.

Teacher researchers commented on the **role of senior leaders and headteachers** being part of their learning journey during the year. The importance of teachers and leaders both attending CPD and meetings together allowed for professional dialogue to flourish building greater understanding and capacity to cascade the learning moving forward.

> *"We had to work hard to reboot the mindset of staff and children alike"* (Teacher researcher, 2023).

Teacher researchers have taken opportunities across the year to share learning across their department teams, staff body and governors, with other teachers feeling empowered to use creative pedagogy in their own classrooms . As an example of this, one primary school saw the teacher researcher sharing practice in a staff meeting resulting in a whole school roll-out during the summer term 2023. In another school interest generated through a staff meeting led to colleagues developing resources across their department as they prepare for the new academic year. Teacher researchers also noted that they ignited change through leading learning by example, sharing vocabulary and raising profile.

When looking forward to discussions for Year 3, several teacher researchers talked about the need for CPD to develop the teaching for creativity to be built into plans for the following academic year. Several commented on the time required to develop practice in others and the necessity for this to be built into training structures across a school or partnership. The potential impact of sharing findings extends into teacher training and networks of primary and secondary headteachers across Cornwall.

Some teacher researchers across the Penryn Partnership worked closely with Creativity Collaboratives Network partners. The final action research survey demonstrated a mixture of responses with some low impact of working alongside a creative network partner. However, further comments articulated these low scores reflected non-engagement with the opportunity rather than a negative experience. Lack of engagement was often a result of not being appropriate for their action research plans or a lack of time and capacity to include in the classroom activities. The opportunities for professional dialogue between teacher researchers and partners developed a richness of reciprocal learning. Exploring ideas alongside industry partners allowed teacher researchers to develop their classroom curriculum ambitions, lesson planning and pedagogy for fostering creative thinking.

Partners were able to model the creative process to teacher researchers and students and often could identify links within the curriculum for skills needed for future careers.

> *"I think there is a large importance in encouraging children to be creative as it is a skill that can be applied to many different career paths"* (Teacher researcher, 2023).

Opportunities to spend time with industry partners in the workplace improved awareness of the modern workplace as well as professional dialogue with experts. Stronger links were developed with the potential for growth in opportunities moving into Year 3.

Emerging discussions from the action research highlighted the impact of immersing teacher researchers in professional development alongside a research partner. The action research staff post-activity survey showed the action research process scored the greatest impact, with colleagues' results giving a mean of 4.7 on the 5-point Likert scale. One teacher researcher commented that

> *"The Action Research validated the use of creative pedagogy as the thoughts developed students in their learning process were as good, or better, as a result of playful experimentation and they felt it was more engaging and memorable."*

The high scoring for impact from the action research CPD process also correlates with the teacher researchers' attendance and engagement compared with the Creativity Collaboratives Network partners wider CPD offer. Whilst recommended, the working with Creativity Network partners was optional throughout the year reflecting the individual teacher researcher research question. Reflections from teacher researchers' taken during the penultimate action research CPD session considered inspiring moments alongside challenges faced during the cycle. Highlights included:

| Inspiring moments |
| --- |
| **Observing the response from children** in the classroom, 'passive learning coming forward and taking more ownership'. Greater excitement and engagement were noted. |
| **Listening to the response from children** in the classroom, comments mentioned depth of peer-to-peer dialogue, questioning and collaboration. |
| **Considering** what building blocks are needed to enable creativity in the classroom |
| **CPD with Creative Network partners** leading to inspiring ideas in the classroom. One Teacher researcher said 'Reminded me why I teach' |

| Challenging moments |
| --- |
| Allowing **time** to do everything was not always easy alongside the challenge of potentially trying to do too much at the start and managing self-expectations. |
| **Missed opportunities** to work with Creativity Collaboratives Network partner and develop that relationship earlier in the process to enable working together during the action research |
| **How to capture and record** the smaller interesting moments, developing a repertoire of data collection approaches which are new to usual classroom practice and assessment. |

Table 10: Reflections from teacher researchers

## The Penryn Creativity Collaborative Model

Year 2 of the Penryn Creativity Collaborative has incorporated a wealth of training, mentoring and coaching, a breadth of creative practice in classrooms across eight different schools and produced a rich array of actionable research findings in relation to teaching for creativity. We therefore recognise here the progress that has been made by the whole team and consider the features of the partnership model that have facilitated this, as well as adjustments that may be considered to enhance the work further.

Penryn Creativity Collaborative has been a learning experience for all involved, across what we recognise as a four-part model. This model centres on the intersection of four different areas of knowledge: the teaching and learning expertise of the Penryn Partnership; the Penryn Partnership cultural and industry partners' existing relationships and expertise; the University of Exeter's knowledge and experience of creativity in education research; the University of Exeter's action research expertise and mentoring knowledge.

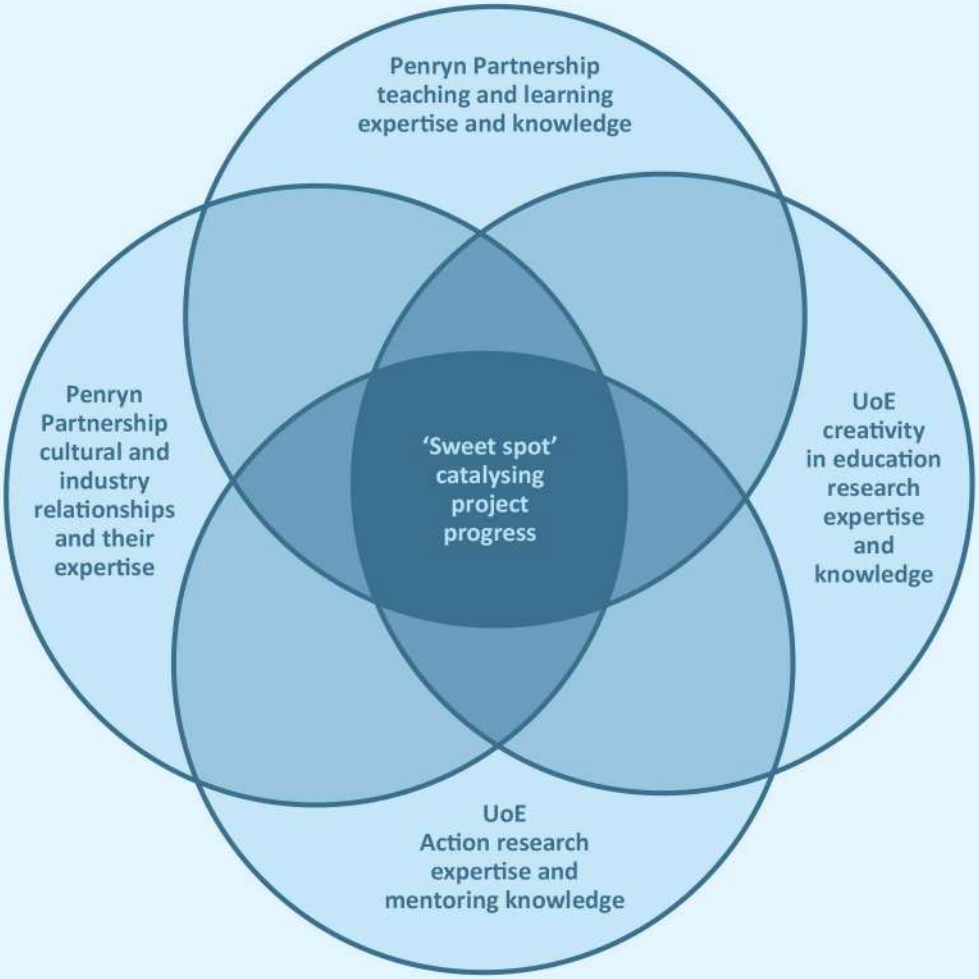



Figure 30: Penryn Creativity Collaboratives Partnership Model

Each of these areas of knowledge are built upon a heritage of partnership working: the Penryn Partnership is a long-established collaboration at a leadership level between eight primary schools and its feeder secondary school, with existing relationships with industry and cultural partners. Relationships with local cultural partners link back to creative partnerships alongside ongoing work with local Industry partners on co-designing curriculum schemes of work, for example in the STEAM faculty at Penryn College. The University team has a history of creativity and action research within wider partnership work particularly within the arts, linking back to involvement with creative partnerships and other arts partnerships. Through our reflections we have come to understand that it is the combination of this heritage and expertise amongst the partners that has enabled the team to catalyse the rapid progress made in Penryn Creativity Collaborative.

Part of the learning involved has been in establishing the Penryn College - University of Exeter partnership which has been at the centre of the research. This has included the legal and administrative processes of setting up the partnership and has involved giving time and attention to the personal dynamics of learning to work together which took extensive conversation and meeting time over the course of around 18 months. This aspect of the project was not anticipated so this is an area for consideration in future planning. Likewise, other unplanned aspects of the project were the capacity for interaction between the University of Exeter research team and the overarching CC research . As a result, these relationships are less well established however there are future opportunities for the Year 2 research that could be considered both in local project planning and in wider project funding in the future moving forward.

Resourcing for cultural and industry partners was grounded on relationships stemming from careers networks and wider in-school experiences. This new approach to working alongside teacher researchers was based on a responsive need to the classroom teachers' research questions and impacted the level to which some of these partners have been able to invest strategically in the Collaborative. The shift in the funding landscape for cultural partners has led to changes in the PCC wider network and support mechanisms, with changes to bridge organisations and cultural funding, whilst these partners are still central to championing the Creativity Collaborative, the role of brokering relationships across cultural partners and wider collaboration of partners has been more challenging during Year 2. Whilst the Creativity Collaborative programme may consider moving forward the role of the CCs' to bring together networks of partners, most schools and partnerships of schools would not have the structures to sustain or develop these relationships to enable them to flourish.

## DISCUSSION AND IMPLICATIONS

Several findings have emerged from Penryn Creativity Collaboratives which have implications for creative pedagogies and the development of creative skills and these are discussed here. However, it should be re-emphasized at the start of this discussion that whilst definitions of creative pedagogies and creative skills have been represented and utilised as two separate multi-part frameworks in this project, they would both be better represented as an interconnected web with each of the skills and pedagogies enmeshed and dependent upon the others. Individual parts of each framework come to the fore at different times but should not be seen in isolation.

### Some recurrent themes in the data have been:

Tensions emerged between the requirements of assessment, a restricted and congested existing curriculum and the development of creative skills. Academic milestones in the school calendar, for example SATS and GCSE exams, often led to teacher researchers having to pause the progression of creative pedagogy in their classrooms. OFSTED was also cited by leaders as a hurdle affecting the development of the Penryn Creativity Collaboratives project, causing teaching for creativity to be inhibited. The questionnaire data showed that teacher researchers perceived their own level of agency in teaching was lower at the end of the action research than the beginning. In discussion with the teacher researchers there was agreement that this was often because student agency had increased, leaving less scope/necessity for teacher researchers to exert control. However, there was also some acknowledgement that this finding could reflect awareness increasing through the action research process of the limits of teacher agency in everyday practice.

Linked to the above point, the need for time was repeatedly noted for creativity to flourish, with implications for lesson, curriculum and assessment planning. It is notable that there was extensive attention paid to the pedagogy 'risk, immersion and play' and that these creative skills were also strongly represented in the data. This indicates that when time and space are found these aspects of practice and creative development can flourish, whilst it is almost impossible for them to be there when time constraints are at play.

The need to balance structure and openness, control and freedom was repeatedly noted in relation to different aspects of pedagogy, for instance in making space for risk, immersion and play, and in cultivating a sense of agency amongst students. This extends beyond the inclusion of this aspect of practice as part of the pedagogy 'generating and exploring ideas' which is where it appears in the pedagogic framework at present and suggests that this could be adjusted within the framework to foreground this important aspect of practice further. There is precedent for this in previous work on creative pedagogies, such as in Chappell et al. (2016a).

### The balance of data and implications for further investigation

There was wide variation in the amount of data generated around different creative pedagogies and skills. Amongst the pedagogies, notions of 'risk, immersion and play' were widely discussed and there was extensive commentary on students' skills in 'empowered action' which incorporates the skills of risk and immersion. A diversity of interpretations of 'immersion' were adopted and this could be clarified in the framework moving forward. Worthy of note were the following:

- Despite not being most highly represented in the data, collaboration was the most pervasive pedagogical approach, being present in every action research project. This suggests that the teacher researchers perceived creativity as a primarily collaborative endeavour, a suggestion that was borne out in their surprise on hearing that creativity was more usually conceived of internationally as an individualised skill. Mirroring the dominance of this as a pedagogical strategy, 'dialogue and collaboration' was the skill most frequently commented on, which is reflective of extensive theoretical work on collaborative and dialogic creativity (Sawyer, 2018; Chappell, 2018). Discussion of dialogue was often limited to comments on verbal exchange and a consideration for the future is how to support teachers further in developing their understanding and practice in this area, perhaps by providing a broader range of examples of creative dialogues in practice.

- Whilst collaboration received a lot of attention, working individually received much less attention – perhaps due to the perception noted above that creativity was primarily a collaborative skill. Working communally received no comments at all as either a pedagogical strategy or a skill. At least two of the action research projects did include aspects of communal working (the Learning Friends Project, developing school community by bringing together Y1 and Y5 students and the Faraday Challenge which brought together collaborative teams from a wider community of schools). It may be that this is an area in which there is scope to cultivate more awareness as well as understanding in terms of the skills and pedagogies particularly as schools seek to take practice forward within the wider PCC community and beyond. The research team has also reflected that this is an aspect of creativity that emerges more readily through performing arts related practices, which could be another reason that it was less likely to occur within the subject areas represented in this research: arts practices could be drawn on to provide practical exemplars in this area.

- Problem solving skills and addressing 'real-world' problems were included across a range of different action research projects, with teacher researchers noticing how this increased student motivation and impacted on empowerment. Meanwhile, attention to ethical dimensions of creative pedagogies, skills and processes received almost no attention. This could be seen as reflective of the dominance of a neo liberal conception of education over a long period of time, in which a non-critical conceptualisation of educational 'standards' and performance management are presented as de-coupled from contextual issues such as consideration of ethics, trusteeship and social context more generally (Hall & Gunter, 2016). These two points are brought together since the link to real world issues suggests both an urgency and a potential to encourage further attention to ethical issues moving forwards. This could be another area in which providing concrete examples could help to develop deeper understanding of this dimension of creativity. Aside from this, ethics emerged as an area of discussion in the 2023 UoE Masters-level dissertation carried out under the PCC umbrella (Giffard, 2023). Here a primary and secondary visual arts teacher discussed consideration of wider environmental community matters as part of educational creative arts practice with greater emphasis on this in secondary, overall indicating that on a deeper level ethical awareness is already present in the PCC and ready for growth.

### Patterns in skills and pedagogies

The Creative Pedagogies Framework was utilised effectively to describe teaching for creativity across the different projects and there were multiple examples of how the pedagogies manifested differently in different subject areas. Examples given throughout the findings have been provided as concrete exemplars of how this might look in practice. These have included accounts of how mistakes, misconceptions and failures have been fostered as opportunities to learn and grow; of how teacher researchers broadened the scope of resources and stimulus across the curriculum to support immersive learning; of peer-to-peer learning developing an array of creative skills in a learning friends project and opportunities for developing creative learning through outdoor learning. Overall patterns in relation to the pedagogies included an emphasis on a problem-solving approach within STEAM and Media and more data on teaching for creativity through risk, immersion and play in creative writing projects, in forest school and within the younger age groups.

Similarly, there were some trends in terms of age group and subject area in the reporting of different creative skills. There was a bias towards science and engineering subjects in the data on problem solving and finding/question posing and responding. In the same subject areas, there was limited data relating to the skill 'immersion'. The skill identified as 'honing and developing an idea' (incorporating reflection, understanding rules and consequences and persistence) was represented from KS2 upwards, but was not seen in the data relating to KS1 or Reception children. Play was commented on in most detail in early years and the wider skill area of 'being imaginative and playful' was reported on more extensively in the primary school projects and noted very little in the areas of Science and Engineering across all of the age groups, so there are some opportunities for cascading different areas of learning upwards as well as out across different subject areas.

The evidence for progression of the creative skills was mixed. Although the quantitative data suggested that teacher researchers perceived progression across all the creative skills, they did not necessarily comment on this in their action research reports. This could be because not all the individual research questions related to progression and hence did not yield data in this area but may also be reflective of teacher researchers' use of language or perception of different skills which suggests this is an area that could be given further attention in year 3.

- The skills in which there was some commentary on progress, or some evidence of progress included: question posing and responding; problem finding and solving; reflection; understanding rules and consequences; persistence; empowered action including in risk taking and taking action; play (but only at early years); possibilities; understanding diverse values and some very limited commentary on progression of imagination

- Data on other skills tended to present the concepts more as an attribute of either the student or the activity, therefore there was less sense of progression offered in these areas which included: Dialogue and collaboration – particularly working collaboratively; negotiating difference and responding appropriately; immersion; innovation and considering ethical consequences

It is worth reflecting here that as explained earlier in the report, one research question was withdrawn from this year: 'RQ3. Can we observe a relationship between developing creativity pedagogy and progression of creative skills?' Although it would have been impossible to show any direct link between these variables, there has been some resonance between the creative pedagogies utilised and the progression observed. This observation together with the mixed data on progression suggests that this question is still pertinent for the project moving forwards.

### Emergent Issues

Opportunities have been identified to explore **assessment** across the primary and secondary curriculum which could allow greater capacity to record and celebrate the creative skills. This would require changes to current assessment processes and attention to the kind of evidence for creative progression that would be appropriate particularly amongst the younger age groups. Initial discussions have taken place across the partnership on adopting the PCC language in rewards systems taking opportunities to celebrate with students and share with parents.

Student well-being received limited comments from teacher researchers through the Year 2 action research cycle although it was noted that students appreciated when their thoughts and thinking was validated and when they had opportunities to demonstrate their knowledge and understanding in new and creative ways. Wellbeing is an area that could be addressed in future research.

The partnership model on which Penryn Creativity Collaboratives has been built has been recognised as catalysing particularly rapid progress. This is worthy of note as attention is given to wider dissemination and roll out of the project. Scope has also been noted for development in future iterations of the project, particularly around research and partnership resourcing to maximise their potential. It is worth noting that the model for this project in which the budget is held within schools contrasts with previous work in this area where the budget has been held by an independent agency (e.g. Parker, 2013), which perhaps indicates a different expectation of levels of input and investment from research, creative and industry partners within the collaborative with implications both positive and negative for what is achievable.

Finally, there were few comments from teacher researchers on the impact of teaching for creativity on young people's workforce readiness, the overall theme of Penryn Creativity Collaborative. This reflects a step back from this question in year 2 of the project when the focus was more directly on classroom practice. Nevertheless, this classroom-based research has been rooted in the PCC Creative Skills Framework developed in Year 1 with a focus on future skills and workforce readiness, so this overall aim has still been underpinning the work this year. It will be a priority for year 3 to bring together the progress in teaching for creativity made this year with the overall research question: How does teaching for creativity across the curriculum lead to young people who are better prepared for their future in a changing workforce?

# References

**Chappell, K. (2018).** From wise humanising creativity to (post-humanising) creativity. In K. Snepvangers, P. Thomson, & A. Harris (Eds.), *Creative policy, partnerships and practice in education.* (pp. 279–306). Palgrave Macmillan. https://doi.org/10.1007/978-3-319-96725-7_13

**Chappell, K. (2008).** Mediating creativity and performativity policy tensions in dance education-based action research partnerships: insights from a mentor's self-study. *Thinking Skills and Creativity 3(2), 94–103.* https://doi.org/10.1016/j.tsc.2008.04.003

**Chappell, K. Hetherington, L. Ruck Keene, H. Slade, C. & Cukorova, M. (2016a).** *Creations: The features of inquiry learning: Theory, research and practice.* http://creations-project.eu/wp-content/uploads/2016/09/Download-3.pdf

**Chappell, K. Pender, T. Swinford, E. & Ford, K. (2016b).** Making and being made: Wise humanising creativity in interdisciplinary early years arts education. *International Journal of Early Years Education, 24(3), 254–278.* https://doi.org/10.1080/09669760.2016.1162704

**Childs, A. (2023).** *How does working on real-world projects lead to learners being powerful in their understanding?* Penryn Creativity Collaboratives. https://penryn-college.cornwall.sch.uk/creativity-collaboratives

**Churcher, E. (2023).** *How can children utilise creative skills to show empowered action in the Key Stage One science curriculum?* Penryn Creativity Collaboratives. https://penryn-college.cornwall.sch.uk/creativity-collaboratives

**Collinge, M. (2023).** *How can children make use of creative skills (supported by dialogic and collaborative metacognitive thinking) to design their own scientific enquiry questions?* Penryn Creativity Collaboratives. https://penryn-college.cornwall.sch.uk/creativity-collaboratives

**Craft, A. Cremin, T. Burnard, P. Dragovic, T. & Chappell, K. (2013).** Possibility thinking: culminative studies of an evidence-based concept driving creativity? *Education 3-13, 41(5), 538–556.* https://doi.org/10.1080/03004279.2012.656671

**Cremin, T. & Chappell, K. (2019).** Creative pedagogies: a systematic review. Research Papers in Education, 36(3), 299–331. https://doi.org/10.1080/02671522.2019.1677757

**Fenton, J. (2023).** *How might collaborative 'learning friends' empower children to take risks and empowered action in their learning?* Penryn Creativity Collaboratives. https://penryn-college.cornwall.sch.uk/creativity-collaboratives

**French, H. (2023).** *How do stories influence play for children in their early years?* Penryn Creativity Collaboratives. https://penryn-college.cornwall.sch.uk/creativity-collaboratives

**Giffard, E. (2023).** How Do Creative Pedagogies in the Visual Arts Compare Between Primary and Secondary Education? Unpublished University of Exeter MA Creative Arts in Education thesis.

**Hall, D. & Gunter, H. (2016)** *England. The liberal state: Permanent instability in the European educational NPM laboratory.* In H. Gunter, E. Grimaldi, D. Hall and R. Serpieri (Eds.), *New public management and the reform of education: European lessons for policy and practice.* Routledge.

**Herring, B. (2023).** *How might immersive 'real-world' experiences influence empowered action in teenagers?* Penryn Creativity Collaboratives. https://penryn-college.cornwall.sch.uk/creativity-collaboratives

**Jones K, Macpherson R. (2021).** *The Teaching Life.* Catt Publications.

**Joyce, K. (2023).** *How do you develop children's independence through the use of reflective and self-regulation strategies?* Penryn Creativity Collaboratives. https://penryn-college.cornwall.sch.uk/creativity-collaboratives

**Kent, C. (2023).** *How do we encourage creativity through outdoor learning?* Penryn Creativity Collaboratives. https://penryn-college.cornwall.sch.uk/creativity-collaboratives

**Manclark, H. (2023).** *How do risk, immersion and play influence creativity in a Key Stage 3 English classroom?* Penryn Creativity Collaboratives. https://penryn-college.cornwall.sch.uk/creativity-collaboratives

**Mitchell, C. (2023).** *Which approaches to real world learning lead to students demonstrating great ownership through empowered action?* Penryn Creativity Collaboratives. https://penryn-college.cornwall.sch.uk/creativity-collaboratives

**Paniagua, A. & Istance, D. (2018).** *Teachers as designers of learning environments: The importance of innovative pedagogies.* OECD. https://doi.org/https://doi.org/10.1787/9789264085374-en

**Parker, D. (2013).** *Creative Partnerships in Practice: Developing Creative Learners.* Bloomsbury. https://doi.org/10.5040/9781472926722

**Project Zero, Harvard Graduate School of Education (2022).** *See Think Wonder: A thinking routine from Project Zero,* Harvard Graduate School of Education. https://pz.harvard.edu/sites/default/files/See%20Think%20Wonder_3.pdf

**Sawyer, R. K. (2018).** An interdisciplinary study of group creativity. In R.J. Sternberg & J.C. Kaufman (Eds), *The nature of human creativity.* Cambridge University Press. https://doi.org/10.1017/9781108185936.020

**Schon, D. (1983).** *The reflective practitioner: How professionals think in action.* Basic Books.

**Stenhouse, L. (1983).** *Curriculum, research and the art of the teacher.* In L. Stenhouse (Ed.), *Authority, education and emancipation: A collection of papers.* Heinemann Education.

**Teasdale, B. (2023).** *How can teaching writing through embodied immersion impact innovation, imagination and playfulness?* Penryn Creativity Collaboratives. https://penryn-college.cornwall.sch.uk/creativity-collaboratives

**Thompson J. (2009).** *Paul Hamyln Evaluation Resource Pack.* https://www.phf.org.uk/publications/evaluation-resources-pack

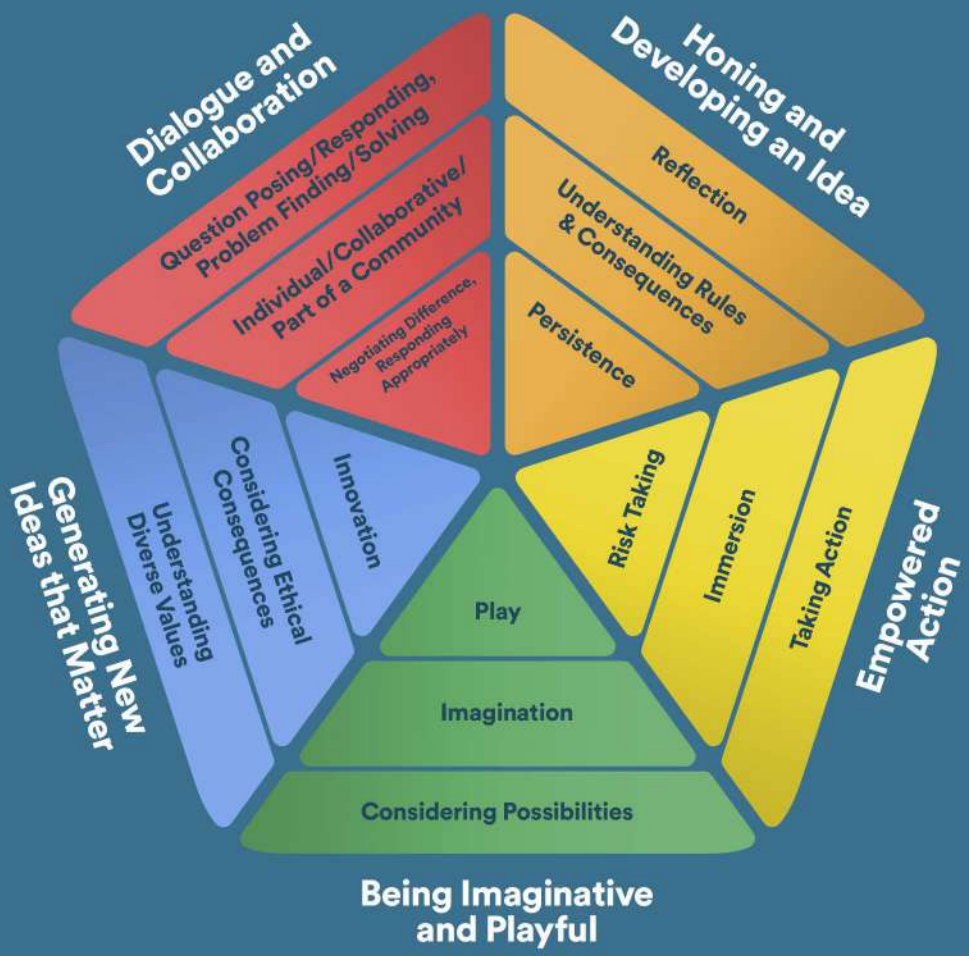
**Van-Veen, E. (2023).** *How can we harness creative skills when thinking like a scientist?* Penryn Creativity Collaboratives. https://home.penryn-college.cornwall.sch.uk/CC/pre-release-20231019/PCC AR REPORT Van Veen 2023.pdf

**Westhead, L . (2023).** *How do creative pedagogies in the geography classroom lead to deeper understanding of geomorphic processes?* Penryn Creativity Collaboratives. https://penryn-college.cornwall.sch.uk/creativity-collaboratives

# Creative Skills

## PENRYN PARTNERSHIP

"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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