

Developing a Theory of Change for Enactus's Experiential Learning Programmes

Final report to Enactus - June 2022

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Contents

Executive Summary.....	1
Introduction to the Final Report.....	2
1) Key independent learning skills: reflectiveness, resilience, creativity, empathy.....	4
Reflectiveness	4
Resilience	5
Creativity	7
Empathy	8
2) Describe the sorts of learning experiences that contribute to these desired skills / clusters.	11
Developing skills through experiential learning	11
Signature learning experiences	13
Experiential learning activities	14
Reflectiveness: how is it developed	15
Resilience: how is it developed	17
Creativity: how is it developed	20
Empathy: how is it developed	23
Differentiation by age	26
3) Learning programme impact measurement.	28
Assessing a programme.....	28
Assessing skills.....	31
4) Theory of Change	33
Summary	35
References	36

Executive Summary

Enactus exists to develop the personal character and skills of young people for success in their next steps into the world of work through experiential learning opportunities including social action and entrepreneurship experiences. In our first report we linked what Enactus does with the independent learning skills it develops. With Enactus's NextGenLeaders programme in mind, the key question we asked was 'what are the characteristics of effective experiential learning programmes?'

In this second and final report we take the four key skills Enactus wishes to focus its programmes on. For each of the four skills we outline it briefly, and then provide evidence-informed ideas for 'signature learning experiences' that could have utility in developing the skill.

The report then considers evaluation of programme success, and this leads on to development of a high-level Theory of Change. This Theory of Change clarifies where further work is needed. For example, a much larger review of the literature could provide evidence to support the choice of four skills. This would then allow Enactus to develop robust programme aims that link skills with broad outcomes for young people. Further work would also map progression for each skill.

It is hoped that this Theory of Change, with these further elements of thought, will help Enactus begin to evidence links between desired skills and its programmes, and to share good practice by recruiting new partners and schools. Finally, there could be some really important work in assessing young people's development in skills in a way that allows real-time changes to the programmes.

Being able to link signature learning experiences to development of specific skills would bring more stakeholders on board to further Enactus's work and, ultimately, benefit more children and young people.

Introduction to the Final Report

Having focused the interim report on

- identifying the characteristics of #NextGenLeaders, and
- building an evidence base to connect these characteristics of experiential learning with development of skills in young people

This final report to Enactus aims to take the following steps to arrive at a Theory of Change model that selects a set of intended outcomes for Enactus's programmes, and shows how programmes might be designed to deliver these specific outcomes:

1. **Clarify a small number of key skills on which Enactus's programmes should focus.** Considering the likely views of four stakeholder groups (young people themselves, society, educators, business), Enactus wishes to focus on the following skills:
 - Reflectiveness – this is key to experiential learning and indeed all learning. It suggests thoughtful, critical, evaluative individuals who can learn from their experiences, as well as connect ideas from prior learning.
 - Resilience – this would seem to be central to the sort of experiential learning that develops confidence and capability in young people. Resilience suggests ways of learning that involve being challenged to do practical things out of your comfort zone, and the confidence that comes from positive experiences, and from picking yourself up successfully after failure. Resilience encompasses growth mindset.
 - Creativity – this bundle of skills enables young people to produce novel outcomes that are of value. Creative thinking is learnable, and something that all young people are capable of.
 - Empathy – this skill can mean a range of things, from an emotional response to the skill of 'perspective taking'.
2. **Describe the components of learning programmes that contribute to these desired skills / clusters.** This section searches beyond the experiential learning literature, and looks beyond specific programmes (as the Interim report did), to focus on what the academic literature says about how the chosen skills are developed. Where Interim report findings on the characteristics of #NextGenLeaders contribute to this knowledge, this is brought into this final report. Part 2 lays out a set of specific signature learning experiences that are typical of the sorts of approach that might be fruitful in developing the specific skills. For example:
 - If you want to develop resilience, make sure your programme has signature learning experiences that involve relatively high challenge moments that are supported; like making a public speech.
 - If you want to develop learners' skill at empathy, this might involve signature learning experiences that require a residential setting where learners are exposed to moments of intense interaction where they must learn to 'give and take' and resolve communication issues.
3. **Explore learning programme impact measurement.** This section will aim to demonstrate how Enactus might go about evaluating programme impact. It will not aim to develop an

impact measurement tool, but demonstrate with frameworks how this might be done, as well as observe how others are doing this.

4. **Develop high level Theory of Change.** This section will be constructed beginning with the desired skill-based outcomes in mind. It will be written to show Enactus's intention, that 'if you adopt certain sorts of activities that expose learners to particular types of learning experiences, then Enactus's desired outcomes would be the likely result'. The skills described in 1. and the set of indicative experiential learning activities described in 2. will be used to populate that model. Inbuilt evaluation both of the programme and of individual learners (of the sort identified in 3.) will be included in the model.

1) Key independent learning skills: reflectiveness, resilience, creativity, empathy

In this section we clarify a small number of key skills – ‘independent learning skills’ – that Enactus wishes to develop through its programmes. Considering the likely views of four stakeholder groups (young people themselves, society, educators, business), Enactus chose to focus on reflectiveness, resilience, creativity and empathy.

For the purposes of this report we do not attempt to review the importance of each of these skills or justify their selection. As reported in the Interim report, there have been international attempts to describe the sorts of skills desirable for work, life and learning. While there are some commonalities in actual skills identified – creativity often emerges, for example – the main similarity is that skills go beyond the ‘technical’/‘knowledge’/‘foundational’ and include those skills broadly labelled ‘behavioural’ or ‘social’ or ‘character’, and ‘thinking’ or ‘competencies’ or ‘skills’.

Ideally, the set of skills chosen for development might be comparable in terms of complexity, such that each is a cluster of a number of identifiable sub-skills / habits / dispositions. It is of prime importance that the skills focused on by Enactus are clearly defined for learners, and learnable. There must be a shared understanding of the skill between teachers and learners. The learner needs to be taught about the skill and understand what it means before trying to develop the different components of it. Further refining of this set may be necessary.

Reflectiveness

This is key to experiential learning and indeed all learning. It suggests thoughtful, critical, evaluative individuals who can learn from their experiences, as well as connect ideas from prior learning. This being said, it is the experiential learning skill in which people tend to be least proficient (Boud et al., 1985).

Chadha (2017) created a ‘reflectiveness index’ that measured ‘reflectiveness and deliberation’ that took place in student online interactive discussions. Chadha’s use of ‘reflective/deliberative’ (p. 8) suggests that the two terms are very similar, if not interchangeable. Chadha’s full comment about the what the index measured illustrates what we mean by reflectiveness:

The index would measure how reflective and/or deliberate the students were, whether they were thoughtful in their posts and responses; if they were thinking critically, developing informed perspectives about civic issues, and learning from each other; whether they tied in ideas from classroom discussions or texts, referenced external web links or books, asked questions that required extensive discussion, and interacted in a civilized manner; and whether the lengths of their posts or responses went beyond grade requirements showing they were taking the time to be thoughtful and deliberative in their discussion. (p. 8).

Not being reflective is seen in not being thoughtful and reasoned in responses, for example, if students ‘made broad generalizations in a negative or derogatory manner to others’.

Reflective/deliberative students

reflected, deliberated, or reconsidered their own views when they responded to questions or when they commented on other students’ posts. They puzzled through problems or issues, questioned others, challenged others, or held them

accountable for their views in a positive way. They thought about the question and responded with reflective and deliberate comments. (p. 8).

The literature on reflection examines it as an individualistic, inward process, or as a participatory, socially oriented process (Al Lily et al., 2021). Participatory reflection might be deliberate, or unintentional/situated, transpiring from social life in unstructured ways. Al Lily et al. refer to deliberate participatory reflection as 'crowd-reflecting'. There would seem to be some overlap as well: Chadha's perspective, while involving social interactions and formal processes, is focused primarily on how the individual reflects.

There are a couple of minor caveats to the pursuit of reflectiveness. Firstly, there could be limits to the desirable number of individuals involved in a group reflection. In an Arab academic context, Al Lily et al. observed limits of 'crowd-reflecting'. Despite mitigating strategies, 'crowd-reflecting resulted in chaos at the institution' (p. 86) because of the 'limited cultures of collaboration, healthy conflict, cross-gender communication, integrity and critical thinking in Arab academia'. 'Chaos' arose because

crowd-reflecting, unlike individualistic reflection, entailed numerous individuals and intersubjectivity – which complicated reflectiveness, turned thoughtful Arab individuals into a mob and jeopardised the well documented gains of individualistic reflection. (p. 86).

The conclusion drawn from this research, while specific to the context, was that larger numbers of participants might lessen the learning outcomes for groups.

A second caveat relates to 'cost' of reflection rather than to learning. Baron's theory of rational thinking implies that people can be too reflective; that 'It is possible to be irrational by thinking too much, beyond the point at which the expected benefits of thinking are greater than its costs' (Baron, 1985, cited in Baron, 1990, p. 391). This does not imply that more thinking can lead to worse judgment, but that there might be decreasing rates of return from more reflection, which is why he calls it 'irrational'.

These caveats are worth noting and so learning experiences that develop reflection in students should ensure, while group reflection can be appropriate, that there is optimum opportunity for individual reflection.

Summary

Reflectiveness is an individual skill, while reflection can be an individual or group process. Because the ability to reflect is key to experiential learning, this skill is an important one for Enactus's programmes. It is about being able to be appropriately thoughtful, critical, evaluative, able to learn from experience, and able to connect ideas together.

Resilience

The American Psychological Association describes resilience as

the process and outcome of successfully adapting to difficult or challenging life experiences, especially through mental, emotional, and behavioral flexibility and adjustment to external and internal demands.¹

¹ <https://www.apa.org/topics/resilience>

Resilience is essential for success in both school and life because challenges arise everywhere. A resilient person can return to pre-crisis status quickly and is less hindered by setbacks. Resilience can be developed as demonstrated through research (as cited, for example, in Yeager and Dweck 2012), and a number of factors influence how resilient a person is:

- The way they view the world and engage with it;
- Availability and quality of social resources
- Specific coping strategies

In terms of the way they view the world, having a 'growth mindset' promotes resilience (Yeager and Dweck, 2012). With a growth mindset, a person sees their intelligence and abilities as learnable and capable of being improved through effort which, indeed, they are. Carol Dweck's well-cited work in this area demonstrated through experimental studies that growth mindset led to tangibly higher achievement, evidencing the concrete importance of mindset.

Efforts to teach students study skills directly can fall short not because resources or skills are lacking, but because sometimes 'students have mindsets that prevent them from fully taking advantage of' what is on offer (Yeager and Dweck, 2012, p. 310).

Developing a growth mindset can be practised through experiential learning activities that are designed to challenge individuals in practical tasks beyond their comfort zone. Positive experiences of success through effort, as well as through picking yourself up successfully after failure, provide concrete evidence to learners of the benefits of a growth mindset and lead to a habit of resilience for the future.

Another important psychological concept linked to the way individuals view the world is 'optimism'. Optimism, and its opposite, pessimism, relate to a person's way of explaining successes and failures; their 'explanatory style'. Psychologist Martin Seligman found that

people who don't give up have a habit of interpreting setbacks as temporary, local, and changeable. ("It's going away quickly; it's just this one situation, and I can do something about it."). (2011)

While people have a natural leaning towards one or the other mindset, it is possible to 'immunize' them against what Seligman calls 'learned helplessness' – expecting failure, they don't even try – by teaching them to think like optimists. Where resilience brings people back to the state they were in before a trauma or setback, optimism can go further and lead people to experience 'post-traumatic growth', where they are better off than they were before the trauma.

Crane et al. (2019) describe the same phenomenon but explain the mechanism by which this happens in some people in stress situations:

For these people, the experience of initial psychological stress or a less than optimal stressor response can become a trigger for an important meta-cognitive process that allows the opportunity for resilience-strengthening: systematic self-reflection. Self-reflection is best described as a meta-cognitive approach to learning involving the development of self-awareness and evaluation of one's thoughts, feelings and behaviors that allows one to develop self-insight... (p. 2)

Their 'Systematic Self-Reflection' model is shown below:

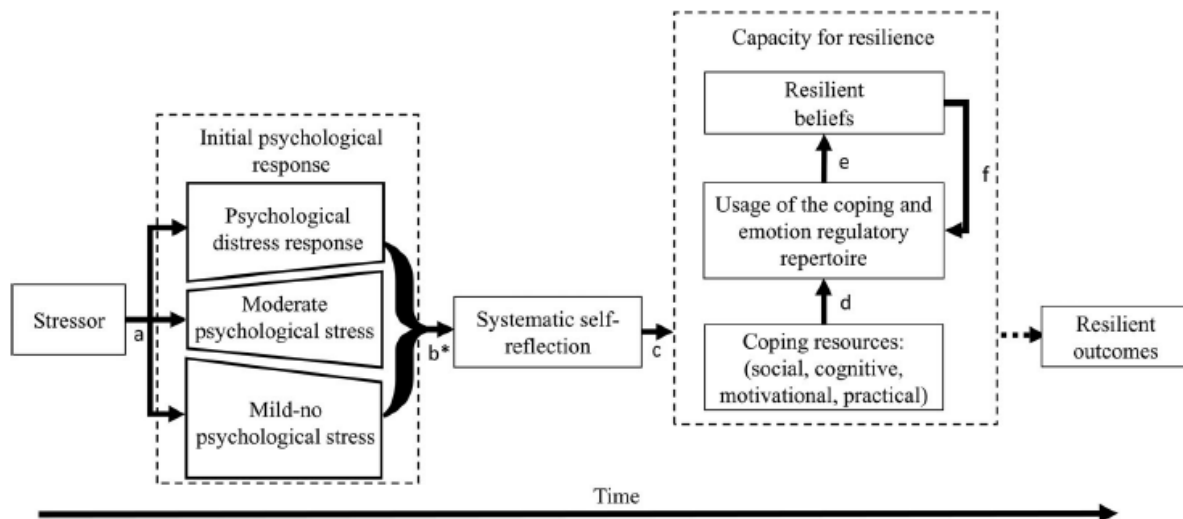


Figure 1 The Systematic Self-Reflection model of strengthening resilience from life stressors (Crane et al., 2019)

Note the three elements within the three ‘capacity for resilience’ box are essentially the same three we bullet pointed above.

Summary

Resilience is recognised as an essential skill for school and life. It is the ability to bounce back from setbacks and to be ready to move forward without negative lingering doubts about your own ability to do better in the future. Optimism and a growth mindset, both of which are learnable, have important influence on resilience.

Creativity

Creativity, or creative thinking, can be practised and learned. It is not a ‘skill’ in itself but rather a bundle of skills that can be identified and learned. Creativity research is not new – indeed, its pedigree in recent history goes back to the 1950s with the work of JP Guilford (1950).

A decade ago, the Centre for Real-World Learning was commissioned to develop a framework of creativity for schools in the UK. Specifically, we looked at whether it was possible to develop a progression framework for creativity. We proposed that the individual habits of creativity could be developed in strength (demonstrated in level of independence from teacher prompts, scaffolding, or congenial conditions), depth (seen in level of sophistication of disposition application, and the extent that application of a disposition is appropriate to the occasion) and breadth (seen in tendency to exercise creative dispositions in new contexts, or in new domains) (Spencer et al., 2012).

At the time, there were just a small number of definitions of creativity, often inspired by the work of Sir Ken Robinson (National Advisory Committee on Creative and Cultural Education, 1999). But there have been almost no attempts to move beyond definitions of creativity to a more operationalised model that would give teachers and learners a detailed description of what it actually means in practice. Bringing together a number of schools of thought, our model delineating creativity comprises five dimensions, or habits: collaborative, disciplined, imaginative, inquisitive, and persistent – with 3 sub-habits for each. This framework of 15 dimensions, shown in circular form (below), proved user friendly both to teachers and pupils and is used in more than 30 countries.

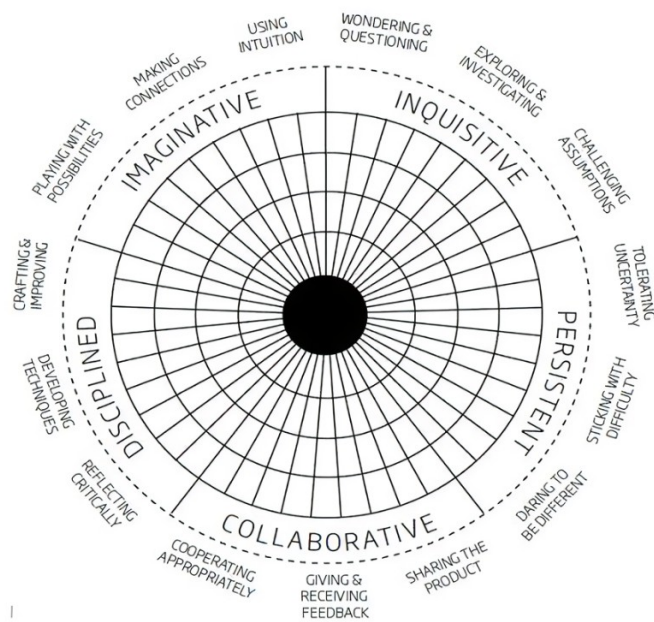


Figure 2 The Centre for Real-World Learning's five dimensional framework of creative thinking

Summary

Creativity is recognised as a multi-dimensional bundle of skills, or habits. Creativity and creative thinking can be used interchangeably. Creativity is about producing something novel, that is of value. But it also needs to take account of context, what is original in the setting.

Empathy

If young people are to help solve real problems in their community, they will need to move beyond working in an in-house team and become involved in local issues. There are two aspects to this kind of work

- 1) Being disposed to care about the needs of others
- 2) Developing skills in understanding the particular needs of others.

Empathy has been used as an umbrella term to encompass these sorts of things. 'Affect sharing', the first aspect, is about feeling others' emotions. The second aspect would encompass cognitive skills such as 'perspective taking' (understanding others' viewpoint) – also called 'Theory of Mind', which is 'the capacity to make inferences about and represent others' intentions, goals and motives' (Stietz et al., 2019).

While both are important, the first is problematic to consider in terms of learnable skills. 'Caring' is an emotion rather than a skill, and developing learner disposition to feel what others feel is beyond the scope of skill development.

While it is empathy Enactus want to develop, empathy is broader than a skill. In fact, there is considerable convergence in the psychological literature that the term empathy should be more narrowly defined to the 'affect sharing' element, while skills such as 'understanding others' should be considered separately. We would agree with this and propose that an alternative skill label could be helpful.

Before working out solutions, young people need to listen carefully and ask the right questions, to ensure they understand the root of a problem they attempt to solve. While ‘communication’ might cover these skills, the listening/understanding aspect of it is only one half. Communication also covers speaking or otherwise conveying the learners’ own viewpoint. This may be broader than Enactus had in mind when selecting empathy, so ‘communication’ is not the right label either.

Alternatively, Enactus could use a narrower skill label such as ‘perspective taking’. In the following section we provide a brief overview of the literature around empathy, to show why it is too broad a term to use in its complete sense. It could be used, and its complete definition understood by teachers and learners, but its intention for development clearly limited to the cognitive, listening, perspective-taking element.

We proposed originally ‘reciprocity’ as possible skill category. It brings to mind the listening aspect of communication. A similar label might be necessary.

The problem of defining empathy as a skill

Empathy is the capacity to share others’ emotions, whether positive or negative. Technically it is a social emotion and not a skill, or cognitive mechanism for understanding others:

Elicited by the observed or imagined emotion of another person, an observer develops a similar emotional state herself. This capacity, empathy, is one of the pillars of social understanding and interaction as it creates a representation of another's inner, mental state. (Stietz et al., 2019)

Stietz et al. argue that as a social emotion, empathy should be dissociated from cognitive mechanisms, arguing ‘against using empathy as an umbrella term encompassing all affective and cognitive routes to understanding others’.

The word empathy is often misunderstood, being confused with related concepts of sympathy, pity, identification, and self-transposal (Davis, 1990). Synonyms for empathy show that it is more about feeling: compassion, sympathy, pity, feeling, concern, tender-heartedness, and kindness, are a few such terms.

In many domains, including social and clinical psychology, neuroscience and health professions, empathy ‘has central significance’ (Hall and Schwartz, 2019) but, even so, Hall and Schwartz document – using 393 measurement studies from a 12 year period – the ‘diversity of definitions, as well as inconsistencies between conceptual definitions and measurements’.

Just one of a number of difficulties of clarifying empathy conceptually is the number of elements it supposedly contains. There are definitions that describe empathy with a single defining feature such as ‘prosocial concern for another’s welfare’, or ‘understanding another’s feelings’ (p. 231). Other definitions have two elements, ‘the selection of which varied greatly’. Still others had multiple defining features with a recent ‘proliferation of definitions’ (p. 232) in this category. Hall points out that an unanswered question in these definitions is that when the feature is met – e.g. when a person ‘accurately perceives, understandings, and shares the emotional response of the other’ – how is this experience characterised?

Conceptual differences are problematic, particularly when some definitions characterise empathy as a set of processes, some as a consequence (for example, empathy as ‘the defining feature of social interactions that allow us to share and understand others’ feelings and intentions’ p. 233), some as a capacity, or in some other way.

Empathy is a common theme in the medical literature; in nursing in particular, where it has been researched over 60 years (Alligood, 1992). Highlighting the problem of borrowing concepts and measurement instruments from different disciplines, Alligood notes that 'empathy research in nursing continues to be plagued by methodological problems' because empathy instruments from different disciplines are 'developed from various theoretical perspectives within their respective disciplines' (p. 14). As a route to a solution, she proposes two types of empathy be recognised: trained and basic. 2009 work building on Alligood's study (Ginger, 1998) used instruments to measure the two types of empathy. Findings confirmed Alligood's phenomenon of two types of empathy, and found 'differentiation in endurance' as predicted by Alligood. This is to say that 'trained empathy is not sustained' and so the 'practice of teaching empathy techniques is called into question'.

Importantly for our purposes, whether empathy can be learned is contested. Davis (1990) suggests that 'the act of empathizing cannot be taught' (p. 707). Citing Edith Stein, Davis suggests an alternative:

According to Edith Stein, a German phenomenologist, empathy can be facilitated. It also can be interrupted and blocked, but it cannot be forced to occur. What makes empathy unique, according to Stein, is that it happens to us; it is indirectly given to us, "nonprimordially." When empathy occurs, we find ourselves experiencing it, rather than directly causing it to happen. This is the characteristic that makes the act of empathy unteachable. Instead, promoting attitudes and behaviors such as self-awareness, nonjudgmental positive regard for others, good listening skills, and self-confidence are suggested as important in the development of clinicians who will demonstrate an empathic willingness.

Similarly, Hall's (2018) proposal is that, in many cases, the term 'empathy' be bypassed altogether in favour of 'lower-level construct labels that more precisely describe what is actually being measured' because 'in many cases we see no added theoretical or empirical value in applying the term *empathy*'. Hall cites Levy's 1997 suggestion that

in the future thoughtful people will think twice before they use the word empathy in any scientific sense, by which I mean any sense in which it can affect thought about, therefore decisions about, and therefore action about any serious issue. (p. 236)

Instead of measuring empathy Hall and Schwartz propose that the aspects of empathy self-reports measure, such as emotion sharing, accurate perception, caring feelings, perspective taking, caring attitude, 'would be called that, not empathy' (p. 236).

There are dimensional aspects of empathy, including emotional empathy, and cognitive, perspective taking empathy (Riggio et al., 1989). In developing a 'Feeling and Thinking' scale that attempted to measure both affective and cognitive components, Garton and Gringart (2005) adopt Cotton's 2001 definition

Empathy is typically defined as including: (1) the AFFECTIVE CAPACITY to share in another's feelings, and (2) the COGNITIVE ABILITY to understand another's feelings and perspective ... the ABILITY TO COMMUNICATE one's empathetic (sic) feelings and understandings to another by verbal and/or non-verbal means. (Cotton, 2001, p.9, capitals in original, cited in Garton and Gringart 2005, p. 19)

Garton and Gringart's self-report separated out into those where high score indicated affective empathy (1) and those where high score indicated cognitive empathy (2):

Affective empathy examples include:

- I want to help people who get treated badly
- I often get affected by things I see happen
- I often feel worried about people that are not as lucky as me, and feel sorry for them
- I am quite a soft-hearted person

Cognitive empathy examples include:

- I think people can have different opinions about the same thing
- When I am angry or upset at someone, I usually try to imagine what he or she is thinking or feeling
- Sometimes I feel helpless when people around me are upset
- When I am arguing with my friends about what we are going to do, I think carefully about what they are saying before I decide whose idea is best

While further investigation is necessary to enhance knowledge of the distinction, the items nonetheless give us an idea of the sort of indicators of empathy psychologists use.

Summary

Empathy is a contested term, so any programme whose aim is to develop it must be clear what definition, or aspect of empathy, it wishes to develop. For the purposes of developing skills, we propose learning experiences that broadly fall under the 'empathy' label, and that focus on working with others' needs in mind, active listening, and perspective taking.

2) Describe the sorts of learning experiences that contribute to these desired skills / clusters.

In this section we search beyond the experiential learning literature to focus on what the academic literature says about how the chosen skills are developed. We envisage a set of specific signature learning experiences with examples that are typical of the sorts of approach that might be fruitful in developing the specific skills.

Throughout this report we use the word 'teacher' to refer to anyone delivering an Enactus programme, although other words may be more appropriate descriptions – e.g. facilitator, trainer, coach etc. Similarly we use both 'student' and 'learner' to describe the school pupils who will be involved in Enactus's programmes.

Developing skills through experiential learning

Experiential learning programmes develop participants' skills; we know this both anecdotally, and sometimes more explicitly through impact evaluations. Yet even where participants can identify personal growth, they tend to be unable to identify the reasons behind changes they observe. A study by Le Roux (2020) looking at outdoor adventure calls this the 'black box effect', citing Ewart, 1989. Ewart writes that while studies reporting changes in self-concept have typically used self-report instruments, 'little has been found concerning the nature or reasons for any observed change' (p. 110). He also observes that, at least for Outward Bound, research literature has tended to focus on development of self-concept (e.g. self-esteem) without relating this to programme

design in any way (e.g. length of the course, or mix of activities) (p. 106). We have found the same with more recent evaluations of experiential learning programmes.

Le Roux’s dissertation study of an adventure programme developed a conceptual model of the ‘themes’ to emerge from data collection about the programme’s impacts and the mechanisms through which these came about.

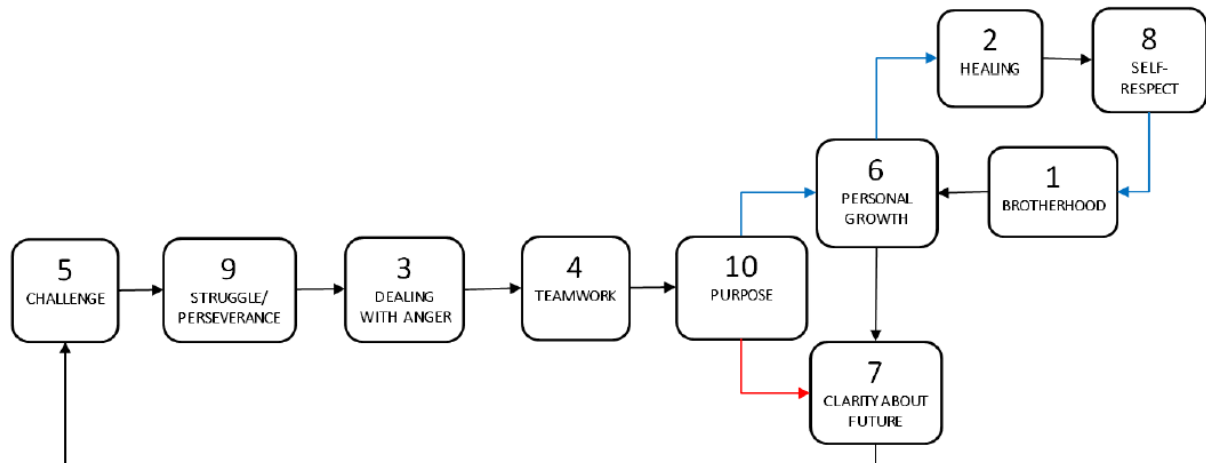


Figure 3 Conceptual model of personal growth themes in an outdoor adventure programme (Le Roux, 2019)

It is worth quoting Le Roux’s explanation in full, because it is a form of ‘Theory of Change’

The model illustrates that participants perceived the programme as a challenge, which caused some struggle and required participants to persevere. Participants associated their struggle with feelings of anger which they had to manage or deal with. In order to deal with this effectively, participants had to work together as a team, which eventually caused them to experience a sense of purpose. Their ability to discern or find a sense purpose within their experience served as an important pivot point from which two possibilities emerged. On the one hand, this led to the experience of personal growth which, through its healing effect, led to an increased sense of self respect, as well as a feeling of brotherhood, which then feeds back into personal growth. Both a sense of purpose and personal growth caused participants to develop more clarity about the future, which interestingly feeds back into the starting point of the conceptual model, namely the experience of challenge. (p. 27).

The mystery of how skill development happens becomes less opaque when you think of building in skill development to a programme as a process. In a classroom it looks like this:

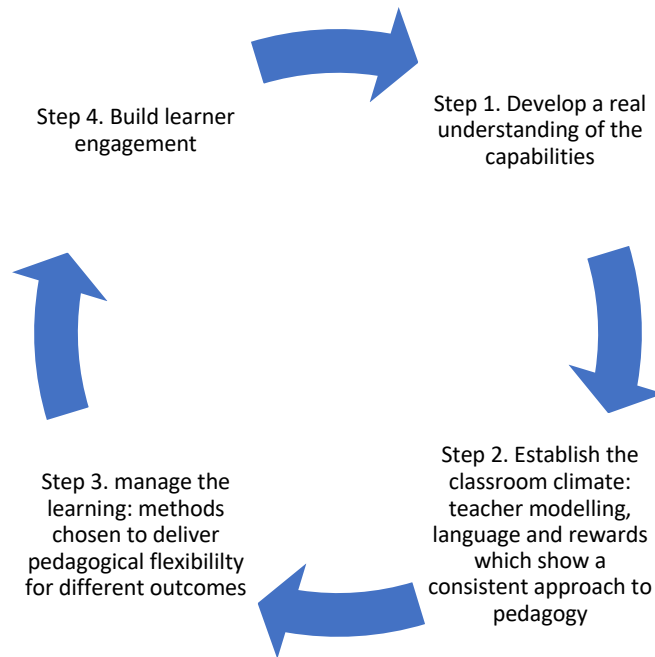


Figure 4 A four-step process of cultivating capabilities (Centre for Real-World Learning)

A structured experiential learning programme is quite different from classroom learning for many reasons, yet the key aspects of this process remain important:

Step 1 Understanding: Those developing and delivering the programme must have a real understanding of the desired independent learning skills the programme will aim to deliver alongside its more tangible outcomes.

Step 2 Climate: Programme material, and the interactions students have with adults involved in teaching, coaching, and mentoring, must give a consistent message that is not at odds with the skill in question. Modelling, language used, and rewards must all be consistent with reflectiveness, resilience, creativity, and empathy.

Step 3 Learning methods: Activities must be selected that are conducive to development of the skill in question as well as to other learning outcomes.

Step 4 Build learner engagement.

In terms of the climate, while it is obvious that if you wanted to develop the skill ‘collaboration’ you would not design activities that consistently isolated learners from one another (Step 3) it might be less obvious that if those delivering the programme can model collaboration, this gives a strong message that students can emulate. Course designers need to consider how they can build in opportunities for teachers to model the desirable skills that learners are aiming to develop in particular sessions.

Signature learning experiences

If you want to develop particular skills within a learning context, there are types of teaching that will naturally be more, or less, appropriate than others. Our isolation of learners example above is a case in point. In *Teaching Creative Thinking* we used Lee Shulman’s (2005) concept of ‘signature pedagogies’ to refer to the kinds of learning methods most suited to a particular outcome. Shulman’s concept was developed in the context of preparing learners for various vocational routes.

These are the ‘types of teaching that organize the fundamental ways in which future practitioners are educated for their new professions’ (p. 52). Signature pedagogies contain

- Surface structure – the visible acts of teaching and learning such as demonstrating, questioning, interacting with learners or withdrawing.
- Deep structure – the set of underlying assumptions about the best way to develop learners’ knowledge and skills.
- Implicit structure – the set of underlying beliefs about professional values and attitudes.

We proposed in *Teaching Creative Thinking* that the same concept of signature pedagogies could be adopted beyond a vocational context into a skill development context. The OECD (Vincent-Lancrin et al., 2019) then adopted this language in their report on how to develop creativity and critical thinking where they refer to 10 signature pedagogies.

In the third book of our series, *Zest for Learning* we recognised that ‘pedagogy’ was not quite the right way to describe the more informal learning environments we were now focusing on; extra-curricular and out of school activities. Instead, we suggested the phrase ‘signature learning experience’ to characterise the sorts of experience that would be most conducive to development of the target skill.

In the sections that follow, we take each of the four independent learning skills, reflectiveness, resilience, creativity, and empathy, and consider what sort of learning experiences might be most conducive to developing them.

Experiential learning activities

As we consider experiences, alongside this there is the need for designers of experiential learning programmes to design concrete activities in which to situate these experiences. There is a ‘potentially infinite range’ of experiential learning activities (Beard and Wilson, 2006, p. 107). Beard and Wilson offer what we might call an ‘ingredients list’ as an aid to planning experiential learning programmes. It seems to describe characteristics of the activities:

- *Set a target, goal or objective, where goals create an underlying ‘state of mind’.*
- *Create a sense of a journey or destination – physical movement and exercise; people, information and objects are moved from A to B.*
- *Allow participants to exercise many forms of intelligence.*
- *Create and sequence a theme of social, mental, psychological and physical activities – mind, spirit and body.*
- *Adjust the elements of reality.*
- *Stimulate the senses.*
- *Use construction or deconstruction in an activity design: a physical object eg bike, wall or raft or a non-physical item, eg a clue, phrase or poem.*
- *Design social collaborative or competitive strategies.*
- *Create combative and/or empathetic approaches to the environment.*
- *Create restrictions:*
 - *Obstacles;*
 - *Sensory blocking eg blindfolds;*
 - *Rules;*
 - *Procedures.*
- *Provide elements of real or perceived challenge or risk.*
- *Set time constraints.*

- *Allow people to deal with change, risk, success and failure – stretching personal boundaries.*
- *Design sorting and/or organization skills – a mass of data, information to sort or activities to do or consider.*
- *Include functional skills such as surveying, juggling, map reading, knot tying, etc.*
- *Design quiet time for reflection – physical or mental space.*
- *Allow the story of the experience to be told.*

In the following four sections we select experiences to develop each skill at this kind of level of analysis.

Reflectiveness: how is it developed

Two signature learning experiences are proposed for developing reflectiveness:

- Experience of having time for reflection
- Experience of using helpful reflection techniques and prompts

Experience of having time for reflection

In *Reflection: Turning experience into action*, Boud et al., (1985, p. 26) suggest that one of the most important ways to enhance learning 'is to strengthen the link between the learning experience and the reflective activity which follows it'. Clearly, one of the easiest ways to make this link is to allocate specific reflection time to each learning activity. Where sessions are weekly, this might be each week, for example. Bearing in mind that reflection can be individual or group, while reflectiveness is an individual skill; reflection might involve a scheduled team debrief, time set aside for individuals to diary events and their reactions to them, or both.

Experience of using helpful reflection techniques and prompts

As well as setting aside dedicated time for reflection, in order to link learning experiences with reflective activities, reflection techniques can be applied during that period. A model of what good reflection looks like can be helpful to learners, and Boud et al.'s model of reflection in the learning process makes clear the three elements important to the process:

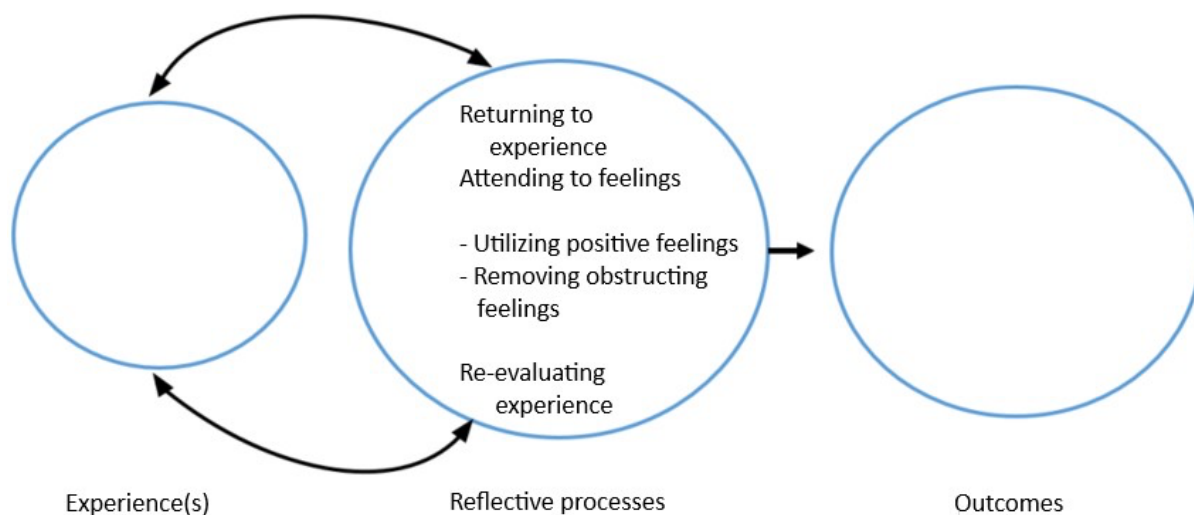


Figure 5 Components of Reflection (Boud et al., 1985)

The authors go into more detail about each stage in the reflection process but, in summary, they involve:

1. Returning to experience – first, learners recall salient events, mentally re-play the experience, or recount particular aspects of the experience.
2. Attending to feelings – one aspect of this second step is to focus on positive feelings engendered by the learning experience. Consciously recalling good experiences or anticipating the benefits that might arise through thinking about them. The other aspect of this step is to remove ‘obstructing’, or negative, feelings. This might involve talking them through or, for example, being able to ‘see the funny side’ of an embarrassing event. Obstructing feelings need to be processed in this way to allow events to be considered rationally.
3. Re-evaluating experience – this final stage is the most important but dependent upon the first two, which may be repeated before the process is complete. Re-evaluation integrates the reflective knowledge into the learner’s conceptual framework about the experience.

Practical ways of bring in reflection might be to

- Make use of reflective journals for students
- Adapt the ‘gallery critique’ approach. Ron Berger describes this in *An Ethic of Excellence* (2003). In this process, learners lay out work-in-progress for others to critique using Post-It notes. Students simultaneously browse the ‘gallery’ of others’ work. While experiential learning can be practical, involving tangible work-in-progress products, progress may also need to be ‘displayed’ creatively when there is no physical object to show. Students might produce a visual progress report, or post written questions on a large sheet – real or virtual – that other groups could jot peer feedback into.
- Make use of ‘visible thinking routines’ such as ‘see, think, wonder’². Young people think about and / or record their answer to three prompts: *I see..., I think..., I wonder...* This helps

² See ‘Project Zero’ from Harvard University’s ‘Thinking Routine Toolbox’. Available at: [PZ's Thinking Routines Toolbox | Project Zero \(harvard.edu\)](https://www.harvard.edu/project-zero/)

them pay attention, draw conclusions, and think about the questions these observations bring up.

Summary

Experiential learning that develops reflectiveness might

- Be followed systematically by reflective activity.
- Include time for reflecting with others, verbally.
- Include time for reflecting alone, in writing.
- Include clear teaching about methods of reflection that work.
- Use iterative reflection so that learners think also about the success of their actions based on prior reflections and adjust both future actions, and future reflection processes.
- Use visible thinking routines to initiate reflection.

Resilience: how is it developed

Three signature learning experiences are proposed for developing resilience:

- Experience that changes your 'implicit theory'
- Experience of appropriate challenge
- Experience of reflecting on exposure to stressors

Experience that changes your 'implicit theory'

Resilience can be developed through psychological interventions that change students' mindsets, also called 'implicit theories'. Implicit theory / mindset is the core assumptions an individual holds about malleability of personal qualities like intelligence or personality. These theories may or may not be scientifically accurate, but they refer to the individual's 'commonsense' explanation for incidents such as failure, success, finding something challenging, or the way they respond to events.

Yeager and Dweck (2012) find that educators can use 'incremental theory interventions' to foster the right mindset in students and thereby create resilience in educational settings. Noteworthy is that these interventions need to target students in their particular context. It is insufficient, for example, to tell students that 'effort breeds success', if students in the context in question attempt to tackle problems they are given using poor strategies. In this situation they might need to be taught a variation of the message 'effort → success' that incorporates good strategies, i.e. 'effort + strategies → success'.

We need to look at what causes students to feel discouraged in the context, and emphasise their potential to change by viewing challenges as things they can overcome 'over time with effort, new strategies, learning, help from others, and patience' (p. 312) rather than an overly simplistic focus on 'effort' alone.

Giving learners praise and encouragement for effort rather than for intelligence is also a well-known use of the growth mindset theory. It foregrounds the effort element of success, which can be changed, rather than the innate intelligence element which, though no doubt a factor, is less malleable and on whose reliance leads to helplessness.

Experience of appropriate challenge

From exposure therapy it is known that if you confront your fears voluntarily and incrementally, it is better for you psycho-physiologically. Experiential learning happens through new experiences, and challenging ones provide opportunities for growth. Anxiety about experiences such as public speaking can come about through negative memories associated with being the focus of attention.

Fear memories can be seen as ‘structures that contain information regarding stimuli, responses, and meaning’ (Rothbaum and Hodges, 1999, p. 511) Exposure to the stimulus (i.e. public speaking in some small capacity) brings about a ‘process of habituation and extinction, in which the feared stimuli cease to elicit anxiety, aid modification of the fear structure, making its meaning less threatening’.

Different groups of students will have comfort zones in different places. Learning experiences that provide elements of choice for students about where to focus their efforts for ‘stretch’ in areas they find challenging can help students develop who would otherwise sit back and let others confront those experiences of which they are afraid. Or who would otherwise be pushed aside by more confident members. This is particularly the case when time is tight, or the group decides to pursue each task using the person already most skilled in that area. To prevent this, the element of choice needs to feed into decisions about who takes on each role.

For example, a team might need to conduct some research with the local community about its needs in a particular area. Programme material for the research step of the project could provide a breakdown of the generic tasks that might happen at this stage, and a template for helping the team tailor its own set of tasks:

- a questionnaire might need to be designed that involves getting to grips with new software;
- investigation might need to be carried out to obtain contact details;
- phone calls might need to be made with more senior people;
- interviews might need to take place with unfamiliar community members.

Some students will have experience of these tasks, other tasks they will recognise as challenging. The team could map its members onto the template, each person self-allocating themselves to a task they are comfortable with or have experience in, and a task that challenges them. Members could pair up; one ‘comfortable’ and one ‘challenged’ for each task. This approach extracts maximum learning opportunities by providing both stretch and development of existing expertise.

Experience of reflecting on exposure to stressors

Avoiding exposure to anything outside of the comfort zone is actually worse than ineffective. Humans actually ‘need physical and mental stressors or we deteriorate’ (Lukianoff and Haidt, 2018). This includes our bodies and our mental faculties. Experience of stressors and adversity may have positive resilience-strengthening opportunities if that experience takes place alongside the appropriate reflective practices (Crane et al., 2019). While stress in the moment can reduce a person’s functioning, there is potential for growth in resilience ‘downstream’ of the stress event (p. 2).

Stress events can take many forms, large and small, but experiential learning opportunities can be built to incorporate the right degree of challenge and pressured or uncomfortable moments where individuals are exposed to feelings and emotions they might not choose to be, other than for reasons of self-development.

We described in our earlier review for Enactus how reflection is a vital element of experiential learning. If learning experiences incorporate reflection in the form of systematic self-reflection, it might be reasonable to assume that increased resilience would be an outcome.

Crane et al. propose five self-reflective practices that constitute resilience-strengthening self-reflection:

- Self-awareness – being consciously aware of one’s affective (how you respond emotionally), physical (how you feel physically), and behavioural (how you act) response to a ‘triggering’ event; acknowledging one’s initial cognitive appraisal of the event.
- Trigger identification – being able to identify specific situational triggers for their initial response. Being precise about the trigger (e.g. being given negative feedback) rather than too vague (e.g. presenting my work to a group) allows initial affective/physical/behavioural reactions to be anchored to the real source so that the individual can adopt better-fit coping strategies.
- Re-appraisal of stressor – a revising of the initial cognitive appraisal of the stress event in a way that amends the initial emotional response. Also involves considering what needs to be learned from the stressor (e.g. ‘do I need to develop a particular practical or psychological skill to manage that better next time?’). This stage can be facilitated by growth mindset; a resilient belief that stressors hold learning and growth opportunities (a ‘stress-as-enhancing’ mindset). An individual with fixed mindset would tend to view challenges as a threat to their ability to perform.
- Evaluation – reviewing one’s responses to the stressor in terms of their effectiveness or otherwise in helping one to achieve one’s goals.
- Future-focus – identification of what could be done differently in the future.

Experiential learning that develops resilience will provide both ‘stressor’ events and opportunities for deep reflection on them.

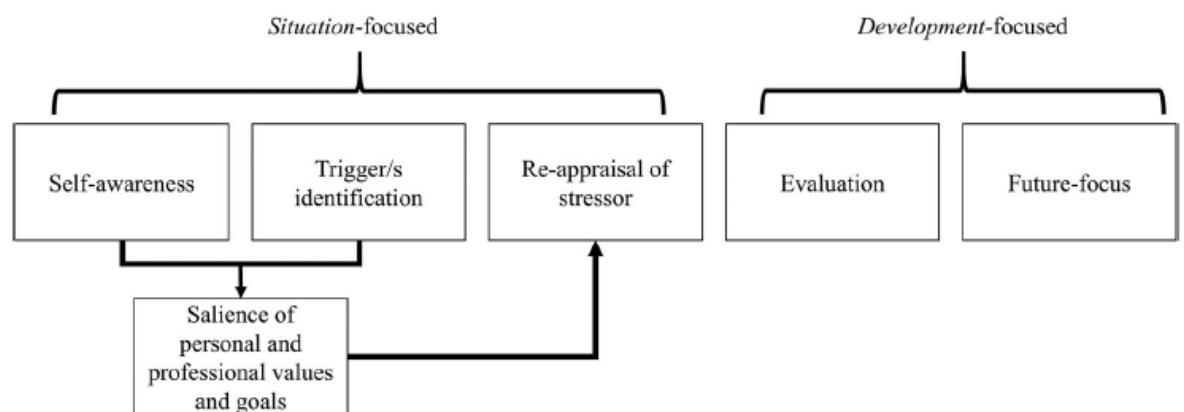


Figure 6 Five self-reflective practices essential for strengthening resilience from life stressors (Crane et al., 2019)

It is worth observing that one of our individual learning skills was reflectiveness, yet we propose resilience can also be developed through reflection.

Summary

Experiential learning that develops resilience might

- Provide input that challenges, for example by being placed in a novel situation, collaborating with people learners do not know or using equipment with which they are unfamiliar. Learners will vary in their ability to absorb information quickly, or to respond intelligently to a problem. The problem could have degrees of challenge, where learners make the choice about what will stretch them.

- Provide input that changes fixed mindsets. This might begin with the delivery of information about mindset. It might include the opportunity for students to self-assess their implicit theory of intelligence.
- Focus on effort and strategies for overcoming difficulties, rather than innate intelligence. To ensure that limits to current experience and knowledge are no barrier to progress, 'Help' guides might give students ideas for what to do when they are stuck; what resources to use; and who to ask for help.
- Praise and showcase practice, dedication to the task, effort, struggle
- Model past students' struggles and solutions through case studies.
- Include projects that have an upward trajectory of difficulty and challenge, where early stages prepare students for trial, error, re-work and success.
- Provide challenges that go beyond being difficult to being manageably uncomfortable so students can challenge their own reactions and grow.
- Give structured opportunity for deep reflection on stressor events. Build this into individuals' oral or written evaluations or presentations, or into team reports or reviews at the end of key project phases.

Creativity: how is it developed

Five signature learning experiences are proposed for developing the five habits of creativity:

- Experience that develops a technique or skill (develops 'disciplined' learners)
- Experience that leads to a product (develops 'imaginative' learners)
- Experience of a problem with freedom of choice over its solution (develops 'inquisitive' learners)
- Experience of diverse viewpoints (develops 'collaborative learners')
- Experience of the unexpected (develops 'persistent' learners)

There is an increasing body of research into creativity in schools that looks at how to develop it and how to assess it. Some of this is translatable into an experiential learning context.

The OECD has focused on creativity in recent years, approaching its 2022 international student assessment of creativity and critical thinking – OECD's Programme for International Student Assessment (PISA³) 'innovative domain' choice – alongside its regular assessment of 15-year-old school pupils' performance in maths, science, and reading.

For PISA, OECD considered creativity and critical thinking together. To help teaching practitioners understand what it is and how to develop it, the OECD worked with schools and teachers in 11 countries to develop and trial a set of pedagogical resources demonstrating what learning, teaching, and progress in creativity and critical thinking – in primary and secondary school settings – look like.

The resulting publication *Fostering Student Creativity* provides rubrics for gauging pupils' development in creativity, as well as a set of eleven signature pedagogies (Shulman, 2005) teachers can adopt to develop creativity. We introduced the 'signature pedagogies' concept in our section on signature learning experiences. Signature pedagogy is a concept that recognises how certain kinds of teaching method are more likely to be effective at cultivating the targeted skill.

Of this list, a handful are potentially useful for developing creativity through experiential learning:

- Creative partnerships

³ <https://www.oecd.org/pisa/>

- Design thinking
- Project-based learning
- Studio thinking

Within the same report identified above, OECD produced a non-exhaustive set of ‘design criteria’ for activities that foster creativity or critical thinking skills, which are:

1. *Create students’ need/interest to learn*
 - *Usually implies to start with a big question or an unusual activity*
 - *May imply to get back to these questions several times during the activity*
2. *Be challenging*
 - *Often, the lack of student engagement comes from learning goals or activities that lack challenge*
3. *Develop clear technical knowledge in one domain or more*
 - *The activity should include the acquisition and practice of both content and procedural knowledge (technical knowledge)*
4. *Include the development of a product*
 - *A product (a paper, a presentation, a performance, a model, etc.) makes the learning visible and tangible*
 - *Teachers and students should also be attentive and possibly document the learning process*
5. *Have students co-design part of the product/solution or problem*
 - *Products should thus in principle not look all alike*
6. *Deal with problems that can be looked at from different perspectives*
 - *Problems should have several possible solutions*
 - *Several techniques may be used to solve them*
7. *Leave room for the unexpected*
 - *Teachers and students do not have to know all the answers*
 - *The most commonly adopted techniques/solutions may have to be taught and learnt, but there should be room for exploring or discussing unexpected answers*
8. *Include space and time for students to reflect and give/receive feedback.*

Each of these design criteria are clearly relevant signature learning experiences. Putting aside points 2 and 8, which have been incorporated as signature learning experiences for resilience and reflectiveness, respectively, and point 1, which will be used as a signature learning experience to develop ‘empathy’ (through the notion of service learning), five remain.

In *Teaching Creative Thinking* we proposed five signature pedagogies as conducive to the cultivation of creative thinking; each paired with one of the five sub-habits. These were:

1. problem based learning – linked to ‘inquisitive’
2. classroom as a learning community – linked to ‘collaborative’
3. playful experimentation – linked to ‘imaginative’
4. growth mindset – linked to ‘persistent’
5. deliberate practice – linked to ‘disciplined’

These five are a close match for the five remaining OECD design criteria and lead us to the following signature learning experiences:

Experience that develops a technique or skill

Connecting our own signature pedagogy of ‘deliberate practice’, and OECD’s third point ‘Develop clear technical knowledge in one domain or more, we propose that learners undertaking experiential learning be given opportunities to learn and develop a skill. Long term projects allow time for this sort of investment in learning, and it is a good way of developing the creative thinking habit of being ‘disciplined’.

Skills should be meaningful and sufficiently technical that mastery is a real achievement. There should be levels to progression in the skill that are achievable with practice, such that learners can master in increments.

Use of expert practitioners as teachers / mentors on projects is a way to ensure skills and techniques are suitably worthwhile, demonstrates the value of the particular skill, and ensures it is taught well.

Introducing learners to a long-term project when they transition to secondary school gives ample time to develop a skill, with obvious implications for progression as they mature.

Experience that leads to a product

Connecting our *Teaching Creative Thinking* pedagogic approach of ‘playful experimentation’ with OECD’s fourth point, we propose that experiences that lead to a product of some sort give experiential learners the opportunity to develop the creative thinking habit of being ‘imaginative’.

Playful experimentation can be by way of thought rather than physical, so that the output is intellectual property.

In terms of progression, it is important that young people are given the opportunity to experiment with real tools, materials and resources as soon as they can be trusted to take care of them. Younger students may need to be introduced to the concept of budgeting to help them make most economical as well as most effective use of resources in whatever form they take, whether supplies, time, or a person’s expertise.

Experience of a problem with freedom of choice over its solution

Connecting our ‘problem based learning’ pedagogy with OECD’s fifth point, we propose that learners undertake experiential learning experience problems whose solution is one they can have agency over. This is a way of developing the habit of being ‘inquisitive’, which is part of being a creative thinker.

In terms of progression through school years, younger students might be given choice over the solution, while older students might be given, in addition, more choice over the problem they tackle.

Experience of diverse viewpoints

Connecting our signature pedagogy of ‘classroom as a learning community’ with OECD’s sixth point, we propose that experiential learning that develops the ‘collaborative’ habit of a creative thinker will provide opportunities for learners to engage with diverse viewpoints.

Creativity, when defined to include the important element of producing something ‘of value’ means that products and outputs of the creative process reflect real solutions to genuine problems. Ceci and Williams (2022) write that ‘we cannot overestimate how important’ it is to have diverse views on a team collaborating. Their own example was in the framing of scientific conclusions that will be published and influence the media.

They give examples of ideological bias arising from lack of thought diversity that mean policymakers attempt to solve oversimplified or non-existent problems. Instead, diverse teams ‘would moderate

each member's impulses' as members of 'broad sociopolitical communities...bring their own filters to the task of judging the factuality of statements' (p. 38).

Creative solutions to real world problems require thought diversity and teachers should model open engagement with ideas. Young people may not provide a pool of sufficiently diverse viewpoints, but providers of experiential education can build in opportunities to seek, understand, and incorporate those views in fair and reasoned ways.

Experience of the unexpected

Finally, we propose that OECD's seventh point – 'leave room for the unexpected' – has a similar purpose to our signature pedagogy of 'growth mindset'. Experiences that include an element of the unknown force young people to work out what to do when next steps are neither obvious nor prescribed. Such experience can help develop the creative thinking habit of being 'persistent'.

This might involve programmes being developed to include periodic delivery of new bits of information to learners as they are working on solving a problem. For example:

- Sudden changes to students' project budget.
- Reassignment of individuals across teams.
- Introduction of a new stakeholder to the community.
- Change to a deadline.
- Unexpected team building session.

Re-working a solution to incorporate the new information can provide opportunities for learners to think creatively.

Summary

Experiential learning that develops creativity might

- Invest in longer term development of specific practical techniques or skills.
- Allow young people to experiment with real tools, materials and resources.
- Give learners agency over how they tackle a problem.
- Help learners to connect with diverse viewpoints.
- Include an element of the unknown.

Empathy: how is it developed

Four signature learning experiences are proposed for developing empathy:

- Experience of perspective taking
- Experience of developing relationships
- Experience of active listening
- Experience of service learning

As shown in the introduction to empathy, preceding, definitions of empathy are contested and it might be advisable to focus on identifying a sub-aspect of empathy that could represent a more tightly defined skill. Interventions through programmes aimed at developing empathy would need to be developed with their own understanding of empathy, so that impact measurement was possible.

There are some generalisations that could be made regarding the kinds of activity that have the potential to develop empathy, and the relevant signature learning experiences are discussed:

Experience of perspective taking

Empathy may be developed by perspective taking; the act of perceiving a situation from another's point of view. Certainly it would be hard to feel empathy if you could not relate to a person's situation.

Perspective taking is a 'cognitive mechanism... of understanding others' (Stietz et al., 2019). As learners consider a real-world problem in their community, for example, they might be given the opportunity to meet with and see something of the life and situation of a particular community member. They might then:

- be guided to imagine themselves having the same experience as that person.
- try to use their own similar experience to understand the person's situation.
- apply general knowledge about how people are likely to react in particular situations.
- look for clues about how the person feels; through their body language, for example.

Experience of developing relationships

To help perspective taking, learners could be exposed to situations where they are able to develop relationships with people in their community who are stakeholders in the problem or project the learners are working on. Community members might be involved with the project, or learners may spend time in the community.

The idea of this signature experience is that learners come to know the ways different individuals have of communicating by spending time with them. Repeat interactions build understanding of the other person's world and can develop empathy.

Experience of active listening

Young people need to learn how to listen well and become *active* listeners. Good listeners are not passive, but 'makers of ideas' (Jalongo, 1995). They receive and process information; hearing but also actively constructing meaning from verbal and nonverbal signals. Being able to listen to another person is important for developing empathy because it enables the learner to understand the complete message being sent. It involves understanding and acknowledging the other person's point of view, which can be demonstrated to both parties by repeating back in the listener's own words.

Active listening will involve

- Maintaining eye contact.
- Stopping what you are doing.
- Being interested in what the other person has to say.
- Refraining from interrupting.
- Restating what is being said.
- Asking clarification questions.
- Listening for the underlying meaning (feeling / attitude) as well as the content of the message.
- Stating your views if necessary, only after you have listened.

Experiential learning that develops empathy will give learners opportunity to practise active listening. Experiences that require communication with third parties – for example, people in the community – can be structured to require active listening.

Students could first role-play the sorts of conversations they might have in a workshop environment. After practising on one another they can head out into the community to interview and question residents, or external experts.

Experience of service learning

One of OECD's 'design criteria' for learning activities that develop creative and critical thinking skills is that it should 'create students' need/interest to learn'. This would usually mean that a 'big question or an unusual activity' begins the experience. Learners may need to be reoriented to the question or big idea as the experience progresses.

In our first report we wrote of the importance of motivating young people to engage with experiential learning by choosing activities with clear relevance to their lives and/or those they care about, or come to care about when introduced to the issues of new people. We wrote that relevance is seen when an activity is purposeful, which might typically mean helping others by doing work that is of value beyond the self, i.e. acts of consequential service: 'service learning'.

Scott and Graham's US-based research (2015) tracked development of 'cognitive', 'affective', and 'overall' empathy in primary aged children exposed to service learning. Using Garton and Gringart's (2005) scale cited earlier it assessed first, second, and fifth grade children and found that while all grades saw increased overall empathy, only fifth-grade participants increased in cognitive empathy. The authors rationalised that the cognitive empathy construct required more analytical thinking; 'a skill that develops as children get older and more mature'. The study was school based and involved recruitment of participants by a nonprofit

'dedicated to creating educational programs to help children overcome potentially detrimental circumstances and to avoid negative academic behavioural outcomes'.

We saw earlier the sorts of items that represent cognitive empathy. If it is desirable to develop these, Scott and Graham's work gives details of the course's content, thereby giving some indication of the sorts of service learning that might develop those.

Some key points indicate the nature of the intervention Scott and Graham observed:

- First to note is that the programme was of short duration: only 5 sessions of 45 minutes.
- Second: beside the actual community service project, the programme involved upfront teaching input, much discussion, and reflection, so it was not all 'hands-on'. An introductory session followed best-practice approaches to service learning. Reflection took place at the end of each session – students discussed what they had achieved, their feelings, and action plans.
- Third: the school supported the programme with a concurrent schoolwide timetabled unit on community helpers and civic responsibility, during which time teachers used the service-learning project to teach concepts including community, civic engagement, leadership, and civic responsibility.
- Fourth: students worked on a problem. They identified problems / challenges in their community and then identified which organisations / individuals might help solve them. They wrote to them requesting ideas then evaluated those ideas.
- Fifth: there was choice about which of the problems they solved. This choice came after a discussion session focused on the history of the specific social issues within their community and identification of how those issues had been addressed elsewhere.

- Sixth: in collaboration with a community representative, a creative problem solving method was used by students to consider how to put their solution into action. Ongoing connection with the community took place in sessions:

this connection with members in the community and understanding of different life circumstances were designed to foster empathic growth and community engagement.

- The final session followed best practice (cited by the authors) and concluded with reflection and celebration.

for inspiring personal and developmental growth, and increasing self-confidence and engagement in school, social responsibility, and empathy levels.

Projects varied between groups, but some examples were:

- making a quilt to hang in a nursing home,
- hosting a toy drive for a local hospital,
- having a clothing drive for a nearby homeless shelter in an urban city, collecting clothing for mentally disabled veterans, and
- fundraising for a no-kill animal shelter.

Enactus could incorporate some of these ideas within its programmes; particularly student choice of problem, the identification and involvement of external experts as consultants, and the exploration of how problems had been solved elsewhere. Similarly the link to reflection activities is important.

Summary

Experiential learning that develops learners' ability to understand others (empathy) might

- Help learners see things from another's point of view.
- Provide links to members of the community to allow positive relationships and social interactions such that learners are exposed to other views, and conversation they need to listen to if they are to invest in mutually beneficial relationships.
- Help learners with active listening.
- Give opportunities to take part in service learning.

Differentiation by age

While metacognitive awareness begins at an early age, it is thought that young children are not fully capable of 'being able to introspect or treat their own thought processes as an object of thought' (Veenman, 2005, p. 162). The development of metacognitive knowledge grows beyond age 4, but metacognitive skills are 'not expected to set in before the age of 11-12 years'. Experiential programmes that begin after the Primary to Secondary school transition are, therefore, ideally placed to take advantage of metacognitive skill development, and further it.

Although there is limited evidence, Netherlands based researchers Veenman and Spaans (2005) suggest from their own empirical work that it would appear these metacognitive skills develop in young people from being fairly domain specific on entry to Secondary school, to more general by around the third year (Veenman and Spaans, 2005).

What this tells us is that for younger children, what Salomon and Perkins (1989) call the 'high road of transfer' – this is a transfer of general metacognitive skills across to dissimilar tasks and domains – is less developed than in older children.

For each skill, we have proposed a number of types of experience. For reflectiveness, for example, we suggested ‘experience of using helpful reflection techniques’. For the purposes of differentiation, it could be assumed younger children need more ‘scaffolding’ - in general, this means applying supportive structures to the learning – as they begin to use the techniques in different contexts. As Veenman and Spaans suggest, they ‘should be instructed to acquire metacognitive skills in various domains and, subsequently to apply those skills across the boundaries of tasks and domains’ (p. 173).

In general, where a skill is multidimensional, it can be helpful to focus on developing single dimensions when the skill is first introduced. For example, with creative thinking, each of its five ‘habits’ (imaginative, inquisitive, collaborative, persistent, disciplined) comprises 3 sub-habits. A particular learning experience might aim to develop a single dimension such as ‘imaginative’. Younger learners might just focus on one sub-habit of this; older or more proficient learners might focus on two or three sub-habits. For example:

Sub habit of ‘imaginative’	Learner focus	Lifecycle
Playing with possibilities	Being imaginative means trying things out...	Younger / less confident
Making connections	... it means combining ideas from different places...	↓
Using intuition	... it means being able to think productively even when you can’t fully explain your reasoning.	Older / more confident

We offer the following thoughts on skill development across the lifecycle of the four skills as a prompt for thinking about how to consider skill progression as programmes are developed:

Reflectiveness across the lifecycle

If younger learners have been taught a reflection technique to use at the end of each session, they might need more help transferring that same technique onto paper, or into a team context, or an end of unit evaluation, than their older peers would. This could imply need for a differentiated reflection activity for younger participants, or a lengthened activity duration for everyone. Or it could mean older peers are brought in to help younger ones as part of their own development. This has implications for the design of reflection exercises by age group for each experience / activity.

The limited empirical evidence in this regard should be noted, and the key point for experiential educators is that metacognition is a developing skill that needs reinforcing from the moment of its introduction. Its development should be made ‘visible’ so young people understand the language used to talk about it, and recognise when they are engaging in an activity to develop it.

Resilience across the lifecycle

Ensuring age-appropriate activities will be about using suitable language to describe ‘implicit theory’ when teaching learners about the concept of resilience. It will be about ensuring the level of challenge and exposure to stressors is cumulative throughout the project. Activities could increase in their degree of challenge as young people develop exposure to tackling them. If teams are mixed-age, it might be appropriate to differentiate when it comes to assigning team roles.

Creativity across the lifecycle

We know that young people can understand and use the concepts associated with creativity when explained to them. Where creativity involves a number of sub-habits (see Figure 2 for the creativity framework), it can be useful to focus younger pupils on one at a time to embed practice and understanding before moving on to perhaps looking at two sub-habits, and then all three together for older learners, as shown above.

Empathy across the lifecycle

Empathy – the ability to share others’ emotions – could be argued to emerge very early in life (Stietz et al., 2019). The authors argue that there is no clear cut-off age at which empathy is, or is not, developed fully, but that it continues to develop during adolescence between 12 and 16.

Furthermore, depending on definitions and measures used, findings will be different. The key point is that over the period we are interested in, the emotion-sharing side of empathy continues to develop. Development of perspective taking also develops incrementally, beginning before age 4-5. Perspective taking is more developed in older than younger adolescents (Gillian and Iroise, 2016).

Activities that develop perspective taking or active listening may involve more explicit scaffolding for younger pupils to help them consider their interactions / conversations with community members. For example, they may need more prompts in looking for clues, or cues, in people’s body language, tone of voice, and emotion, or in considering factors relating to the person’s experience that might contribute to their current perspective on a problem.

3) Learning programme impact measurement.

In this section we explore learning programme impact measurement. We indicate how such evaluation is typically done, with specific focus on the meeting of intended skill development outcomes.

This section aims to demonstrate how Enactus might go about evaluating programme impact. From the interim report, we know that very few organisations similar to Enactus are intentional about which skills they develop, and so do not measure skill growth. It is necessary to focus, therefore, on other sorts of organisation where specific student outcomes in things other than subject knowledge, and through instruments other than formal examinations, are measured.

Assessing a programme

Design of programme assessments is necessary if those managing them are to understand whether, and how, they are bringing about the intended benefits.

Pre and post testing model

A simple model of assessment for a programme of skills development would be to find out whether there was a change in learners’ skills. This would involve pre- and post-programme testing of skills. This might take the form of a performance test, or a self-report.

It should be noted that with self-reports it can be the case that a person’s self-rating is more generous, relatively speaking, when they are less knowledgeable about the thing being measured. Nevertheless, the ‘gap’ between pre- and post-test results would give a good indication of whether the skills were being developed.

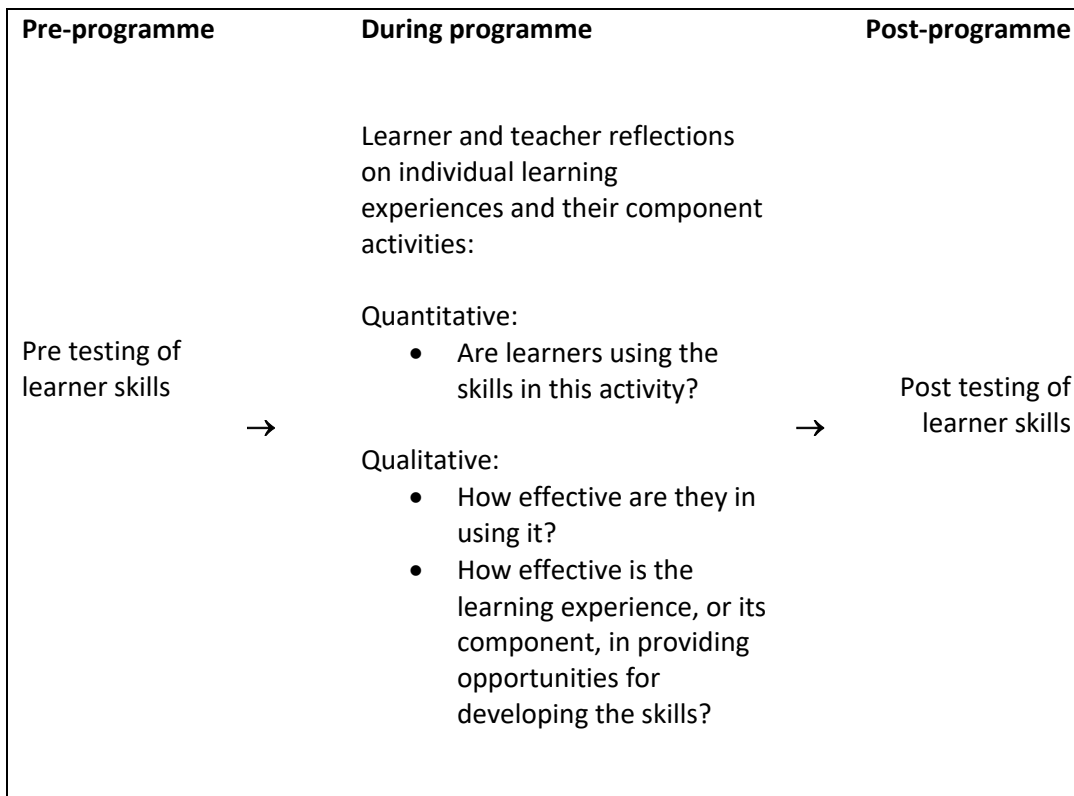


Figure 7 Pre and post skill testing, with reflections during the programme

In the middle of the box above is reflection on individual learning experiences. This might be done by learners and/or teachers. If simple, routinely analysable data is logged as learners progress through the programme, programme evaluators can see not just whether the course is producing the desired outcomes, but *how* users are perceiving it to do so through the learning experiences.

Post programme evaluation

An alternative approach might be to use a mixed-methods approach post programme to find out how young people conceptualise the skills, and how they perceive the programmes developed them (or not). A mixed methods approach might include focus groups, surveys, and semi structured interviews. This kind of approach requires significant inputs in data analysis and is often so far removed from the event that providers cannot be responsive to in-the-moment feedback.

An organisational approach

At an organisational level, the Kirkpatrick model⁴ is a well-used tool for evaluating the efficacy of training within an organisation. It is designed to help learners and educators recognise the value and impact that training has had on a team. Its four levels are outlined below. The third column is to show how this model might be adopted for Enactus:

Level	Focus	Useful element
Level 4 Results	The degree to which targeted outcomes occur as a result of the training and the support and accountability package	Harder to assess for Enactus's programmes. This is about bottom-line organisational improvements. For Enactus this might involve longitudinal study, but cause and effect are

⁴ <https://www.kirkpatrickpartners.com/the-kirkpatrick-model/>

		hard to monitor in education over long periods of time.
Level 3 Behaviour	The degree to which participants apply what they learned during training when they are back on the job	Harder to assess for Enactus's programmes. This involves assessing behaviour change over time, its relevance, and whether it is sustained.
Level 2 Learning	The degree to which participants acquire the intended knowledge, skills, attitude, confidence, and commitment based on their participation in the training	This can involve pre- and post- testing of skills. Assessment could also be done by interview or observation. Useful where skills are quantifiable.
Level 1 Reaction	The degree to which participants find the training favourable, engaging, and relevant to their jobs	This can involve a quick feedback form, verbal reactions, or post-training surveys. Enactus could ensure feedback is collected that asks learners how effective a learning experience, or element of it, was at developing a particular skill. Useful where learners are clear about precise understanding of the skills.

Table 1 The Kirkpatrick model - useful elements

An evaluation of another skills based programme

The government's essential life skills (ELS) programme was one component of its wider social mobility agenda. It provided funding to enable 5 to 18 year olds to participate in regular extracurricular activities, whether term time, holiday, or residential. These included a range of activities – most commonly – sport and outdoor / adventure, to – least commonly – debating / public speaking, and business and enterprise activities. Outcomes for young people was just one aspect of its evaluation, which asked:

- To what extent was the process for selecting and allocating funding to providers effective?
- How far did the funded projects and activities align with the overall ELS design and policy intent?
- What were the key success factors and challenges (and how were these addressed) in implementing the ELS programme?
- To what extent were identification, recruitment and retention processes effective?
- To what extent were ELS activities reaching the participants intended? And what can be determined concerning the relationship between pupils' characteristics and participation?
- To what extent was sustainability considered and how effective were any plans developed to support this?
- What are the key lessons that can be derived from the design and implementation of the ELS?

And, finally, the element relating to skills:

- What were the emerging outcomes from the programme?

A mixed-methods evaluation approach (Cutmore et al., 2020) was used including

- Two rounds of semi-structured interviews with Department for Education and Local Authority representatives from targeted areas where the programme ran.
- Two rounds of online survey with providers delivering the project (schools, colleges, external organisations).
- Attendance data.
- Focus groups with pupils and parents/carers.

In terms of skill outcomes for young people, the evaluation was based on feedback from all stakeholders and all groups were positive.

The evidence collected by the representatives from local areas was based on impressions they received from learners’ school teachers and programme provider staff, as well as from observing the activities taking place. Evidence also came from more local evaluations, and this was said to reinforce feedback from schools, providers, and anecdotal evidence. In the absence of more information, it is likely that this was done at a cohort, rather than individual pupil, level. Similarly, it is likely that skills were identified with high-level labels such as ‘team working’ rather than being broken down into constituent habits, and evidence for development in each habit sought.

Comments in focus groups expanded upon what young people and their parents / carers understood by the skill labels.

The ELS evaluation shows that a post-programme evaluation can provide useful evidence of success, but it might be more efficient – and effective for learners – to build evaluation into Enactus’s programmes.

Assessing skills

Two steps in thinking about skill assessment are to think about progression, and to consider how changes over time can be measured, or otherwise ‘noticed’.

Map progression

Whichever definition of each skill is chosen, programme designers and evaluators will need to work together and decide how to describe progression in that skill over time. For example, the Victorian Curriculum and Assessment Authority (VCAA) in Australia aims to develop ‘critical and creative thinking’. It breaks this up into a number of elements. To take one element, ‘questions and possibilities’, the progression framework shows what progression in looks like from Foundation to Level 10:

Foundation to Level 2	Identify, describe and use different kinds of question stems to gather information and ideas	Consider personal reactions to situations or problems and how these reactions may influence thinking	Make simple modifications to known ideas and routine solutions to generate some different ideas and possibilities
Levels 3 and 4	Construct and use open and closed questions for different purposes	Explore reactions to a given situation or problem and consider the effect of pre-established preferences	Investigate different techniques to sort facts and extend known ideas to generate novel and imaginative ideas
Levels 5 and 6	Examine how different kinds of questions can be used to identify and clarify information, ideas and possibilities	Experiment with alternative ideas and actions by setting preconceptions to one side	Identify and form links and patterns from multiple information sources to generate non-routine ideas and possibilities

Levels 7 and 8	Consider how to approach and use questions that have different elements, including factual, temporal and conceptual elements	Suspend judgements temporarily and consider how preconceptions may limit ideas and alternatives	Synthesise information from multiple sources and use lateral thinking techniques to draw parallels between known and new solutions and ideas when creating original proposals and artefacts
Levels 9 and 10	Investigate the characteristics of effective questions in different contexts to examine information and test possibilities	Suspend judgements to allow new possibilities to emerge and investigate how this can broaden ideas and solutions	Challenge previously held assumptions and create new links, proposals and artefacts by investigating ideas that provoke shifts in perspectives and cross boundaries to generate ideas and solutions

Table 2 Excerpt from VCAA's progression framework for critical and creative thinking. Source: <https://victoriancurriculum.vcaa.vic.edu.au/critical-and-creative-thinking/introduction/scope-and-sequence>

Measure change in skill over time

Assessing skills such as reflectiveness and resilience is not the same as assessing maths or history; these have syllabuses which specify knowledge and skills that are discipline specific and can usually be evidenced. Even character traits can be measured. But there is often not consensus about the elements that comprise the skills Enactus are interested in – the so-called 'soft' skills.

Much of the success of programme impact assessment will be down to whether evaluators find ways to measure changes in skills over time. A larger piece of work for Enactus could be to identify – or develop – the best means of assessment for each of the four desirable skills. To measure a skill, it needs to be clearly defined into components or habits that together make up that skill, based on more in-depth literature review, conceptual development, and knowledge of what is important to Enactus.

A scale can be developed to measure a skill. It might ask respondents (learners and/or teachers) to rate themselves on how frequently they use the skill, or how confident they feel about using it. Ideally scores would be higher on post-programme testing.

Scales do not have to be fully worked up to the level of psychometric validity and reliability before a programme can be implemented, but scales, or other assessment tools, can be trialled on cohorts and developed over time.

Important considerations are that skills be assessed both:

- For the overall evaluation of the programme, and
- For the benefit individual learners. This might mean a pre- and post-programme score that shows them their overall development. It might also mean ongoing 'formative' assessment that shapes their future interactions with learning experiences such that they develop the skills they intend to. Ongoing reflections, as detailed in the section on learning experiences to develop reflectiveness, are useful here.

For each of the skills there are instruments being developed to some degree. To give just a few examples:

Reflectiveness	A questionnaire to measure reflective thinking (Kember et al., 2000)
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	A framework for evaluating teaching students' ability to reflect on pedagogical principles underlying teaching decisions (Sparks-Langer et al., 1990)
Resilience	A review of instruments measuring resilience in adolescents (Ahern et al., 2006) The Connor-Davidson Resilience Scale (Scali et al., 2012) A methodological review of resilience measurement scales (Windle et al., 2011)
Creativity	The PISA test of creativity and critical thinking (Vincent-Lancrin et al., 2019) The Torrance Tests of Creative Thinking (Torrance, 1974) A paper questioning construct validity of the well-cited Torrance Test of Creative Thinking (Almeida et al., 2008) Digital approaches to assessing creative thinking:
Perspective taking	A paper on constructing reliable instruments to test students' ability to perform historical perspective taking (Huijgen et al., 2014) A paper comparing instruments that measure empathy (Hall and Schwartz, 2019)

Table 3 Examples of instruments being developed in the four skill areas

4) Theory of Change

In this section we develop a high level theory of change to show Enactus's intention that adoption of particular signature learning experiences and activities would lead to a set of desired skill outcomes.

The following high-level model is constructed beginning with the desired skill-based outcomes (reflectiveness, resilience, creativity, empathy) in mind. It aims to show that if you adopt a set of 'signature learning experiences' that expose learners to activities aimed at fostering particular skills, then the desired skills will be the likely result.

The skills described in 1. and the set of indicative experiential learning activities described in 2. are used to populate the model. Inbuilt evaluation, both of the programme, and of individual learners (of the sorts identified in 3.) are included in the model.

IF Enactus	Chooses and defines each of the skills it wishes to develop and provides an evidence base to support its rationale for skill selection,
THEN →	It can develop programme aims associated with the skills, for example: 'Enactus programmes aim to enable disadvantaged young people at Key Stage 3 and 4 to participate in regular and longer-term experiential learning activities that support development of important life skills associated with positive life outcomes.',
AND if Enactus	Maps progression for each of the skills (or sub elements of the skills),
AND	Selects and overarching coherent theme or project within which individual 'signature experiences' can be designed,
AND	Selects 'signature experiences' for each skill where there is some evidence or rationale for their efficacy,
AND Then	Partners with schools – particularly those in disadvantaged areas – to offer on-site experiential learning programmes,

THAT give young people opportunities to	take part in hands-on activities,	
WITH	Pre intervention teaching on important skill concepts,	
AND with	In-activity opportunities for reflection,	
AND with	Post activity opportunities for reflection,	
AND programmes give learners particular 'signature learning' experiences:	<ul style="list-style-type: none"> • of having time for reflection at appropriate moments • of using helpful reflection techniques and prompts • that change their 'implicit theory' to link their own inputs to success 	THEN, Short term outcomes will be ↓
		Learners' reflectiveness will develop.
AND if programmes give learners particular 'signature learning' experiences:	<ul style="list-style-type: none"> • of appropriate challenge • of reflecting on exposure to appropriate 'stressors' 	Learners' resilience will develop.
AND if programmes give learners particular 'signature learning' experiences:	<ul style="list-style-type: none"> • that develops a skill or technique • that lead to a product • of a problem with freedom of choice over its solution • of diverse viewpoints • of the unexpected 	Learners' creativity will develop.
AND if programmes give learners particular 'signature learning' experiences:	<ul style="list-style-type: none"> • that develop a skill or technique • that lead to a product • of a problem with freedom of choice over its solution • of diverse viewpoints • of the unexpected 	Learners' ability to understand others will develop.
AND if programmes include	Evaluation of learners inbuilt through regular reflection activities on an ongoing basis, and which capture feedback on teacher and learner perceptions of learning	Learners will be able to understand and work on their own learning
AND if Enactus designs inbuilt evaluation to	<ul style="list-style-type: none"> • capture pre- and post-programme evidence of skills • capture within-programme assessments from learners and teachers 	THEN, Medium term outcomes will be ↓
		Enactus will have the evidence needed to evaluate the effectiveness of its programmes

	about the efficacy of learning experiences	
THEN →		Enactus will be able to provide evidence of success to recruit potential investors, participating schools and third-party organisations.
ULTIMATELY, Longer term impacts will be →		<ul style="list-style-type: none"> • Improved longer term educational and occupational outcomes for young people • Preparation of young people for learning, life and work, and • Enhanced levels of social mobility.

Table 4 Theory of Change for Enactus programmes

Summary

This final report to Enactus has explored evidence-informed possibilities for creating experiential learning activities that are likely to develop the four key skills in young people through Enactus’s programmes: reflectiveness, resilience, creativity and empathy.

A Theory of Change lays out high-level steps needed to develop robust programmes. Before developing signature learning experiences based on those proposed in this report, further work is needed to

- Develop a rationale for skill selection based on further literature review.
- Develop clear programme aims linked to the desired skills.
- Define each skill in terms of the specific habits learners need to develop, based on further literature review.
- Map progression through the learner lifecycle for each of the desired skills.

It is intended that evaluation of programmes is built into their design. This is particularly important for learner progression.

Where programmes are designed with clear aims in mind, and signature learning experiences are designed to provide opportunities for development of those skills, it should be achievable to provide highly effective programmes that benefit young people’s current situations, their future life chances, and the wider community.

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