

LEVEL 6 ASSESSMENT SPECIFICATION

Student name:	Molly Green	Student ID number:	1701043
Programme:	Primary BA Ed		
Module:	Enterprising and Creative Teaching and Learning		
Module code:	ECAD6011	Contribution to Overall Module Assessment (%):	100%
Lecturer:	Mr T. Cox	Internal Verifier:	
Assignment Title:	<i>Utilising the Entrecomp Framework, critically evaluate your own creativity and enterprise and consider how you might be able to develop the creative and enterprising skills of primary learners through your own pedagogy.</i>	Word count (or equivalent):	5000
Submission deadline:	13/1/20	Return date of provisional marks & written feedback:	10/2/20
Submission method:	All written assessments, where practical and possible, must be submitted via Turnitin unless otherwise instructed by the Lecturer. (Please DO NOT put this assessment specification into Turnitin or it will match many similarities with other students' submissions.) Alternative submission method (if applicable): Late submission of the assessment will result in a late penalty mark. Penalties for late submission: Up to one week late, maximum mark of 40%. Over one week late, 0%. Only the Extenuating Circumstances Panel may approve a change to submission dates.		
Academic honesty / referencing:	Academic honesty is required. In the main body of your submission you must give credit to authors on whose research and ideas your work is based. Append to your submission a reference list that indicates the books, articles, etc. that you have used, cited or quoted in order to complete this assessment.		

This assignment aims to utilize the Entrecomp Framework to critically evaluate my own creativity and enterprise skills. This will enable me to consider how, as an educator, I aim to develop the creative and enterprising skills of primary learners. Creativity has been defined many ways. Both Seelig (2012) and Costa and Kallick (2008) both regard creativity as a key element of problem-solving, however, where it appears in their ideas is different. One analogy is that it enables children to “regard old problems from a new angle requires creative imagination” (Costa and Kallick, 2008, p.26). On the other hand, other theorists suggest that “creativity and humour usually comes from shifting the frame” (Seeling, 2012, p.13), therefore, creativity will come as a result of reframing problems. Despite this disagreement, both would agree that problem-solving underpins the skills required to become a creative person. Some may question if creativity is a result of nature or nurture. Cox (2012) argues there is a spark of creativity in everyone, and if it comes down to it most people are more than capable of pulling a creative rabbit out of the hat. Even if they struggle, he believes that by developing a habit of noticing minor things, much like many artists do, can help to stimulate anyone’s imagination. Whether a child is naturally creative or not, developing this skill further relies on the teacher. Therefore, teachers must provide children with an enterprising education. This is a process, allowing the application of creative ideas and innovations to practical situations. Enterprising education is viewed as being significantly important in Welsh education. Donaldson’s review of the curriculum, *Successful Futures*’ (2015) highlighted the need for enterprising creative contributors, which is now part of central policy, and in turn leads to enhanced teacher training initiatives. He believes that “Creativity and enterprise are central features of modern life that should be developed and extended throughout a school career” (Donaldson, 2015, p.28). My objective is to use the Entrecomp-Framework to critically evaluate my contribution of creativity and enterprise and how I can use this during my educational practice.

The EntreComp diagram, displayed in appendices 1, is a wheel made from 3 competent areas and 15 competences. Bacigalupo *et al.* (2016), recommends that professionals use the diagram to design curriculums within education as it provides a correlation between education and the world of work by connecting enterprise education with entrepreneurship education. To support this diagram, there is

also a full EntreComp Framework to display progression steps within each competence as displayed in appendices 2. This allows professionals to assess their level of each competence ranging from level 1 to level 8. This framework was not only designed to provide a link between education and the world of work, it also has intentions of being a common reference to help citizens to “develop their ability to actively participate in society, to manage their own lives and careers and to start value-creating initiatives” (Bacigalupo, *et al.* 2016, p.10). This blends with few of Donaldson’s four purposes of the new curriculum such as, to become “healthy, confident individuals ready to lead fulfilling lives as valued members of society” (Donaldson, 2015b, p.4). Using the EntreComp Framework will allow individuals to develop skills in preparation for the world of work. Based on this link, the EntreComp Framework can be used in Wales to enhance the new curriculum, by promoting the four purposes. Despite the framework potentially seen as being a useful tool to our curriculum, there are possible limitations. Based on the EntreComp report, “the framework has not yet been adapted to or tested in real settings” (Bacigalupo *et al.* 2016, p.9) which is uncommon. Founding a new curriculum on a framework which has not yet been practiced would be risky. It is likely that the framework would be beneficial, however, there is no hard evidence to prove it. Despite this, I am going to discuss 3 competencies from the EntreComp Framework. I aim to use evidence to demonstrate which level I am currently at and how I am going to progress further during my practice. As displayed in appendices 1, the competencies chosen to discuss are, creativity, motivation and perseverance and coping with ambiguity, uncertainty, and risk. I believe, to be a creative person you cannot have one of these skills without the other, *see appendices 3*. This displays a connection between the three competencies. A child who is motivated to tackle a problem with an uncertain answer with an imaginative solution justifies a creative person.

Creativity is one of the 3 competencies selected for discussion. The EntreComp Framework describes creativity developing “creative and purposeful ideas” (Bacigalupo *et al.* 2016, p.23). Opposed to Seelig (2012) and Costa and Kallick (2008) problem-solving is not mentioned in this description, it is based on generating ideas. Creativity is split into five threads within the framework. These threads combine for children to develop their creativity. The thread I have chosen to analyse is being able to

design value. There are 8 levels in total for this thread and currently I would currently place myself on level 3. This level suggests that I am able to, identify basic functions that a prototype should have to illustrate the value of my idea. Evidence of this level comes from re-inventing uses of existing products for a 'What if? ...' Competition during this module. During this competition, I identified the functions of the box/prototype to illustrate the value of my idea as mentioned in the level 3 description. I improved the use this cardboard box to meet the needs of the children by improving their reading corner. More information on this idea is displayed in appendices 4. This example corresponds with the level 3 description. Glucksberg (1962), discusses his views on how rewards can affect the outcome of creative ideas. Glucksberg, use Dunker's Candle Challenge where participants were asked to prop a candle upwards onto a board using thumbtack pins, matches and a match box. He developed this challenge by offering offering half the participants money for 1st, 2nd and 3rd rewards for the quickest time to see if this altered the of the results. As seen in the table in appendices 5, when the participants were offered money (high drive participants) the number of failures and time to complete the task increased, and "Drive was manipulated by offering different incentives" (Glucksberg, 1962. P.37). A high drive condition where there is a materialistic prize can cause stress leading to a fight or flight response. Anxiety and stress might then lead to shutting down all creative ideas and problem-solving area of the brain located in the Prefrontal Cortex where decision making takes place. Relating back to my own creativity, this links significantly with how I am measuring my creativity. During the 'What if? ...' task, prizes where offered for 1st, 2nd and 3rd which based on Glucksberg's theory could affect the outcome of the task. Moving forward, progressing onto level 4 of this thread would involve, assembling, testing and progressively refining prototypes that stimulate the value that I want to create which I did not do during this task. Eberle (1996), discusses his acronym SCAMPER, which he believes should be used to design activities for children to maximise their potential. SCAMPER stands for, substitute, combine, adapt, modify, put to other purpose, eliminate, and rearrange. SCAMPER can be applied to most tasks and to promote creativity and imagination which he believes is the process "of rearranging or manipulating information that is drawn from the memory store" (Eberle, 1996, p.5). Adapting and modifying are both aspects of the SCAMPER model, which are both referred to in the level 3 stage of designing value in creativity, which mentions

refining prototypes through testing and adapting. I will use these features of the SCAMPER model to enable me to progress to level 4. It is debatable if the levels from this thread will enable any progression for creativity. Both Starko (2010) and Craft (2000) discuss how a clear outcome will maximise creativity. This suggests using a specific goal within creative tasks and allowing children to be “aware of the unconventionality of what they are doing/ thinking” (Starko, 2010, p.13).

Unfortunately, the progression levels within the framework does not mention giving specific outcomes of what the children should be making or doing at each level, the descriptions are brief and vague. Not providing specific benchmarks and targets for each level could result in the children refining and producing ideas as they progress through the levels which are not actually original as they have not been given a clear learning objective, dismissing the point of a creative task. On the adverse side, promoting a clear learning objective may result in convergent thinking. Guilford (1950), drew attention to the differences between divergent and convergent thinking. He acknowledged the importance of creativity, however, he suggested that creativity comes from divergent thinking as this process begins with a question and uses original, spontaneous ideas to solve it. Convergent thinking relies on logical facts to answer questions. Fortunately, not promoting facts and clear outcomes will encourage divergent thinking to inspire creativity, thus, allowing me to progress onto level 4 of this thread.

The following competence to be discussed is motivation and perseverance which falls under the branch of resources in the EntreComp Framework. The thread I have selected to review under this competence is the ability to not give up. I have chosen to evaluate this competence as I believe motivation and resilience play a vital role in creative tasks. The creative option is not always the easiest or logical one, to choose this path requires perseverance as quite often the first option will fail. Cowley (2005) believes that educators should be extremely careful when judging creative tasks because of the risks of de-motivating them. She believes that teachers have no right to judge children’s creativity as they should be encouraged to be expressive and have the freedom to make mistakes, and that assessing these pieces of work will not only damage their confidence, but damage the trust between the teacher and the child as creativity causes children to be vulnerable and assessing

this as wrong could lead to serious consequences. For this competence I have assessed myself as currently being level 4. This is being able to, maintain effort and interest despite setbacks. An example of achievement for this level is from my previous Previous Teaching Experience (PTE). After my first formative assessment during this placement I received an unsatisfactory/off track standard for Welsh Development, which is something I have always struggled with. Having thought I was practicing enough and having quite a naive attitude; this was a huge setback for me. However, I was able to maintain my efforts and interests, as suggested in the level 4 description, into my practice and saw this as an opportunity to demonstrate I could improve my skills. As shown in appendices 6, after my summative assessment a few months later I was able to get a Good/on track standard. De Bono (1994) recommends that parallel thinking can help keep the mind motivated. Parallel thinking is a strategy that embraces all possible outcomes to design a way forward. This strategy can be enhanced by using a strategy called ‘the six thinking hats’, an idea also introduced by De Bono (1993). The six hats method directs attention to types of thinking we would not usually think about, for example, the red hat discussion allows you to pay attention to your feelings about the problem being discussed. Combining parallel thinking with the six thinking hats when responding to difficulties can enable to maintain motivation and effort as mentioned in level 4 description of the EntreComp Framework. Despite linking parallel thinking with the six thinking hats to ensure I maintain at a level 4 standard there are potential downsides. It is questionable if this strategy can be applied to any type of problem, for example if there is not a ‘red hat’ component in the problem that is being faced, this strategy becomes useless. It is also uncertain if this method will allow me to progress onto level 5 of being motivated and not giving up where the description is, celebrating short term achievements in order to stay motivated. Parallel thinking and the six hat method does not mention celebrating small achievements which is required to progress onto level 5. To allow me to continue onto level 5 I will use guidance from Seelig’s (2012) Innovation Engine. Both Seelig (2012) and Pink (2010) discuss the important of attitude when maintaining motivation. Created in 2012, Seelig’s Innovation Engine combines attitude with knowledge, habitat and culture imagination and recourses. She believes that “all these factors work together to enhance creativity” (Seelig, 2012, p.6). She suggests that so many people give up long before they find the solution to their challenges

due to their attitude towards the problem, and how a change in attitude can eventually change the aim to avoid failure outweighing the drive to succeed. Pink also believes that drive can be affected by attitude towards outcome and that once “attitudes, and unlearn the negative ones, their motivation, and their ultimate performance, often soars” (Pink, 2010, p.76). Changing my attitude towards failure by celebrating short-term achievements such as children reaching learning outcomes opposed to aiming towards focusing on long-term achievements such as summative assessments. I aim to combine Bono’s parallel thinking with Seelig’s Innovation Engine and Pink’s drive of motivation to allow me to maintain level 4, but also, to progress onto level 5 of this competence.

Coping with uncertainty, ambiguity and risk is the final competence I am to evaluate. I have chosen to assess the calculating risk thread of this competence. I have assessed myself as a level 3 candidate for this thread, aiming to progress onto level 4. Level 3 for this thread is to tell the difference between an acceptable and unacceptable risk. This proposes that I can justify my choice of the riskier option as I know that it is an acceptable risk. Evidence of this level is an example from my last teaching practice where I took a risk during one of my first formative assessments. I made the decision to carry out an outdoor learning lesson which included a treasure hunt with the children. I considered this a risky decision as I knew the results were important and putting children into this type of environment would really test my behaviour management as a second-year student. During the process I had to weigh up the options of carrying out a simple traditional lesson where behaviour would have been easier to control or the outdoor learning option, which was my more favourable choice as I felt it offered more valuable outcomes. I chose this lesson and as a result I did struggle with behaviour management during my observation which lead to a lower result. However, I was able to weigh up the advantages and and disadvantages of both options which lead to the risky, more creative choice.

In their debate about teaching creatively or teaching for creativity, the National Advisory Committee on Creative and Cultural Education (N.A.C.C.C.E) Report (1999) chaired by Sir Ken Robinson, discusses the which attitudes are required to for creative achievement. These include, “high,

motivation, independence of judgment, willingness to take risks” (N.A.C.C.C.E, 1999, p.104). The N.A.C.C.C.E report considers risk taking an important element of creativity, questioning if without risk taking can there be creativity? This theory also mentions motivation which was the previous competence to be assessed. As mentioned in the introduction, it is possible that these competences are the best combination for a creative individual. Other supporters of managing risk taking within creativity include Kimbell (2000), Seltzer and Bentley (1999). Both consider how risk taking is one of many clusters which underpin creativity and confidence within a secure, supportive environment will empower children to take risks. All theories are in favour of the level 3 description. From a different angle, Von Oech (2008) agrees that creative thinking is vital to allow things to change, as we cannot “solve current problems with yesterday’s solutions” (Von Oech, 2008, p.6). However, he discusses how having the capability to take risks and make creative choices is not always wise if you only have one option. Only having one creative preference means I have nothing to compare it to, therefore, I cannot weigh up its strengths and weaknesses. Considering the advantages and disadvantages is particularly important part of making a risky choice. This relates to the description of level 4 of this thread. This includes having the ability to weigh up the risks and benefits and make choices that reflect my preferences. Considering Von Oech’s theory of having more than one option to consider when deciding if a risk is acceptable or not will allow me to progress onto level 4 of this thread. Despite my aspirations to progress onto level 4, I do believe there are many flaws within this thread. For example, level’s 1 to 3 appear to progress positively with skills improving from identifying to describing etc. However, a level 4 status mentions self-employment and career options which is a very specific description if this level is going to be used to develop creativity within lots of workplaces. For example, if the EntreComp framework is used within health care, education etc. to improve creativity, level 4 will not apply as these individuals have already chosen their career path. By using the EntreComp Framework to improve teacher’s creativity in schools makes level 4 appear lower than level 1 as by this state teachers are already aware of their career aspirations. Another query comes from the thread below which is to manage risk. This thread does not have a level 1 or 2 description, giving the impression that managing risk should not be regarded as important. Despite this, managing risk is mentioned in the competence title. To rectify this, I would alter the level 4

description of calculating risk and remove the explanation of self-employment to allow anyone to use this framework so that it reads “I can weigh up the risks and benefits of acceptable risks and make choices based on the information gathered”. I would also include levels 1 and 2 into the managing risk thread.

Overall, I am to use these recommendations to enable me to improve the three selected competences from the EntreComp Framework; my creativity, my capability to cope with uncertainty, ambiguity and risk, and motivation and perseverance.

Following my personal development using the EntreComp Framework, I aim to demonstrate critical awareness of contribution to creativity and enterprise in educational practice. This can be achieved by recognising the learning environments that support development of creative learning and teaching. All children should be given opportunities to spark their creative ideas. This is supported by Throne (2007), who argues that every child in every school should receive quality teaching that inspires them to believe in their own abilities to fully exploit their creative talents. Creativity and innovation are also part of Donaldson’s review of the curriculum in wales, Successful Futures (2015). He recommends that creativity and innovation should be grouped together and are one of four ‘wider skills’ in Wales. These skills are viewed as essential to prepare children for modern life and work. To achieve this, children should be able to generate ideas, openness, and courage to explore ideas and express opinions. Combined with the other wider skills, recommended by Donaldson, children will become resilient and better able to deal with changing challenges that face them. Both skills are characteristics of a creative individuals. Following this, I propose three main recommendations to promote creativity within primary schools.

My first recommendation is based on ideas from Both Thorne (2007), Costa and Kallick (2008) agree that children’s learning journeys should be enriched with creativity and personal discovery. However, Costa and Kallick take their point further and recommend that being creative and productive requires ‘flexible thinkers’, which is one of their 16 Habits of Mind. Flexible thinkers, display confidence and tolerate confusion as they are willing to let go of difficult problems and are often working with

incomplete information. They can also draw upon previous knowledge to piece together the answer a problem. Despite both Costa and Kallick promoting flexible thinking as the most effective way to solve problems, I must consider Piaget's (1953) four stages of development theory. The second stage, otherwise known as, 'preoperational stage' covers children from the ages two to seven years-olds, which includes the whole foundation Phase. Based on his theory, during this stage, children are unable to solve problems logically as they are not able to combine or separate ideas to come to a solution. He also states that at this age, children have difficulty to consider more than one aspect of a problem at a time. Based on this claim, at this stage children would be incapable of flexible thinking. Also, referring to Von Oech's (2008) idea of weighing up more than one option, potentially influencing their ability to be creative at all. To overcome this in the Foundation Phase, I would only incorporate selected skills from Costa and Kallick's 16 Habits of Mind. For example, questioning and posing problems, which is supported by Passmore (1980) and Dillon (1982). They suggest that as teachers we should show children that there are always alternatives to the simple answer, and that emergent or potential problems are the best type of problems to raise open questions, promoting creative solutions. On the other hand, due to the stage of development, I would recommend avoiding tasks that include understanding empathy and emotions as younger children will be less likely to understand feelings of sympathy when solving problems.

Developing creativity and enterprise within primary schools can be promoted by adopting the Leonardo Effect/Approach in the classroom. Developed by Hickey and Robson (2013), the Leonardo method is a whole school approach aimed to foster creativity. They believe that a creative space needs to be safe, stimulating, secure, where children can be challenged and motivated. Children are given the opportunity to be messy, make mistakes and be individuals. The Leonardo Approach stemmed from the idea that there has been an unnatural separation between the arts and science and technology. This originated from Robson, Hickey and Flanagan (2005), who developed 'Flights of Imagination' by synchronising the arts and science in the primary curriculum. By combining these areas of learning provides opportunity for creativity and eureka moments bringing out the creative spark in all children. This approach does have the potential to be adopted into any school to benefit children's creative

learning. However, there are some downsides to this approach. As mentioned previously, the Leonardo Approach is a whole school method, “it is impossible to have a creative school without a head teacher who believes in its importance who is supported by an informed governing body” (Hickey and Robson, 2013, p.105). Without this support, it would not be possible to implement this approach into the school. Cross-curricular learning also questions the originality of this approach. Cross-curricular learning is not a new concept in Wales the Literacy and Numeracy Framework alongside the Digital Competence Framework are used to promote the three cross-curricular responsibilities, Literacy, Numeracy and Digital Competence. Barnes (2015), believes that creativity can play a part in cross-curricular learning, though, thoughtful planning needs to be carried out. He also suggests that every teacher is a creative being and that a creative teacher will usually display curiosity, flexibility, humour, and enthusiasm. To encourage creativity in the classroom a cross-curricular approach should be promoted, by combining synchronising areas of learning such as art and science as mentioned in the Leonardo Approach.

Another strategy to consider when developing creativity and enterprise in primary education is flipped learning. Developed by Bergmann and Sams (2014), flipped learning considers all learners as individuals and allows teachers to foster children’s curiosity. The aim is to reverse the usual teaching strategies by changing the learning environment and delivering instructional content in advance often online or outside, allowing the learners to have more time to carry out the task. They regard flipped learning as a bridge between traditional teaching methods. This is quite dependent on content with engaging learning methods, which can focus on more engaging methods and on acts of thinking to promote creativity. Promoting flipped learning is an easier change than the Leonardo Approach as this can be adapted into any classroom to encourage creativity and does not require support from the whole school. Estyn (2017) provides 2 case studies where flipped learning has been used effectively. One discusses how flipped learning has been a part of the enquiry-based learning promotion. The second case study also claims that flipped learning has contributed to the schools aim to incorporate information, communication, and technology seamlessly into all lessons by promoting a cross-curricular approach. This suggests that flipped learning would be an accurate method to use to

develop creativity within the classroom. Supporting this strategy to develop creativity, and simple to put into practice is problem-based learning (PBL). The main objective is also “an instructional method that through active engagement stimulates creative thinking and creative problem solving” (Tan, 2009, p.x). However, unlike flipped learning, PBL is not individualised until the end of the task. Although creative individuals usually work alone, during this method children work in groups brainstorming ideas to understand the problem and defining it by the group consensus. The children do not work as individuals until the end of the task where they work on their own search for more information related to the problem, leading onto generating a potential hypothesis and possible answers to the problem. It is arguable whether PBL would be the favourable option over flipped learning as it considers both group work and independent tasks to allow children to gather creative ideas. To overcome this debate about group work, I have based my conclusion on Von Oech’s (2008) proposal on ‘group think’. He advises that as educators we should avoid group work as members of the group become more focused on getting their members approval on their ideas opposed to coming up with creative solutions to the problem they have been given. Based on this theory I would recommend selecting flipped learning as the more favourable option for enhancing creativity in the classroom as it considers each child as an individual and gives them plenty of time to consider plenty of resolutions to a problem.

While promoting flipped learning, I will want to consider how much support will come from the teacher by reviewing pedagogy with andragogy. Knowles (1975) discusses, teacher-directed learning, otherwise known as pedagogy which is led purely by the teacher. In contrast, self-directed learning otherwise known as andragogy, involves the teacher and the learner. Knowles suggests that to motivate learners for pedagogy relies on fear of failure, external rewards, and punishments which are all contributors to killing creativity in the classroom. On the other hand, andragogy, is motivated from self-esteem, the urge to grow, the satisfaction of accomplishment and curiosity. These are skills that can promote creativity. Based on this research, I believe that flipped learning taught through an andragogy setting will maximise potential for all learners to show their ability to be creative.

To conclude I believe that the learning environment plays a significant role in children's creativity. Von Oech (2008) and Seeling (2012) both suggest that creativity can be influenced by the learning environment, and that a fun environment is significantly more productive than a routine work environment. I believe this to play a substantial part to maximising creativity in education. The National Advisory Committee on Creative and Cultural Education (1999) describes creativity as 'imaginative activity fashioned so as to produce outcomes that are both original and of value' (p. 29). Corresponding with Craft's (2000) idea of unless the child does have awareness of the originality of the idea, it should not be considered imaginative. I recommend that the child should always be aware, to some extent, if their idea is original or not. Overall, using a combination of a successful learning environment, an andragogy approach, and monitoring children's originality, I believe this will enhance creativity within any primary school.

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Appendices 1:

EntreComp Diagram



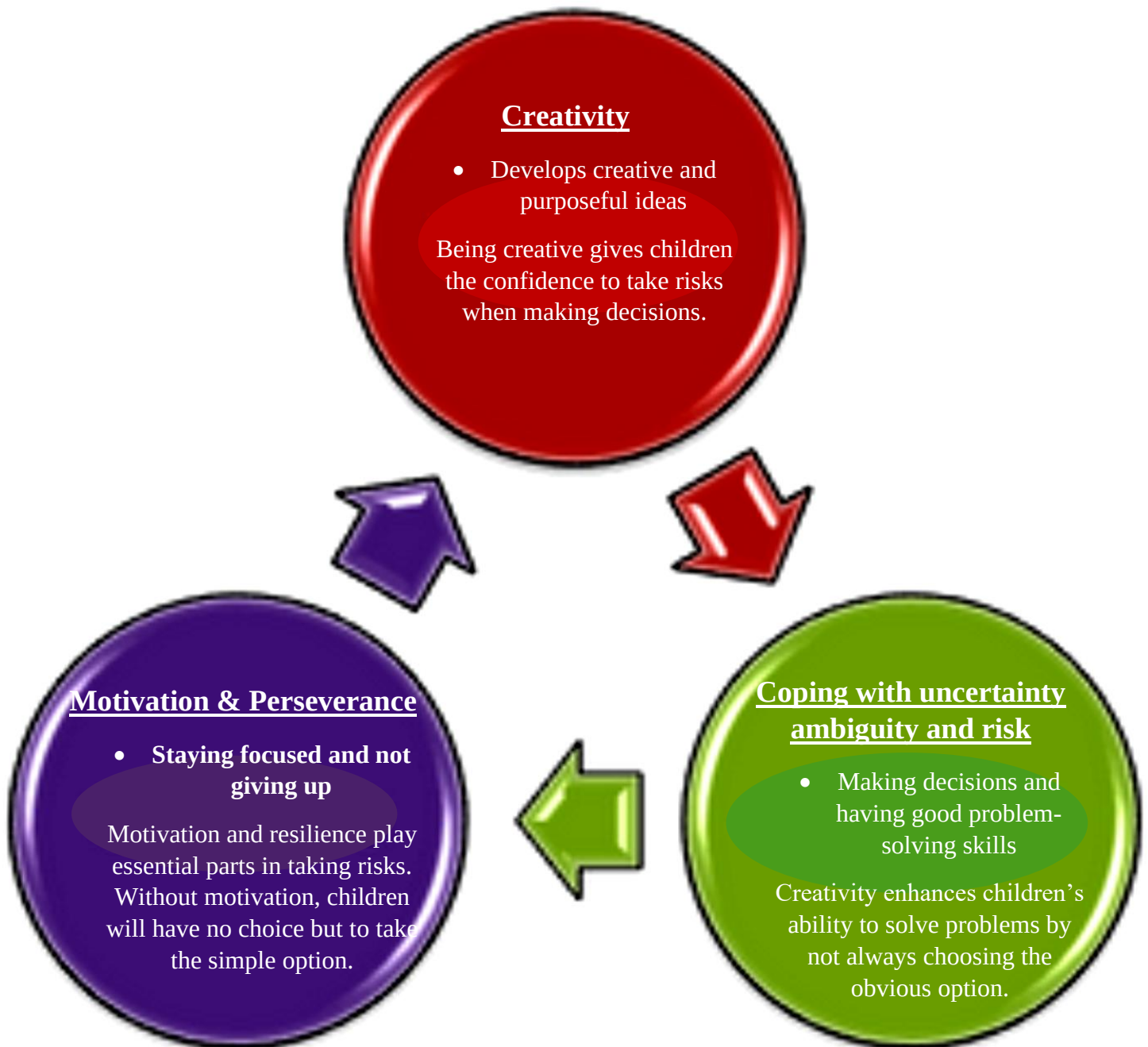
Appendices 2

Appendix: The full EntreComp framework

Level of proficiency			Foundation			Intermediate		Advanced		Expert	
Creativity	Develop creative and purposeful ideas.	Develop several ideas and opportunities to create value, including better solutions to existing and new challenges. Explore and experiment with innovative approaches. Combine knowledge and resources to achieve valuable effects.	Be curious and open.	I can show that I am curious about new things.	I can explore new ways to make use of existing resources.	I can experiment with my skills and competences in situations that are new to me.	I can actively search for new solutions that meet my needs.	I can actively search for new solutions that improve the value-creating process.	I can combine my understanding of different contexts to transfer knowledge, ideas and solutions across different areas.		
			Develop ideas.	I can develop ideas that solve problems that are relevant to me and my surroundings.	Alone and as part of a team, I can develop ideas that create value for others.	I can experiment with different techniques to generate alternative solutions to problems, using available resources in an effective way.	I can test the value of my solutions with end users.	I can describe different techniques to test innovative ideas with end users.	I can set up processes to involve stakeholders in finding, developing and testing ideas.	I can tailor a variety of ways of involving stakeholders to suit the needs of my value-creating activity.	I can design new processes to involve stakeholders in generating, developing and testing ideas that create value.
			Define problems.	I can approach open-ended problems (problems that can have many solutions) with curiosity.	I can explore open-ended problems in many ways so as to generate multiple solutions.	I can take part in group dynamics aimed at defining open-ended problems.	I can reshape open-ended problems to fit my skills.	I can describe and explain different approaches to shaping open-ended problems and different problem-solving strategies.	I can help others create value by encouraging experimentation and using creative techniques to approach problems and generate solutions.	I can initiate, develop, manage and complete a creative project.	I can use a mix of creative techniques to keep generating value over time.
			Design value.	I can assemble objects that create value for me and others.	I can improve existing products, services and processes so that they better meet my needs or those of my peers and the community.	I can identify the basic functions that a prototype should have to illustrate the value of my idea.	I can assemble, test and progressively refine prototypes that simulate the value I want to create.	I can create (alone or with others) products or services that solve my problems and my needs.	I can develop and deliver value in stages, launching with the core features of my (or my team's) idea and progressively adding more.	I can apply different design approaches to create value through new products, processes or services.	I can design and put in place innovative processes to create value.
Coping with uncertainty, ambiguity and risk	Make decisions dealing with uncertainty, ambiguity and risk.	Make decisions when the result of that decision is uncertain, when the information available is partial or ambiguous, or when there is a risk of unintended outcomes. Within the value-creating process, include structured ways of testing ideas and prototypes from the early stages, to reduce risks of failing. Handle fast-moving situations promptly and flexibly.	Cope with uncertainty and ambiguity.	I am not afraid of making mistakes while trying new things.	I explore my own ways to achieve things.	I can discuss the role that information plays in reducing uncertainty, ambiguity and risk.	I can actively look for, compare and contrast different sources of information that help me reduce ambiguity, uncertainty, and risks in making decisions.	I can find ways of making decisions when the information is incomplete.	I can pull together different viewpoints to take informed decisions when the degree of uncertainty is high.	I can make decisions evaluating the different elements in a situation that is uncertain and ambiguous.	I can set up appropriate strategies for collecting and monitoring data, which help me take decisions based on sound evidence.
			Calculate risk.	I can identify examples of risks in my surroundings.	I can describe risks related to a simple value-creating activity in which I take part.	I can tell the difference between acceptable and unacceptable risks.	I can weigh up the risks and benefits of self-employment with alternative career options, and make choices that reflect my preferences.	I can apply the concept of affordable losses to make decisions when creating value.	I can compare value-creating activities based on a risk assessment.	I can assess the risks my venture is exposed to as conditions change.	I can evaluate high-risk long-term investments using a structured approach.
			Manage risk.			I can critically evaluate the risks associated with an idea that creates value, taking into account a variety of factors.	I can critically evaluate the risks related to the formal set-up of a value-creating venture in the area in which I work.	I can demonstrate that I can make decisions by weighing up both the risks and the expected benefits of a value-creating activity.	I can outline a risk management plan for guiding my (or my team's) choices while developing my value-creating activity.	I can use strategies to reduce the risks that may arise during the value-creating process.	I can come up with strategies to reduce the risk of my value-creating initiative becoming obsolete.
Work-	Team	Work together	Accept	I can show	I am open to the	I can combine	I can value		I can support	Outside of my	
Motivation and perseverance	Stay focused and don't give up.	Be determined to turn ideas into action and satisfy your need to achieve. Be prepared to be patient and keep trying to achieve your long-term individual or group aims. Be resilient under pressure, adversity, and temporary failure.	Stay driven.	I am driven by the possibility to do or contribute to something that is good for me or for others.	I am motivated by the idea of creating value for myself and others.	I can anticipate the feeling of achieving my goals and this motivates me.	I can reiterate my own behaviour to stay driven and achieve the benefits of turning ideas into action.				
			Be determined.	I see tasks as challenges to do my best.	I am motivated by challenges.	I can set challenges to motivate myself.	I am willing to put effort in and use resources to overcome challenges and achieve my (or my team's) goals.	I drive my effort by using my desire for achievement and belief in my ability to achieve.	I can coach others to stay motivated, encouraging them to commit to what they want to achieve.	I can create the right climate to motivate my team (for example, by celebrating successes, by learning from failures and by encouraging innovative ways to tackle problems).	I consider all outcomes as temporary solutions appropriate to their time and context, and so am motivated to make sure they develop in a continuous cycle of improvement and innovation.
			Focus on what keeps you motivated.		I can recognise different ways of motivating myself and others to create value.	I can reflect on the social incentives associated with having a sense of initiative and creating value for myself and others.	I can tell the difference between personal and external factors that motivate me or others when creating value.	I can use strategies to stay motivated (for example, set goals, monitor performance and evaluate my progress).	I can use strategies to keep my team motivated and focused on creating value.	I can design effective ways to attract talented people and keep them motivated.	I can reward initiative, effort, and achievement appropriately within my team and organisation.
			Be resilient.	I show passion and willingness to achieve my goals.	I am determined and persevere when trying to achieve my (or my team's) goals.	I can overcome simple adverse circumstances.	I can judge when it is not worth continuing with an idea.	I can persevere in the face of adversities when trying to achieve my goals.	I can devise strategies to overcome standard adverse circumstances.	I can cope with unexpected change, setbacks and failures (for example, job loss).	I can make sure that my team or organisation stay positive when making difficult decisions and dealing with failure.
			Don't give up.	I do not give up and I can keep going even when facing difficulties.	I am not afraid of achieving my goals.	I can delay achieving my goals in order to gain greater value, thanks to prolonged effort.	I can maintain effort and interest, despite setbacks.	I can celebrate short-term achievements, in order to stay motivated.	I can inspire others to work hard on their goals by showing passion and a strong sense of ownership.	I can stay focused on my vision and goals, despite challenges.	

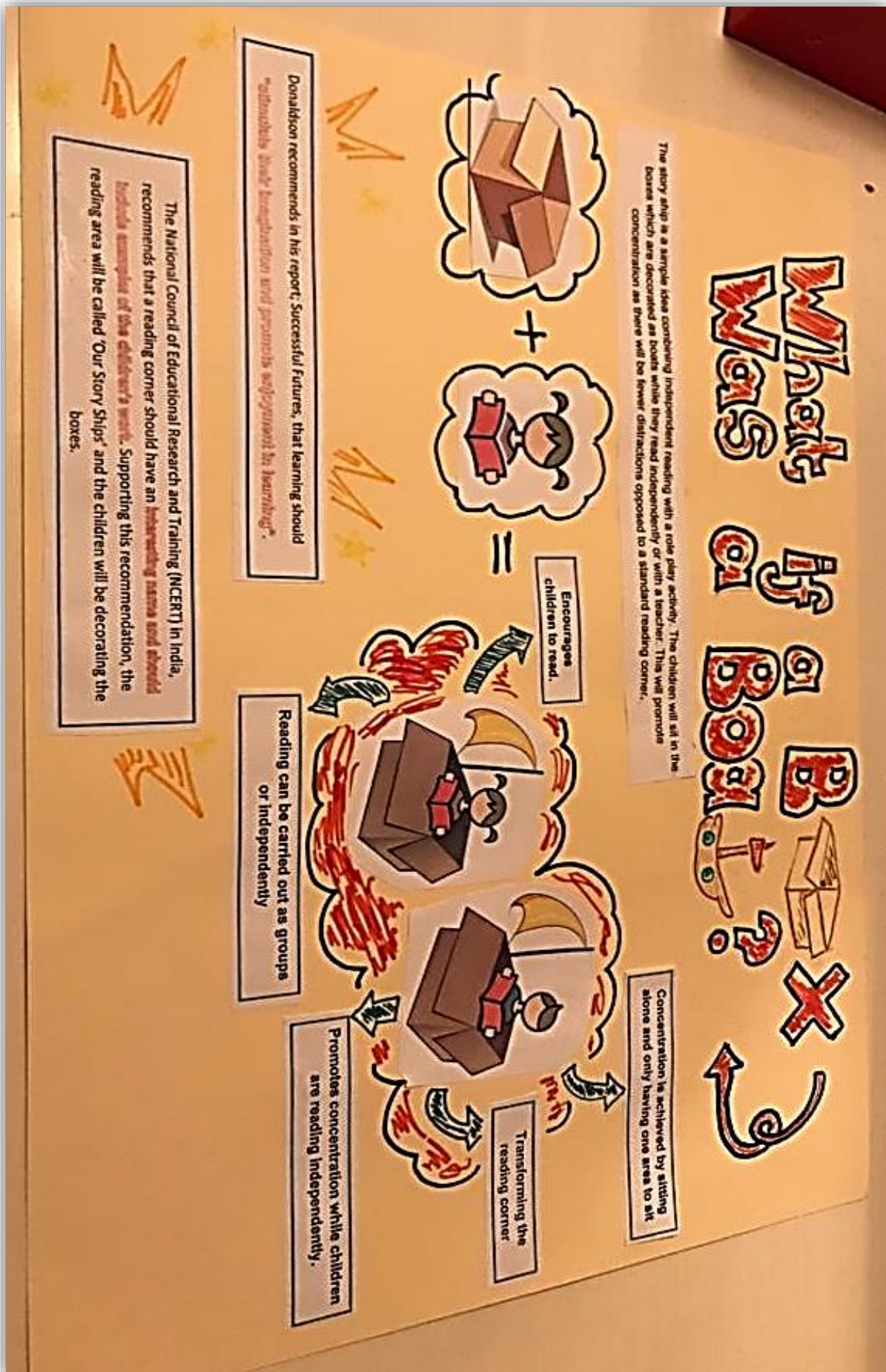
Appendices 3:

How my selected competencies are connected



Appendices 4

What if a box was a boat?



Appendices 5:

Results of the Candle Challenge

TABLE 1
SOLUTION TIME SCORES TO SOLVE CANDLE
PROBLEM: EXP. I

Group		Number of Failures	Solution Time (Min.)	
Nature of Dominant Response	Drive Level		Mean	SD
Dm +	High	2	3.67	4.52
	Low	6	4.99	5.42
Dm -	High	16	11.08	4.84
	Low	10	7.41	5.63

Key:

DM- Objects are put in the box

DM+ Objects are laid out

Drive Level High: Money offered

Drive Level Low: No money offered

Student Number: 1701043

Appendices 6:

Assessments from Professional Teaching Practice 2018/2019

Formative observation: 19/11/18

Welsh Language Standard

Not on track

- **Comments and Evidence**
- **Targets for improvement and suggested ways forward**

Molly you accept that Welsh is something that you have to make a conscious effort to use within your lessons. In order to rectify this, you have used the university Welsh planning sheet to help you focus on key phrases. However I think due to nerves, you did not remember to include these in your lesson. You did encourage one of the children to say thank you in Welsh, however you need to try to remember basic phrases and commands that the children are already used to. Your class mentor uses a lot of Welsh within the classroom, therefore try to follow her example and use as many basic commands as possible daily. Use Post-it notes around class to help you remember to use the phrases you include on your Welsh planning sheet.

Summative review: 02/02/2019

Welsh Language Standard

On track

- **Comments and Evidence**
- **Targets for improvement and suggested ways forward**

Molly again you have taken on board the advice given by your tutor last week and made use of the promoting Welsh planning sheet. You also listed a variety of phrases on your planning sheet which you used throughout the lesson and used more phrases, which fitted in naturally throughout the lesson. You have worked hard to improve this and your pronunciation was good - da iawn ti!