Embed and Grow - The impact story in schools

Penryn Creativity Collaborative
Action Research Report

Research Question:
What do we learn about assessment from Penryn Creativity Collaborative?

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This Action Research project is part of Penryn Creativity Collaborative
https://penryn-college.cornwall.sch.uk/creativity-collaboratives

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Penryn College
"Achieving through Challenge"

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CONTEXT

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

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

The Penryn Creativity Collaborative is led by Penryn College with eight local primary schools and research partner, the School of Education at the University of Exeter.

This action research project took place in Penryn College, an 11-16 school on the south Cornish coast, England. It took place during Year 3 of the Penryn Creativity Collaboratives programme, forming a second cycle of action research for this programme. It was led by a group of teachers and supported by researchers from the University of Exeter through a programme of training and mentoring. Full findings from PCC Year 3 can be found in the research **report** (Crickmay, Childs and Chappell, 2024).

The action research involved 2 teachers and classes of KS3 and KS4 students from Penryn College. It aimed to explore core issues in relation to assessment and the development of creative skills in this secondary school.

A context for assessment in Penryn College:

Assessment at Penryn College informs student progress and teacher's planning. Our whole school formal summative assessment systems and structures have changed in the last two years, resulting in now only two main assessments in KS3, and three main assessments in KS4. This was a reduction in assessment frequency compared to previous years and led to a refocus. As a school we prioritised that assessment should: inform student progress; have a positive impact on student outcomes; and be a good use of teachers' time. Teachers and leaders have the professional autonomy to choose when, how and what they assess. Crucially, this reduction to two assessment points in KS3 has created additional time and space in the curriculum that was previously part of the assessment cycles.

This change responded to themes that emerged through our Penryn Creativity Collaborative journey, especially during 2022-2023. During the Year 2 Action Research cycle six teachers from across Penryn College took part in Action Research including English, Humanities, Media, Science and STEAM. Emerging findings from Year 2 highlighted 'education tensions of accountability and assessment' and 'there was interesting discussion on how best to record and assess creative skills, which could be further developed' (Crickmay, Childs, Chappell, 2023). Tensions were noted between the restricted formal assessment systems and the development of creative skills, whilst other teacher researchers noted the time and space needed and lack of curriculum freedom as challenges for teaching for creativity.

> *"The fear of failure or the fear of not getting things right is a barrier to students being fully immersed as they were often preoccupied with checking that they are doing it correctly. By removing the requirements imposed by success criteria, students were less concerned with whether they were right and could enjoy the creative process. They were able to trust their own ideas in doing so take greater risks in their writing"*
> *(Manclark, H. 2023)*

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AIM OF THE RESEARCH

The study addressed an overarching research question which was:

What do we learn about assessment from Penryn Creativity Collaborative?

Within this, the study pursued two detailed lines of enquiry in relation to assessment:

Aim:
To explore how different practices are used in the assessment of creative skills in the context of a KS3 science experiment

Statement of problem:
Teacher understanding of creative skills needed development across the faculty. Students' investigation skills needed improving with the opportunity to pursue an entire investigation and curriculum time had been committed to this.

Research Question 1:
How can we assess creative skills in science?

Aim:
To explore how it is possible to assess for creativity at KS4 when assessment is aligned with GCSE assessment objectives and mark schemes.

Statement of problem:
Teachers need to explore how the creative skills aligned with GCSE English Literature assessment objectives and mark schemes and considering the place for teaching for creativity at KS4.

Research Question 2:
How can creative skills be integrated into existing assessment practices for Key Stage 4 English?

Definition of key terms:

- ***Creative skills:***
  The research utilises the PCC Creative Skills Framework to define creative skills in five dimensions:

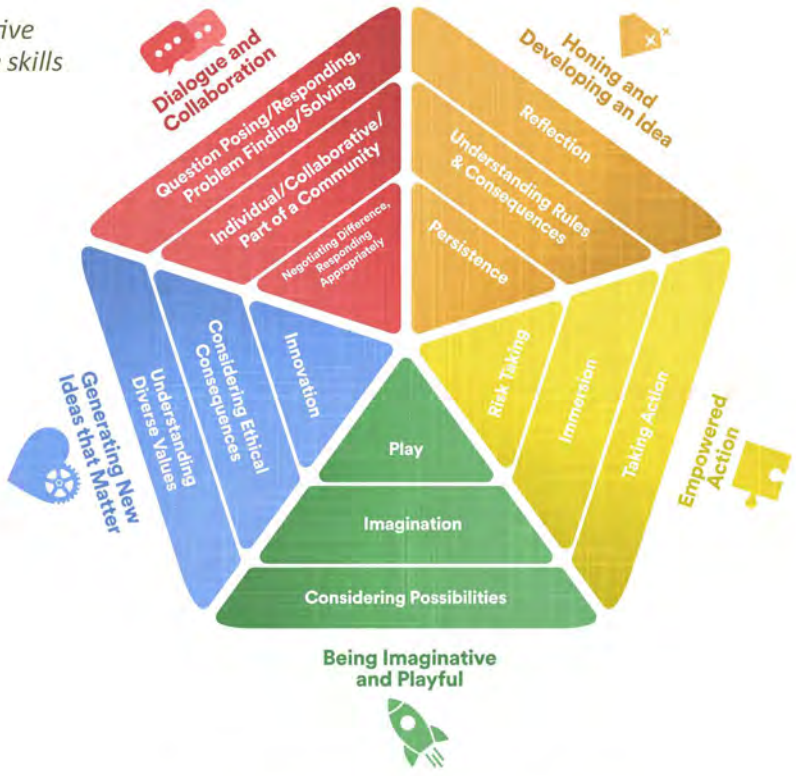

Figure 01 *PCC Creative Skills Framework*

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- ***Creative Pedagogies:*** *The research utilises the PCC Creative Pedagogies framework, drawing on three aspects of creative pedagogy as follows:*

    - ***Risk, Immersion and Play:***
      Making a safe space for teachers and students to take risks and make mistakes; Encouraging students to become absorbed in an activity; Allowing for imagination and playful experimentation

    - ***Possibilities:***
      Encouraging students to explore multiple possibilities; creative spaces that encourage possibility thinking, shifting from 'what is' to 'what might be', using 'what if' questions to narrow or broaden these possibilities

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

- ***Formative assessment:***
  'Encompassing all those activities undertaken by teachers, and/or their students, which provides information to be used as feedback to modify the teaching and learning activities in which they are engaged' (Black and Williams, 1998)

- ***Summative assessment:***
  Conducted at the end of a learning cycle, these assessments often evaluate a student understanding of a concept studied and can be used to track progress over time.

- ***Peer assessment:***
  'a formative assessment strategy that encourages students to comment on the work of their peers' (Chartered College, 2018)

- ***Teacher assessment:***
  Often of individual students and occurs when a teacher observes a student over time and evaluates progress through observation.

- ***Self-assessment:***
  Encourages students to evaluate and assess their own learning.

- ***DIT:***
  Dedicated Improvement Time is specific time given during a lesson for a student to refine, develop and improve their previous work.

- ***KS3 & KS4:***
  Key Stage 3 (age 11-14), Key Stage 4 (age 14-16)

- ***Scientific skills:***
  Skills needed to plan, do, assess, evaluate a scientific investigation using the scientific method.

- ***Streamed:***
  'Setting' or 'streaming' refer to a variety of approaches by which pupils with similar levels of current attainment are consistently grouped together for lessons (EEF)

- ***Assessment objectives:***
  Refers to the assessment criteria linked to the GCSE Literature exam.

METHODS AND PARTICIPANTS

The study used a mixed methods approach:

The enquiry within the Science department involved:

The project lasted three weeks and consisted of five KS3 streamed classes and their teachers. Teachers led the students through an open-ended investigation with some scaffolding. Students worked in groups and the creative skills were referenced and mapped to the scientific method. Year 7 were investigating factors affecting bungee jumps and Year 8 investigating the chemicals needed to develop a hand warmer.

Data collection included teacher interviews and focus groups. Data from Van Veen (2023) was also re-analysed. This included student journals, student focus groups, teacher journal, observations and creative wheels.

The enquiry with the English department involved:

The project lasted two weeks and involved five focus students and three secondary English teachers. Students were selected from a class of 18 middle ability Year 10 students (target grades of GCSE 4-7). The students had just completed a mock exam. They were then provided with summative feedback (a numeric 9-1 grade based on the AQA English Literature Paper 1, using the 2023 grade boundaries) along with individual formative (teacher written feedback) assessment. The action research focused on the Dedicated Improvement Time on exam questions focussing on Willy Russell's 'Blood Brothers', following the mock exam. Dedicated Improvement Time is used at Penryn College post-assessment to provide a moment for reflection alongside time to develop and extend responses.

Data collection methods were in-class observations of teacher-led discussion and student collaboration. There was also a teacher focus group of 4 secondary English teachers and analysis of examples of student work.

Data analysis was carried out via immersion in all data through repeated reading. All data was then systematically coded using low level through to higher level coding, identifying emergent codes which were refined through discussion with colleagues within the research team, leading to a thematic analysis. This is written up below in this report.

Ethical research practice was ensured by following the ethical guidelines of the University of Exeter ethics committee which are grounded in the British Educational Research Association (2024) guidelines; protocols involved seeking informed consent for all research activity from all participants alongside careful data protection practices.

MAIN FINDINGS

Research Question 1:

How can we assess creative skills in science?

Theme 1: Self evaluation, peer and teacher assessment

During the intervention, teachers described how they informally assessed and fed back verbally on creative skills to individual students, to groups of students and to the whole class.

Interview with Head of Science

> *"Using those creativity skills, but the feedback that I'm giving them is very much live. It's very much in the moment I'm moving around between groups and I'm also trying to encourage them to help each other and to develop their skills"*

Interview with science teacher

> *"Once they've started the experiments and started to be active in performing the methods, all the groups were starting to find problems and issues with what they prepared and wanted to change them straight away. So that that's how kind of they've probably been prepared to do that throughout their time doing SCIENCE, if it's not working, it's wrong and I need to do something else. I stopped them at that point as a whole group and basically said to them that everything that you do in your activity in your experiment is valid, even if it's wrong. So even if you feel like the method that you are using is wrong, it's still valid. You need to keep it as part of your write up, as part of your report."*

Teachers did not report on formal assessment of creative skills and the interview with the Head of Science suggests that formal assessment of creative skills would have little value:

> *"And at the moment I don't see for my group and in the context of science at Penryn College, I don't see the value in formally assessing those creative skills"*

The teacher interviews showed that self-assessment and collaborative self-assessment had either been done or was planned into future lessons: For example, the Head of Science described supporting this through a process utilising the Penryn Creative Skills wheel – a tool that was developed to support self-reflection and observations during the PCC research. Individuals marked on their wheels areas of strength in terms of creative skills at the outset of a project, and areas they would like to develop. They then returned to the wheels at the end of the project and reviewed any progress they feel they have made.

Peer assessment was considered by the teachers to be a problematic form of assessment for creative skills because students may feel that creative skills are linked to personal qualities:

Interview with Head of Science

> *"and partly that's because I need to be confident in my ability to manage those groupings and for them to be peer assessing each other in a way that is positive and is kind."*

The PCC creative skills gave the structure and vocabulary to explicitly teach, discuss and highlight where the students were using the creative skills and students were comfortable with this, understanding it more easily than the teachers had expected.

Interview with Head of Science

> *"I'm going ohh "these guys, can they can do this, they're not asking me a million questions because I'm using words that they know, and they can...visualize what the end product should be."*

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Theme 2: Comparing the value of summative and formative assessment
Informal formative assessment was frequent and is mentioned above in Theme 1. Informal summative assessment was also planned and valued by teachers. Formal assessment by teachers was not evident or desired. The reasons given for this were firstly that teachers felt there would be a risk of cognitive overload for the students if formally assessing creative skills alongside science skills. Secondly, they felt that it is important that students can evaluate their own personal growth and development of creative skills without teachers stepping in and putting an external value judgement on it.

Interview with Head of Science

> *"And that's for two reasons really. I think one we're at risk there of having cognitive overload if they're being assessed on the scientific process and they're being assessed also on this overlay of creativity."*
>
> *"The other thing I feel at the moment is students are assessed on so much. Wouldn't it be lovely to have something where they are able to see their own personal growth and developments without a teacher stepping in and putting a number on it?....It's all about them developing their own confidence in what they can do, and that needs to come from them, not from an external source."*

Theme 3: Evaluating which creative skills support exam preparation into KS4 Science
Reflecting on the data across the Action Research project this year and last year, some further findings related to an observation of the creative skills that most immediately support the formal assessment of the science curriculum. It is suggested that these include:

- Honing and Developing ideas, which is formally assessed in GCSE's when students are asked spot errors in required science practicals, and also when students use the "scientific method" to plan investigations.
- Dialogue and Collaboration is particularly important in relation to planning and executing required practical investigations for GCSE science exam preparation. As part of the curriculum students need to know how science works and how scientific research is conducted e.g. by working collaboratively and the peer review process. In many aspects of school life Dialogue and Collaboration continues to appear as an essential creative skill.

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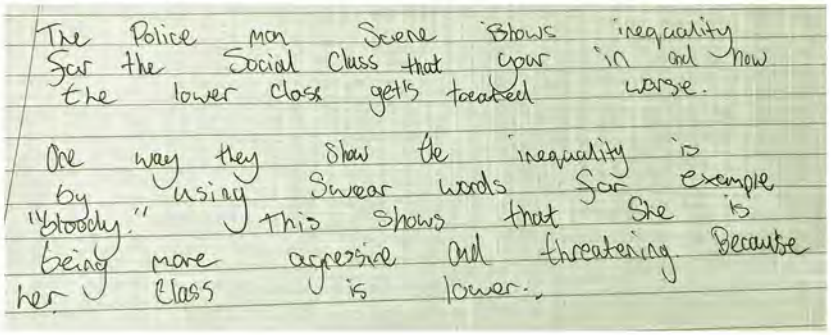
Research Question 2:

How can creative skills be integrated into existing assessment practices for Key Stage 4 English?

Theme 1: Developing creative skills through feedback to summative assessment

Creative skills developed:

Honing and Developing ideas: There is good evidence to suggest that when students are given time to reflect on their ideas, they then have the persistence to create new ideas. For example, the work below (Figure 02) which has been created through a group working collaboratively. Use of connectives such as 'because' shows students extending their initial answer. Students under exam conditions would often only give answers that lacked depth and development.


The Police man Scene shows inequality for the Social Class that your in and how the lower class gets treated worse.

One way they show the inequality is by using Swear words for example "Bloody." This shows that She is being more aggresive and threatening Because her Class is lower.

Figure 02 *Example of the start of a new response using ideas from the collaborative task*

Creative Pedagogies utilised:

The data suggested that teachers were using a variety of creative pedagogies to support students in developing their creative skills through feedback to summative assessment, including:

Risk, Immersion and Play
Teachers used real-life contexts to allow students to become imaginatively immersed in the text and therefore question accepted ideas. For example, in an observed session, a teacher set up a discussion / writing task as follows:

Teacher: *"imagine you are living in Liverpool in the 1980s – tell me what your life would be like if you were Micky?..... Now tell me how different your life would be if you were Eddie? Would you expect to be treated the same by people in authority like the police?"*

The observation showed that when asking students to draw on their contextual knowledge (prior learning) about what life would be like in this location (then), they have a deeper understanding of the issues facing these two characters. Students' work demonstrated that being immersed in this way allows for a greater understanding and therefore ability to take action.

Possibilities:
From the observation, teachers reported that there was clear evidence of teachers facilitating possibility thinking. A dedicated improvement time (DIT) task could be seen as a 'possibility thinking' exercise, encouraging students to extend the possibilities they consider within their writing. In-class observations suggested that students who asked better questions were then able to come up with better responses. However, teacher observations showed that the students were not at the stage where they can pose questions that will allow others to have a more detailed and deeper response. It is these 'why' thinking questions that generate higher level responses. Students were encouraged to ask 'What if' questions when working collaboratively for example, such as 'what if Edward was not of a higher class, would he be treated differently', but this was not seen being used in class observations. Students were, however, able to respond to such questions when posed by the teacher.

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Theme 2: Linking creative skills to assessment objectives (AO) in an exam syllabus

Pedagogies	Assessment Objectives	Skills
Possibilities Thinking	**AO1** Read, understand and respond to texts.	**Honing and Developing an Idea** Understanding rules. Developing techniques needed to progress.
Empowerment, Autonomy and Agency Developing and trying out their own ideas.	**AO1** Students should be able to: Maintain a critical style and develop an informed **personal response**.	**Generating New Ideas that Matter** Innovation - exploring and generating new ideas.
	AO1 Use textual references, including quotations, to support and **illustrate interpretations**.	**Being Imaginative and Playful** Considering possibilities.
Generating and Exploring Ideas Openness and structure.	**AO2** **Analyse** the language, form and structure used by a writer to create meanings and effects, using relevant subject terminology where appropriate.	**Generating New Ideas that Matter** Innovation - exploring and generating new ideas.
Possibilities	**AO3** Show understanding of the **relationships between texts and the contexts** in which they were written.	**Dialogue and Collaboration** Responding appropriately to others' ideas.
	AO4 Use a range of vocabulary and sentence structures for **clarity, purpose and effect**, with accurate spelling and punctuation.	**Empowered Action** Focusing / Concentrating
		Honing and Developing an Idea Persistence

Figure 03 *Diagrammatic illustration linking the PCC creative skills to the AQA GCSE Literature Assessment Objections.*

The diagram suggests that the assessment objectives do align slightly with the creative skills. The difficulty in assessing creative skills when using this framework is that it does not provide any articulation of levels of success in relation to creativity. The assessment objectives focus on the English Literature Key Skills and the level of success is detailed in the mark scheme (see Appendix 1 for an example of this). This area still needs investigating for creativity to be fully assessed in the same way.

Utilising PCC Creative Pedagogies in linking creative skills to Assessment Objectives:

Teacher creativity and wisdom: There was strong evidence within the teacher focus group discussion of having to navigate tensions between teaching for creativity and existing school systems. This included feeling restricted by the amount of content that has to be covered, finding that use of GCSE style mark schemes do not promote development of creativity and finding that KS3 can be dominated by KS4 priorities which are themselves overly led by the exam boards:

Teacher B: "We are too restrained by exam boards at KS4"

Teacher A: *'being more creative with students in KS3 help them to explore and make deeper connections across texts" ... 'it is more difficult at KS4 because so much time is taken up with teaching content.'*

Teacher C: *'portfolio tasks in KS3 seem to be more engaging for students but the need to have summative data on students throughout the year means we often resort to GCSE style questions and mark schemes' therefore there is an issue on assessing for creativity alongside* the need to have 'hard' data on students and set points throughout the year.

Teacher D: *'the skills have to be the same (as GCSE) as there is no KS3 formal assessment from the DfE anymore – the assessments don't have to be exactly the same but we have yet to find a way to assess the same skills but in a different assessment (they are tweaked and differentiated though)' further highlighting the issue.*

DISCUSSION AND IMPLICATIONS OF THE PROJECT AND FINDINGS

Through this second cycle of Action Research, key learning from the project has been:

- That students at Penryn College were comfortable using PCC creative skills language for informal verbal teacher assessment, individual and collaborative self-assessment;
- The language of Honing and developing ideas, Immersion and Possibilities was particularly used by students.
- Informal formative and summative assessment were valued by teachers, but formal assessment was not desired.
- Whilst the PCC skills language could be aligned with AQA assessment objectives in places, there continued to be tension between creativity and exam content.
- We have also observed that opportunities to allow students to take risks, using failure to learn and grow by, and not always defining success criteria impacted the student outcomes positively.
- Continued professional development (CPD) around supporting teachers to develop 'what if' question posing to deepen the knowledge and thinking would remain beneficial.
- More research is needed to further align the PCC creative skills with assessment objectives and mark schemes.

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In English, the findings suggest that formal teacher assessment of creative skills is difficult to integrate into the assessment structure for the KS4 curriculum. Some connection was found between the PCC Creative Skills and the AOs, but formal teacher assessment of creative skills would not directly integrate into the existing structure. If further alignment was achievable, it was suggested this could support the PCC creative skills 'finding its place' in the KS4 curriculum supporting wider teacher ownership.

In Science, considering which skills are most important at different stages in the scientific method gave those skills more value and deepened teacher understanding. Science teachers found self-assessment and informal teacher feedback individually, as a group and as a whole class to be the most useful form of assessment to help students identify and embed the creative skills to support their learning. We have observed that the process of supporting students in the self-assessment of their creative skills has helped science teachers to embed their own understanding of the creative skills and enabled them to see opportunities for applying and referring to the creative skills during their teaching.

In response to this action research, Penryn College aims to utilise the PCC Skills language for learning into our feedback for students in every unit of work. This will be whole school led whilst faculty specific, allowing students to see a shared language which is present in all the building blocks of their school curriculum.

Findings of this research are also being shared beyond the PCC community: Elly Van Veen plans to share the findings her of two pieces of action research at the Association for Science Education annual conference in January 2025, whilst findings of the action research are also being shared at the 4th International Conference of Possibility Studies in Cambridge, July 2024.

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Creative Skills
PENRYN PARTNERSHIP

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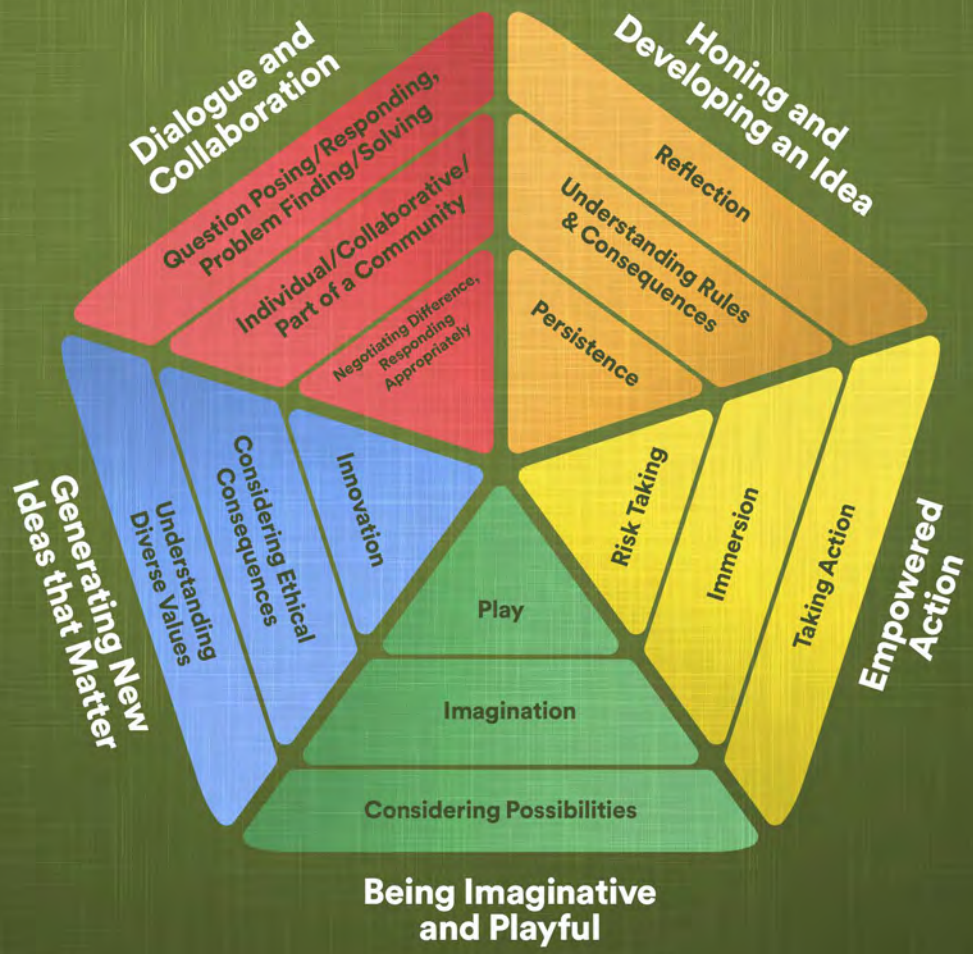

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