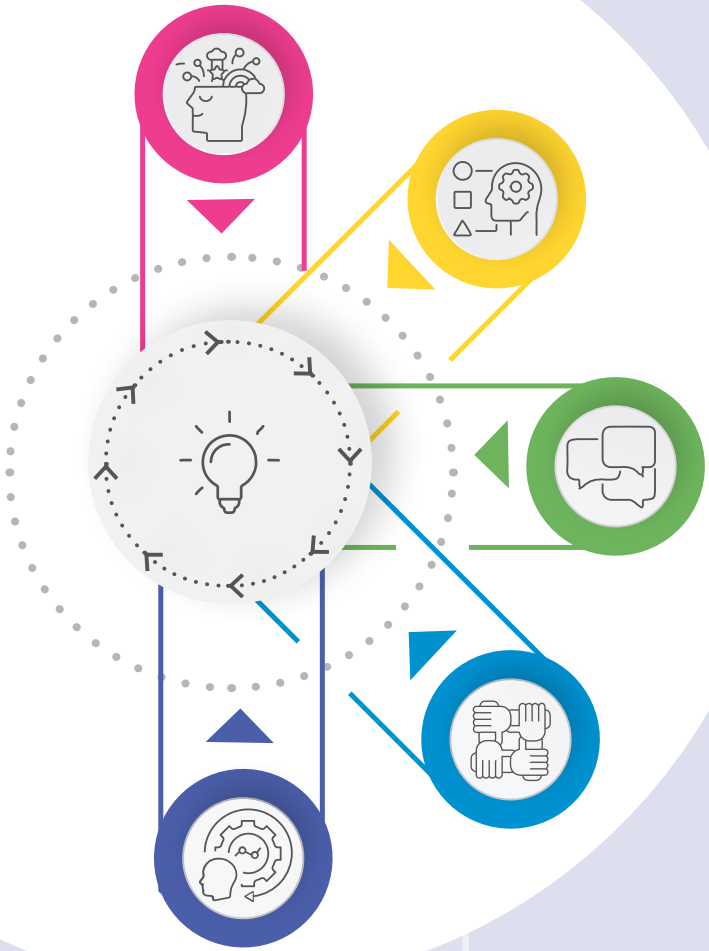

A teacher's guide to Competencies

basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

3 ENTREPRENEURSHIP
EMPLOYABILITY
EDUCATION

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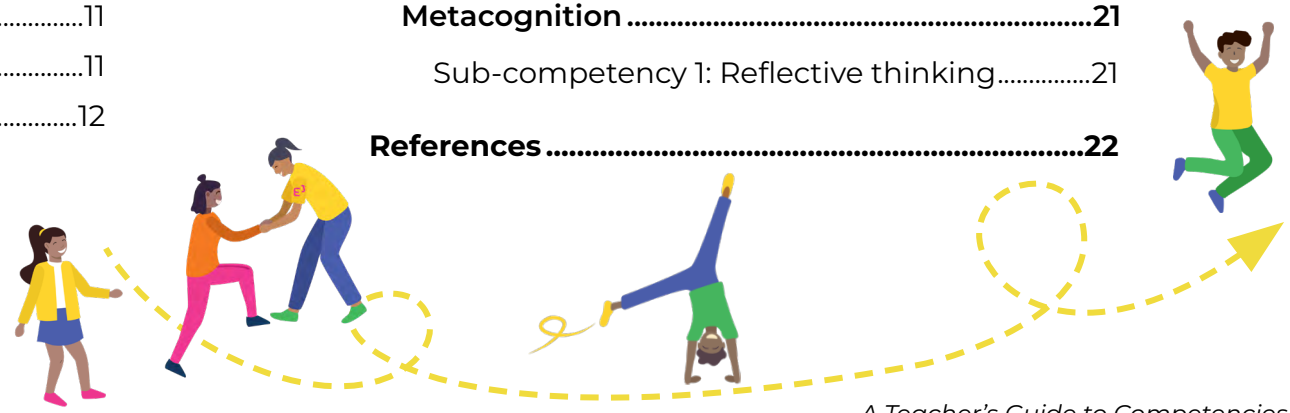


AN INTRODUCTION TO COMPETENCIES

BACKGROUND

We are all concerned about the high levels of youth unemployment in South Africa, and there is no doubt that we all want to do something about this. The world is changing quickly, it is complex, and it is uncertain. Many of the jobs that exist today probably won't exist when learners finish high school.

So the questions we must ask ourselves are: What does it mean to be prepared for a changing world? And how do we prepare young people for a future that we can't begin to imagine or plan for?

What does it mean to be prepared?

A prepared learner is a learner who is self-directed as they identify and solve problems for themselves and for other people. We call these people "entrepreneurials" because they have many of the characteristics of entrepreneurial people.

Some of the characteristics of people that are entrepreneurial are that they:

- ☑ Are curious and observant.
- ☑ Work things out for themselves.
- ☑ Recognise and take advantage of opportunities.
- ☑ Create and continuously revise strategies.
- ☑ Are willing to experiment.
- ☑ Take regular and reasonable risks.
- ☑ Are unafraid of making mistakes and learning from these.
- ☑ Make a sustained effort over time towards a goal.

Other skills, such as **collaboration, communication and creativity, are also important competencies** that contribute to an entrepreneurial mindset. Sometimes these skills are referred to as competencies or 21st Century skills. In this document we refer to these as competencies. These can increase a learner's chances of thriving in the world.

How can we prepare young people?

So now that we know what an entrepreneurial mindset, or an entrepreneurial way-of-being is, how can we as teachers prepare young people to grow their entrepreneurial mindsets or competencies while they are at school?

The DBE-E³ programme uses Project-based Learning as a tool to prepare learners for success in a changing world.

Growing an **entrepreneurial mindset** needs...

...A **caring and emotionally safe** learning environment where learners can take risks, make mistakes, and learn from these - just like entrepreneurial people.

...An **enabling** learning environment that is S.P.E.C.I.A.L. which stands for **S**ocial Interaction, **P**urpose, **E**njoyment, **C**uriosity, **I**teration, **A**ctive Engagement and **L**earner Autonomy.

...An opportunity to practise **entrepreneurial activities (Project-based Learning)**.

...Project-based Learning projects that are real and meaningful to learners and that allow them to work together and take calculated risks as they identify and solve problems.

WHAT ARE COMPETENCIES?

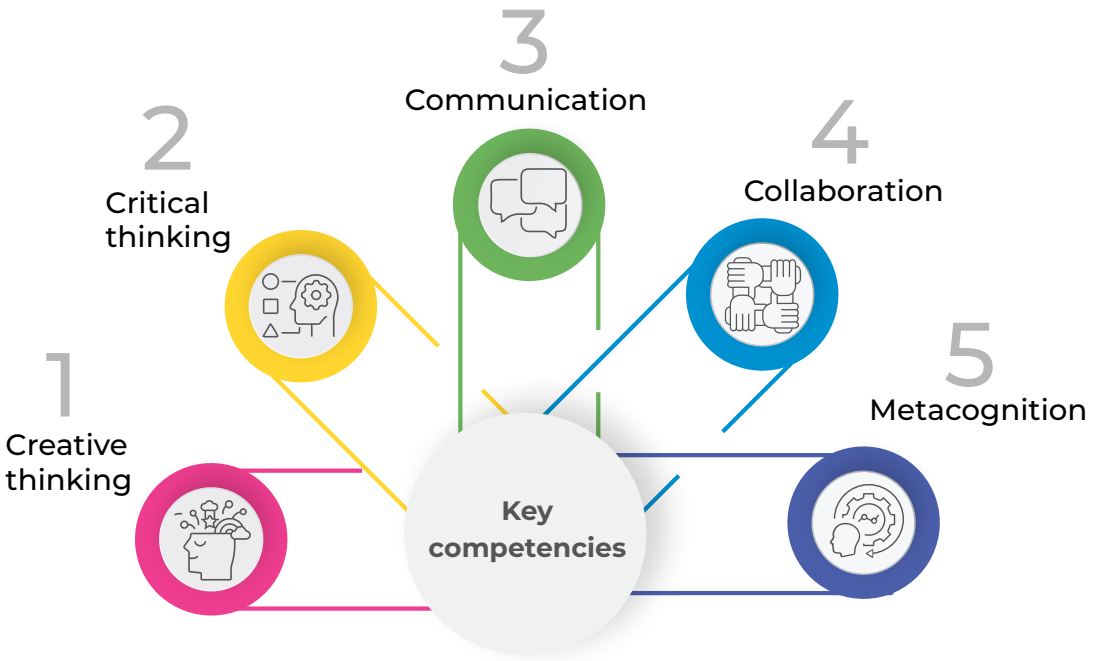
There are many ways of describing and defining competencies. In addition, there are different competencies that a young person needs to succeed and thrive in a changing world. In this Project-based Learning (PBL) Project we will not be measuring all of them, but have selected 5 key competencies for you and your learners to start identifying throughout the Project.

Five key competencies

1. Creative thinking.
2. Critical thinking.
3. Communication.
4. Collaboration.
5. Metacognition.

Each competency consists of several sub-competencies, or elements that make up the broad skill (Bialik et al., 2018).

For example, communication (competency) is made up of the skills of listening, articulating, empathising and many more sub-competencies (Bialik et al., 2018).



Why are competencies important?

Each of these competencies contributes to helping learners keep up with the fast pace of life in the 21st Century (Scoular et al, 2020b; DBE- E³ team, n.d.; Acer, 2017). These competencies teach learners how to process information, come up with solutions to problems and work with other people (Acer, 2017).

As South Africa currently has a youth unemployment rate of 70%, it is very important that we provide learners with as many tools for success as possible (DBE-E³ team, n.d.). We know that these competencies can be learnt and so we have developed a teacher's guide to competencies, a toolkit of games and resources to grow competencies and an assessment rubric to help you measure these competencies in your learners.

Making it manageable

The DBE-E³ team has research competency assessment frameworks from around the world. If you would like to know more about these frameworks, you can explore the many of them on the Harvard University Website http://exploresel.gse.harvard.edu/

We have drawn on just two of these frameworks which inform the competency assessment rubric. These are; the Australian Council for Educational Research (ACER) and the Center for Curriculum Redesign (CCR), both of whom have done research and have been working in South Africa.

These two frameworks are detailed and show that each competency is made up of several different sub-competencies or elements. As an introduction to competencies, we have purposefully selected a smaller number of sub-competencies to focus on. We made our selections based on the ease of testing and application to the Project. We intend to use these materials as our starting point; to test them and learn from them so that we can develop a fuller picture of competencies over time.

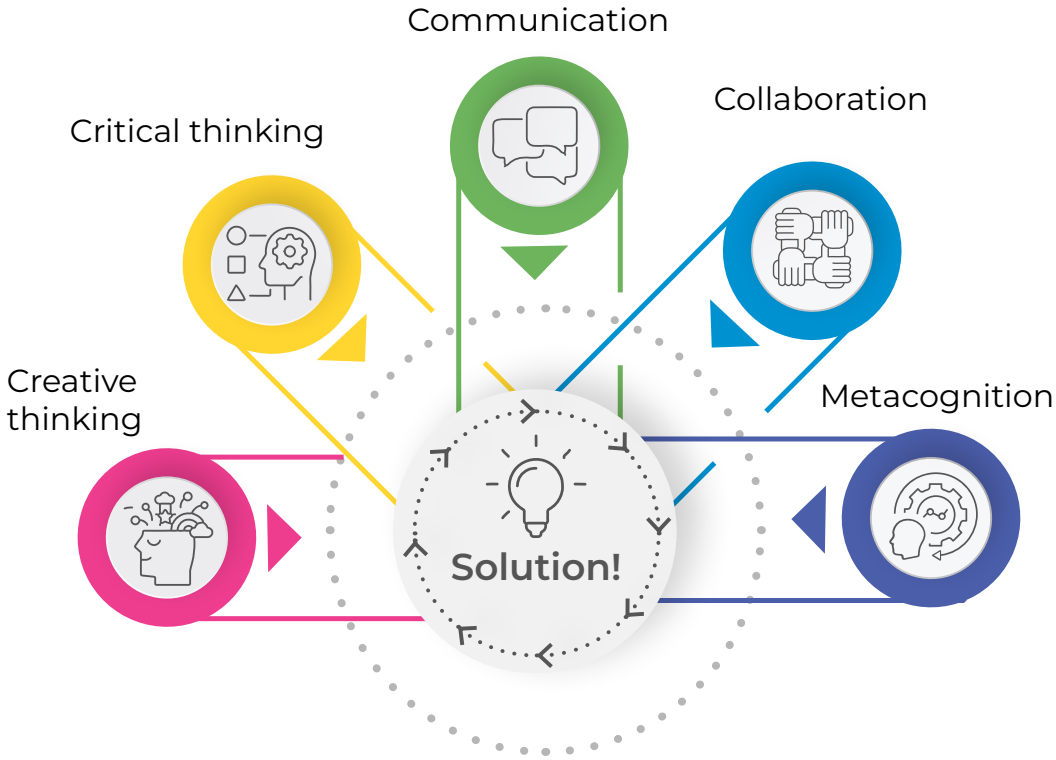
For a more detailed view of these frameworks, please see:

- ACER framework
- CCR framework

Complexity of competencies

While this Guidebook explains the competencies as isolated skills, in reality these skills are all woven together (Scoular et al, 2020b).

For example, in answering a single question, you will probably use skills of creative thinking, critical thinking and metacognition. If you are working in a group, you will also have to communicate and collaborate. In real life many of the skills are being practised at the same time. However, it can be difficult to measure them as they form part of an interwoven web.



Let us consider **Project-based Learning** (DBE-E³ team, 2022) as an example.

During Project-based Learning learners go through the process (DBE-E³ team, 2022) of:

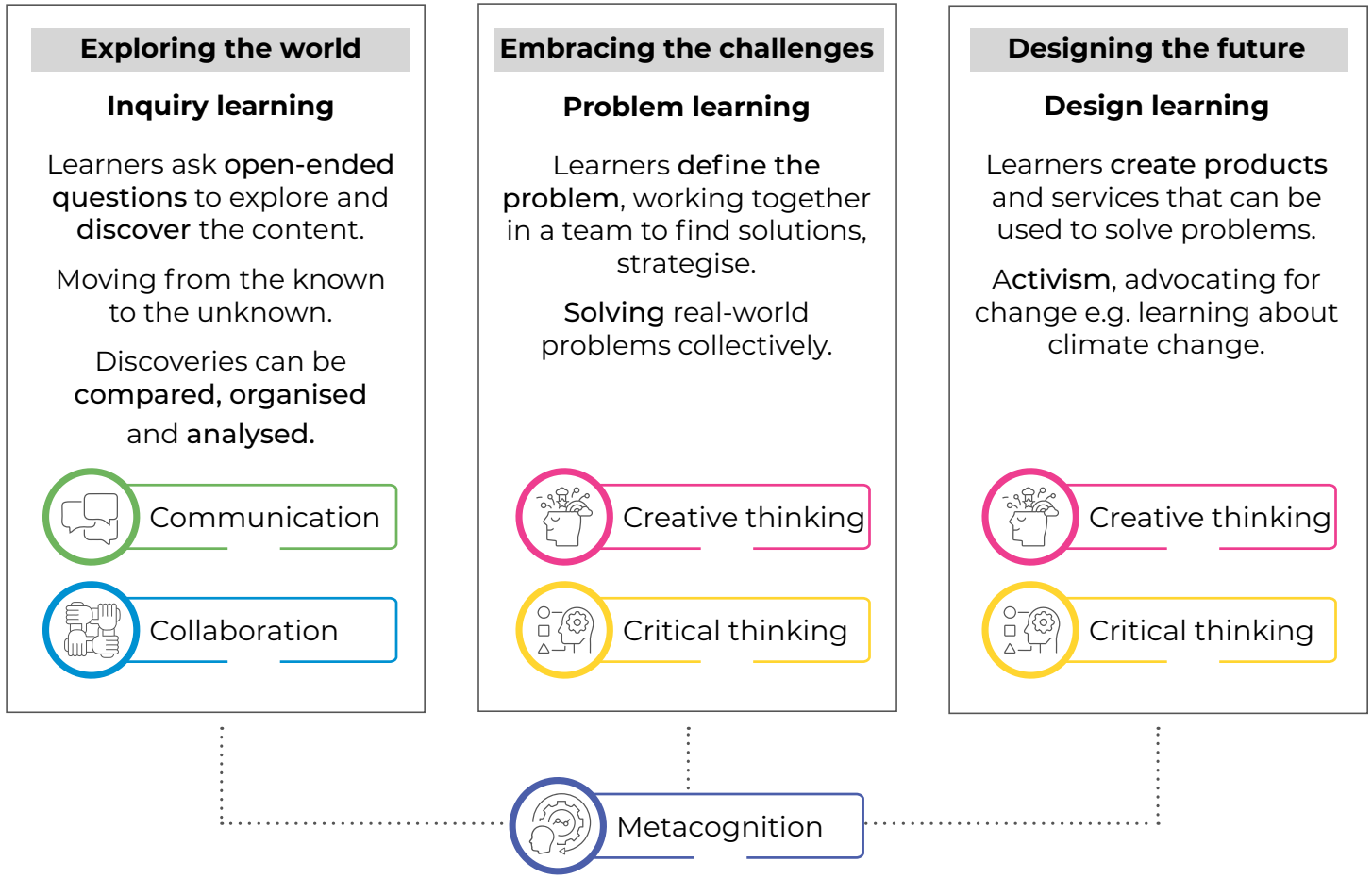
- Exploring the world (Inquiry learning)
- Embracing the challenges (Problem learning)
- Designing the future (Design learning)
- Reflection, feedback and iteration

Project-based Learning is a learner-centred process where learners work together to solve real-world, meaningful problems.

You can think of Project-based Learning as a teaching tool that helps you to create learning experiences where learners can grow their entrepreneurial mindsets, so that they thrive in a changing world.

Remember - an “entrepreneurial” is someone who has an entrepreneurial mindset and who can identify problems and find solutions to these problems.

Competencies in the Project



During the process of **reflection** (metacognition), feedback(communication) and iteration (critical thinking) are used to **improve the project.**

Project-based Learning offers the opportunity for learners to practise these skills. The GEC Project (DBE, n.d.) has been carefully designed to encourage learners to practise and grow their creative thinking, critical thinking, collaboration, communication and metacognitive competencies (amongst many others).

This year the project draws specifically on elements of **creative thinking, critical thinking, communication, collaboration and metacognition.** Each of these competencies is explained in detail in the following sections. It is important that teachers understand the different competencies in order to identify and facilitate the growth of these competencies in their learners.

YOUR ROLE IN COMPETENCY DEVELOPMENT

Teachers are blessed with the opportunity to influence their learners and the lives that they live after school. As a teacher, your role is to provide learners with as many tools as possible to help them succeed. In terms of competencies your role will be to:

1. Teach learners about competencies so that they can begin to develop their own understanding of the skills and recognise when they practise them.
2. Observe your students to see the competencies in action.
3. Use your observations to complete a competency assessment of the learners as well as inform your classroom teachings.

Teaching competencies

After reading this Guidebook you should have an understanding of what each of the competencies entails. In the supporting ***Competency Toolkit***, there are materials that will allow you to share your knowledge on competencies with your learners during lessons.

You can also create informal conversation around competencies during group discussions or if the opportunity arises. The competency toolkit also includes prompts for these discussions.

You can make competencies visible in the classroom by sticking up the dedicated posters and other materials provided in the competency toolkit.

Each learner will be given a competency journal. You will be instrumental in supporting the learners to complete these journals over time. There are some fun classroom prompts that you can use to direct the class's attention to their journal work (also found and explained in the *Competency Toolkit*).

Assessing competencies

As your understanding of competencies develops you will notice when learners practise the competencies in class. It may be beneficial to make short notes about these observations (e.g. Sizwe delegated tasks; John showed empathy) when you notice them. You may want to use a register, like the sample one attached in the competency toolkit, to record when the learners perform these skills. These records and notes will help you decide which skills your class may need extra support in understanding, recognising and practising.

These observations and notes will help you complete the competency assessment for each child. While this assessment will only be completed officially at the end of the Project, it is assessing behaviour throughout the Project. Your observation notes will help you complete the assessment.

Teacher Tip

We have included "Teacher tips"' and examples of when the learners will be required to practise these skills. These tips inform you of when to make a special observation.

The aim of the assessment is to ascertain whether learners practise the different competencies, and how frequently. While the assessment is quick to complete it is very important that the questions are answered thoroughly and thoughtfully. The results from the assessments will be used to inform the future focus on competency education.

FIVE KEY COMPETENCIES

CREATIVE THINKING

Creative thinking is defined as the ability to come up with many different ideas and apply them to find realistic solutions to problems (DBE-E³ team, n.d.).

There are two important aspects to creative thinking (Ramalingam et al., 2020): Originality and usefulness.

Creative thinking is purpose driven and often stems from an initial need to solve a problem.

There are many skills that make up creative thinking (Center for Curriculum Redesign, 2022). Some of these include:

- Generating ideas.
- Considering and evaluating the ideas.
- Manipulating ideas.
- Applying ideas.

It is possible to use some of these skills to assess a learner's ability to think creatively. This year we will be focusing on assessing idea generation and the applicability of the idea to solve problems.

Some learners may be more competent in certain creative thinking skills and less competent in other skills. This is completely normal, and it is our role as educators to identify the areas where our learners need assistance.

Originality

Are these ideas new?

Are they unusual?

Usefulness

Are they realistic and relevant?

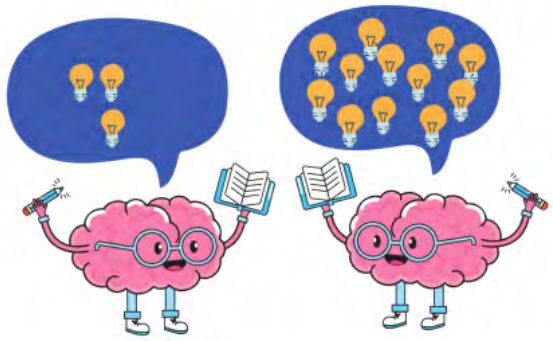
Can they be applied to solve the problem?

NUMBER OF IDEAS

Sub-competency 1: Number of ideas

We can assess idea generation by simply counting the number of ideas that a learner can come up with (Ramalingam et al, 2020). This sub-competency is applied during brainstorming and visioning activities. If we ask a learner to think of different fundraising options for their school, they may have a few ideas.

For example, a car wash, cake sale, raffle etc. The more ideas the student can think of the higher the chance that one of these ideas will be both unusual (creative) and relevant to address the problem.



Basically put, the more ideas the better

Teacher Tip

Keep a tally of the number of ideas that learners generate as this will help you complete the competency assessment.

RANGE OF IDEAS

Sub-competency 2: Range of ideas

Idea generation can be further assessed by looking at the range of ideas. Here you are trying to see how different the ideas are from each other (Ramalingam et al., 2020). You need to ask yourself: Are these ideas distinct from each other? The greater the difference, the higher the chance that a creative solution can be found.

In the example above, learners had to come up with ideas for fundraising. The class then voted on the best idea. Sizwe comes up with selling cakes, hot dogs and popcorn. Sthabile comes up with a car wash, charging learners to come to school in fancy dress and an art competition. Sthabile has thought of three very different fundraising ideas while Sizwe's ideas are similar. As a result, it is more likely that one of Sthabile's ideas will be chosen.

Basically put, the larger the range, the better

FITNESS FOR PURPOSE

Sub-competency 3: Fitness for purpose

This sub-competency assesses whether an idea is a relevant and realistic solution to the problem (Ramalingam et al., 2020).

A few questions we may ask ourselves:

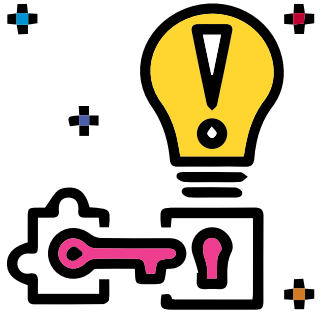
- Is it feasible? For example, is the cost reasonable, do you have all the materials you need to start? Do you have enough time to do this?
- Do we have the ability to implement this idea?
- Will it actually solve the problem?

For example: If learners needed to cross a busy road, two possible solutions might be:

1. Build a bridge over the road so that they can cross safely.
2. Organise for an adult to stand in the road with a stop sign.

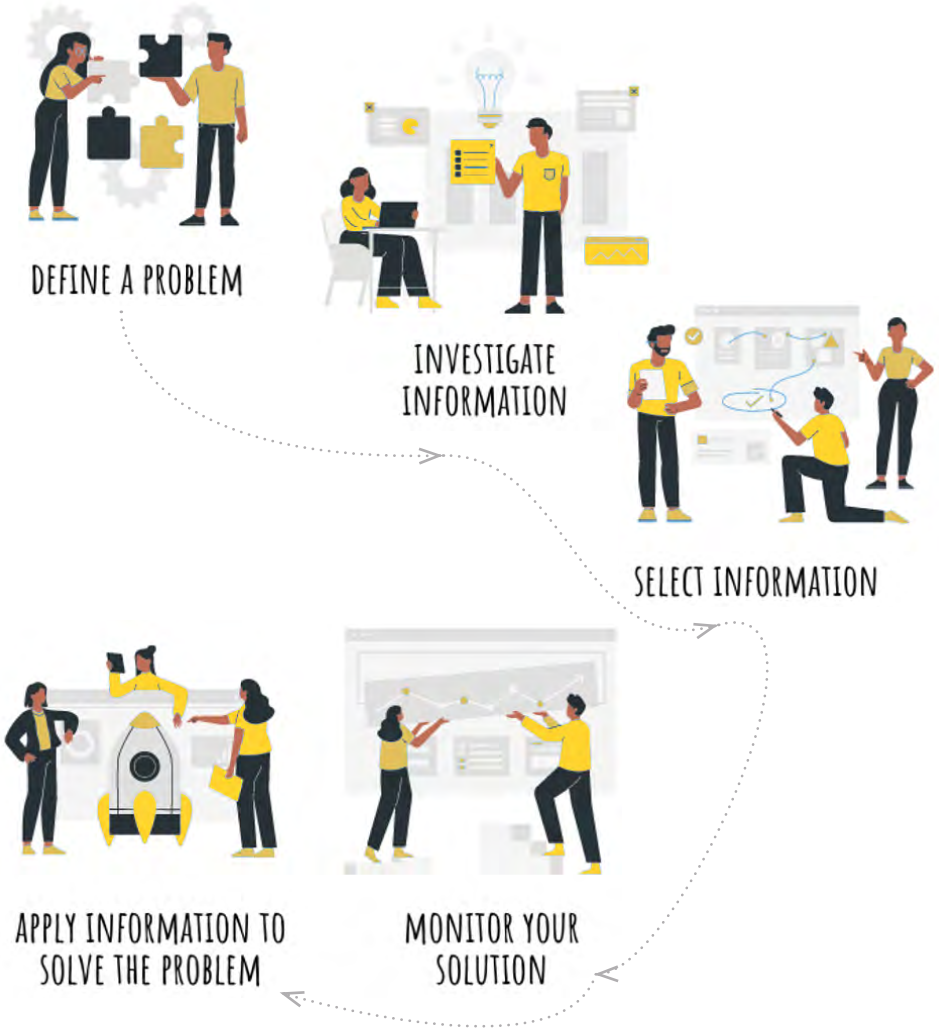
Although both ideas may solve the problem, idea 1 would be very expensive and would require engineers and other construction workers to action. Idea 2 on the other hand, could be actioned quickly, easily and cheaply. Idea 2 would make the better solution in this case.

We need to make sure that our ideas fit the purpose.



CRITICAL THINKING

Critical thinkers ask questions, find the right information, and apply it to solve a problem (DBE-E³ team, n.d.). Once a critical thinker **identifies a problem** they follow the process of (Heard et al., 2020).



Let's consider the following task to see how our critical thinking skills are applied:

Our problem: A maths project asks us to find the perimeter of a square. We have never learnt what perimeter means.

Investigate information: Research about perimeter.

Select the information: The source gives us the formula for the perimeter of a square or a circle. We select the formula for the square.

Apply the information: We use the formula for the perimeter of a square to solve our problem.

Monitor the solution: We check with the teacher to see if our answer is correct.

It is evident that there are lots of different skills that make up critical thinking. We will be focusing on three skills:

- Asking questions.
- Selecting the right information.
- Identifying patterns and making connections.

These skills are generally performed in a linear pattern, following one after the other.

Critical thinking skills are used to (Heard et al., 2020):

- Solve a problem.
- Formulate an argument.
- Present information (oral, essay, poster, report).
- Decide on a plan of action.
- Conduct an experiment.
- Develop a better understanding of a topic.

ASKING QUESTIONS

Sub-competency 1: Asking questions

Sometimes we don't know the answer to a problem. As a result, we ask questions. In order to get the answer that we are looking for, it is important that we ask the right type of questions (Heard et al., 2020).

For example: We want to know what day comes after Monday. If we just asked "What are the days of the week?" maybe someone would reply "Wednesday, Friday, Monday, Thursday, Sunday, Tuesday, Saturday." Whereas, if we asked for the order of the days of the week, people would reply "Monday, Tuesday..." giving us the answer that we were looking for.

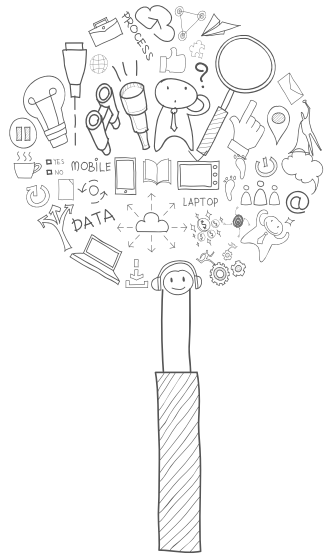
Teacher Tip

Think about the questions that learners ask: Will their questions lead to the answers that they are searching for?

Something to consider: Learners need to feel comfortable before they ask questions. Is your classroom a safe space?

EVALUATING INFORMATION

Sub-competency 2: Evaluating information to assess relevance



This involves evaluating information to see whether it helps us solve our problem (DBE-E³ team, n.d.; Heard et al., 2020). We often ask ourselves questions to see whether the information is helpful.

We might wonder if the information:

- Is recent.
- Is trustworthy.

For example: You read an article that says Coca Cola is the best fizzy drink. When you look closer you see that it is written by someone who works for Coca Cola. Maybe this isn't an article that we can trust.

Teacher Tip

Take note of the information that the learner includes in their project worksheets and ask yourself: Is their information relevant and trustworthy?

IDENTIFYING PATTERNS

Sub-competency 3: Identifying patterns and connections in information

It is important to reflect on and organise information to make sense of it (Heard et al., 2020). Mind maps, flow charts and drafts are excellent tools to help identify the patterns and connections in information (DBE-E³ team, n.d.).

For example: We are doing a project on flooding and have found a long list of information. We might notice that some of the information explains:

1. What flooding is.
2. The causes of flooding.
3. The effects of flooding.
4. Ways to ensure safety during a flood.

Creating these headings and allocating our information to the headings puts this critical thinking skill into action.

This skill can be assessed by monitoring to see if students use tools to help organise their data (e.g. mind maps). If you look carefully at their written work, you will also be able to notice this skill if the information has been nicely grouped.

COMMUNICATION

Communication is the process of sharing information, attitudes and values (DBE-E³ team, n.d.). Both "what we say" (verbal communication) and "how we say it" (non-verbal communication) are important.

People that are good communicators are able to (DBE-E³ team, n.d.; Bialik et al., 2018):

- Understand the meaning of different tones and cues.
- Consider who they are speaking to and make sure that they are presenting the information appropriately.
- Consider how other people are feeling.

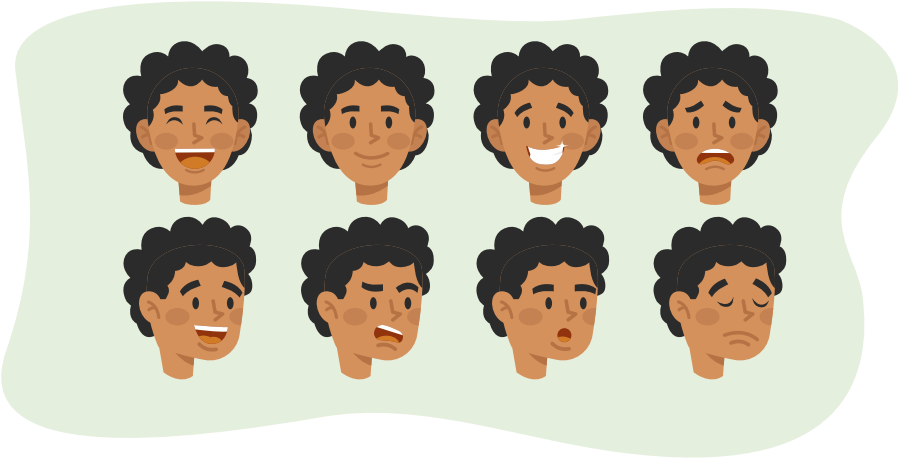
Sometimes a person may say that they are all right, but you can see that they have been crying. Maybe someone will say that they don't mind your work being late, but their voice sounds angry. A good communicator is able to pick up on these subtle signs and adjust their responses accordingly.

NON-VERBAL COMMUNICATION

Sub-competency 1: Non-verbal communication

Non-verbal communication refers to the way people say things (DBE-E³ team, n.d.):

- Their tone of voice.
- Little cues in their expression (e.g. a frown or smile).
- Body language.



These signs convey emotions and small messages that we can use to gain a better understanding about how the people feel.

This skill will not be seen in any one single activity, but rather you will see it throughout the Project when learners are communicating with each other. While observing your learners you will be able to recognise whether they employ this skill in the way that they work with their peers.

ARTICULATION

Sub-competency 2: Articulation

Articulation is how we say our words. This skill is practised in both oral and written communication (DBE-E³ team, n.d.).

It is important that we speak and write clearly so that people will understand what we are trying to say:

- Are we mumbling?
- Are we pronouncing each word?
- Are we talking too fast?
- Is our handwriting messy?

It is also important that we consider who we are talking to (our audience) and present our information in an appropriate manner (DBE-E³ team, n.d.).

For example:: If you are speaking to someone who is hard of hearing, you might speak loudly and clearly. If you are writing a business report, you should not use slang words. If you are speaking in English to someone who doesn't speak much English, you would use simple language.

Much of this skill will also be implicitly assessed during the Project.

EMPATHISING

Sub-competency 3: Empathising

Empathising involves trying to understand how other people are feeling and taking their emotions into consideration (DBE-E³ team, n.d.).

For example: If both you and your friend were applying for a promotion, and you got the promotion. While feeling excited about the promotion, you might understand that your friend is upset that she did not get the promotion and so you would not speak about the promotion a lot with her.

Teacher Tip

You can make a recording of the learner's answers during group discussions to see whether they are able to be empathetic.

COLLABORATION

Collaboration is when two or more people work together to solve a problem (Scoular et al., 2020b). It is important that the group is **interdependent** (Scoular et al., 2020b). This means that each group member relies on the other members. Interdependence is achieved when group members share responsibility and pool their information and resources to develop a shared understanding of the problem and their solution to it. Collaboration involves three main aspects (Scoular et al., 2020b):

1. Participation: engaging with the group and task.
2. Perspective: gaining an understanding of each group member's ideas and using them to co-create your group perspective.
3. Social regulation: making sure that the group is working well together.

For example: You can see collaboration in a group of people in an emergency situation:

Imagine there is a person who has fallen and broken their leg in the Drakensberg mountains. A rescue team would need to come and rescue that person. Each team member would have a special job to do. The pilot would fly the helicopter. The rock climbers would be lowered into the gorge to rope the injured person to a stretcher. The doctor would administer first aid. Someone would be responsible for coordinating everything. Without the pilot the doctor would not reach the patient in time. Without the doctor, first aid couldn't be administered. Every rescue team member plays an important role in making the rescue a success.

There are many different skills that contribute to collaboration. We will be focusing on:

- Negotiating roles and responsibilities.
- Pooling information and resources.
- Engaging with roles and responsibilities.

NEGOTIATING ROLES

Sub-competency 1: Negotiating roles and responsibilities

Collaboration is encouraged when a group shares responsibilities amongst its members (Scoular et al., 2020a). Together the group members decide which specific role and responsibility each person will take on. By accepting their position, they agree to actively participate in the project. Sometimes it may be challenging to delegate roles, as more than one member may be drawn to a specific task. This is where it is important to consider who would be the best person to perform the task and negotiate the roles accordingly.

For example: A group of 6 learners need to make a poster about 4 different career paths. The group would decide together which careers to investigate. Perhaps 4 group members would be given the responsibility of each researching a different career. One learner may research medicine, another finance, another teaching and the last marine biology. The other 2 group members may be responsible for using the information found by their fellow group members to design and create the poster.

POOLING RESOURCES

Sub-competency 2: Pooling information and resources

Each group member brings their own individual knowledge, skills and life experiences to a group (Scoular et al., 2020a). Combining these resources is beneficial to a group as there is a larger "pool" of knowledge and skills to draw from (Scoular et al., 2020a). Good collaborators can recognise the benefit of this and consider the best way to combine their knowledge and skills to optimally achieve their task.

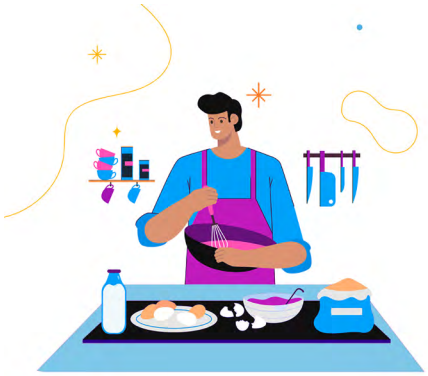
For example: If a team of learners is working together on a big project, they might split up the research and then share everything they found out with each other.

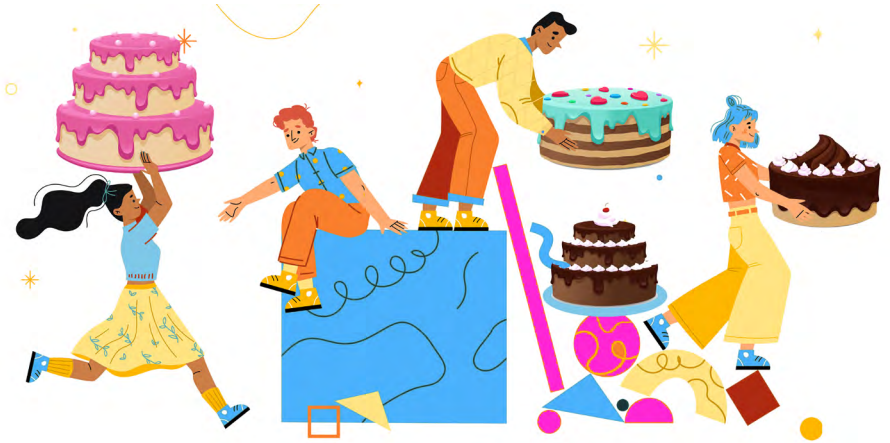
ENGAGING WITH ROLES

Sub-competency 3: Engaging with roles and responsibilities

In order for the group to be successful, each group member needs to carry out their responsibilities (Scoular et al., 2020a). Each group member needs to stick to the rules that the group has decided, such as when the task needs to be completed, which element of the project is being researched, the colour themes for the project etc.

For example: The group is having a cake sale on Thursday. Sam is responsible for baking the muffins for the cake sale on Thursday. Sam needs to bring the muffins on Thursday. If he forgets, then he has not engaged with his role and responsibility. If he changes his mind and decides to bring pancakes, he also has not engaged with his role and responsibility, because it wasn't what he was expected to do and he hasn't communicated that he wanted to change it.





METACOGNITION

Metacognition is about being aware of how we think, what we know and how we know it (DBE-E³ team, n.d.). Metacognition helps us to reflect on our thinking, set goals, and monitor and evaluate our learning.

There are many skills that make up metacognition. Some of these include:

- Reflecting on our thinking.
- Setting goals.
- Considering different ways to do things.
- Planning our work.
- Monitoring our plan.
- Evaluating our plan.
- Adapting our plan.

It is possible to use some of these skills to assess a learner's ability to use metacognition. This year we will be focusing on reflective thinking.

REFLECTIVE THINKING

Sub-competency 1: Reflective thinking

People who are metacognitively aware are able to reflect on their thinking and feelings and change their ideas, behaviours or goals as a result of their reflection. This is often a very personal process that might even happen without our realising it.

For example: Sbu has been asked to write about life in outer space. He remembers people saying that there is no gravity in space. But he does not know what gravity is. Therefore, he decides to research gravity before beginning his project. Metacognition takes place when Sbu notices that he does not know about gravity, and decides to research it.

It is very difficult to assess whether a learner is reflecting on their work, so we have designed a competency journal for learners, which includes a section focusing on reflective thinking. In this section, learners will be prompted to reflect on their thinking and feelings during the Project. These are questions that only the learner can answer. As teachers we cannot answer these questions for the learner.

The competency journal goes into detail asking the learner to reflect on:

- Their learning process.
- Their challenges and achievements during the Project.
- What they have learnt.
- How this learning has influenced them.

Teacher Tip

Learners are asked to answer these questions in their competency journal. Looking at their answers will show you if they have engaged with the process of reflective thinking.

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